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## ACRONYMS AND ABBREVIATIONS

AoI	Area of Influence
BMP	Biodiversity Management Plan
CIA	Cumulative Impact Assessment
CIMP	Cumulative Impacts Management Plan
CITES	Convention on International Trade in Endangered Species
CR	Critically endangered
DRIFT	Downstream Response to Induced Flow Transitions
Eflow	Environment flow
EFMP	Environmental Flow Management Plan
EIA	Environmental Impact Assessment
EN	Endangered
EPC	Engineering, procurement, and construction
ERP	Emergency Response Plan
ESIA	Environmental and Social Impact Assessment
ESMC	Environmental and Social Management Cell
ESMMP	Environmental and Social Management and Monitoring Plan
ESMS	Environmental and Social Management System
EST	Environmental Supervision Team
ha	Hectare
IFC	International Finance Corporation
IUCN	International Union for Conservation of Nature
km/hr	kilometres per hour
LALRP	Land Acquisition and Livelihood Restoration Plan
LC	Least Concern
LNP	Langtang National Park
MSDS	Material Data Safety Sheet
NT	Near Threatened
NWEDC	Nepal Water and Energy Development Company
O&M	Operations and maintenance

PDA	Project Development Agreement
PH	Power House
PS	Performance Standards
RLNM	Red List of Nepal's Mammals
SEO	Safety and Environmental Officer
VU	Vulnerable

## **B.1 Owner’s Environmental and Social Management and Monitoring Plan**

The Project Environmental and Social Management and Monitoring Plan (ESMMP) is the umbrella document that describes how the Owner (i.e., NWEDC, also referred to as the “Employer” in some cases) will manage ESHS risks during Project construction and operations, consistent with the management and mitigation measures identified in the ESIA (2018), as well as all conditions established by the Government Nepal’s approval of the Project. The Owner shall retain overall responsibility for the successful implementation of the Project ESMMP. The overall Project ESMMP consists of three parts:

- Owner’s ESMMP, for which the Owner has responsibility for finalizing, and has primary responsibility for implementing, although there are elements of some of these management plans that require the involvement of the Construction (EPC) and Operations and Maintenance (O&M) contractors;
- Construction ESMMP (CESMMP), for which the EPC Contractor is responsible for developing, and has primary responsibility for implementing; and
- Operations ESMMP (OESMMP), for which a future O&M Contractor is responsible for developing and has primary responsibility for implementing.

This document presents a framework, including the Lender’s minimum requirements, for each of these plans.

### **1. OWNER’S ESMMP FRAMEWORK**

This document presents a framework of, and includes minimum Lender’s requirements for, the Owner’s Environment and Social Management and Monitoring Plan (hereafter referred to as the Owner’s ESMMP) for the construction and operation phases of the Upper Trishuli-1 Hydropower Project (Project). This Owner’s ESMMP Framework has been formulated based on the Project understanding and the findings and recommendations of the Project Environmental and Social Impact Assessment (ESIA). The Owner’s ESMMP Framework specifies the Management Plans, and the minimum requirements for these plans, to be developed in greater detail by the Owner, and which are required to be implemented and complied with by the Owner, and the Project’s EPC and O&M Contractors, during the construction and operations phases of the Project.

#### **1.1. OWNER’S ESMMP PROCEDURES AND RESPONSIBILITIES**

This section describes the process for approving and, as needed, modifying the Owner’s ESMMP, and each party’s responsibilities relating to the Owner’s ESMMP.

## 1.2. OWNER’S ESMMP APPROVAL PROCESS

The development and approval of the Owner’s ESMMP will be conducted in a timely manner in accordance with the dates specified in the Environmental and Social Action Plan (ESAP). The general development and approval process is as follows:

- The Owner will develop a detailed Owner’s ESMMP, using this Framework to establish the minimum Lender’s requirements;
- The Owner will provide the Draft Owner’s ESMMP to the Lenders for their review;
- The Owner will address all comments provided by the Lender’s and provide a Final Owner’s ESMMP to the Lenders for their approval;
- Hard and soft signed copies of the Final Owner’s ESMMP will be distributed by the Owner to the EPC Contractor, the Operations & Maintenance (O&M) Contractor, and the Lenders.

## 1.3. MANAGEMENT OF CHANGE

The need may arise to modify the Owner’s ESMMP. The process below establishes Management of Change requirements for any and all changes to the Owner’s ESMMP.

The Management of Change process allow for changes when it is reasonably likely that the current Owner’s ESMMP is not sufficient to prevent:

- Serious health and safety incidents
- Impacts above those disclosed in the ESIA;
- New impacts not disclosed in the ESIA;
- Violation of Nepal law;
- Non-conformance with Lenders requirements, including the:
  - IFC Performance Standards
  - World Bank Environmental, Health, and Safety (EHS) General Guidelines (2007); and/or
  - Other Lender requirements.

Table B.2-1 below defines three categories of potential changes to the Owner’s ESMMP and the review and approval process associated with each.

**Table B.1-1: Owner’s ESMMP Management of Change Process**

Category of Change	Change Description	Action Required
Category 3	Changes that have the potential to, or are reasonably likely to, result in decreased	The Owner will notify the Lenders of the proposed change and provide the rationale

	Owner’s ESHS performance, and/or are likely to result in an increase in ESHS impacts above those disclosed in the ESIA, result in new impacts not disclosed in the ESIA, require the acquisition of rights to use additional lands, or require additional permits/approvals from the government.	and justification for the change. This category of change requires Lender approval before implementation.
Category 2	Changes which have the potential to, or are reasonably likely to result in, decreased Owner’s ESHS performance, but are unlikely to result in any increase in environmental/social impacts above those described in the ESIA, or result in new impacts not described in the ESIA, or require the acquisition of rights to use additional lands.	The Owner will notify the Lenders of the proposed change and provide the rationale and justification for the change. This category of change only requires Lender notification before implementation, unless the Lenders object within 30 days of receipt of the notice of change.
Category 1	Changes will are expected to result in similar or improved ESHS performance and are unlikely to result in any increase in environmental or social impacts above those described in the ESIA	The Owner will notify the Lenders of the proposed change and provide the rationale and justification for the change as part of its quarterly Environmental and Social Issues Compliance Report. This category of change does not require Lender’s approval before implementation.

The Owner is required to maintain a copy of the current version of the Owner’s ESMMP at its office at all times, as well as copies at the EPC Contractor’s construction office and the O&M Contractor’s project office. The Owner understands that the Lender will use the current version of the Owner’s ESMMP as the basis for conducting its periodic monitoring inspections.

#### 1.4. OWNER’S ESMMP RESPONSIBILITIES

The list below indicates the Owner’s ESMMP-related responsibilities of each entity:

- Owner’s Requirements
  - Prepare and maintain an Environmental, Social, Health, and Safety Compliance Registry, which includes all Project commitments in response to Government approvals, Lenders requirements, and discussions with local communities;
  - Develop a Draft Owner’s ESMMP, which addresses all applicable Project ESHS commitments based on the ESHS Compliance Registry, and revise it as needed in order to obtain Lender’s approval;

- Follow the Management of Change process described above for any changes to the Owner's ESMMP;
- Include language requiring full compliance with the applicable aspects of this Owner's ESMMP in any and all subcontracts the Owner signs for the Project.
- Monitor contractor and subcontractor ESHS performance and conformance with the Owner's ESMMP, and ensure the EPC and O&M contractors monitor their own and their subcontractors' ESHS performance in accordance with the Owner's ESMMP throughout Project construction and operation;
- Hold regular (at least quarterly) ESHS performance meetings with the EPC and O&M contractor to review ESHS performance;
- Notify the EPC or O&M contractors of the need for any corrective actions;
- Issue a stop work order if the EPC or O&M contractors have not taken appropriate action to achieve compliance with ESHS requirements after repeated notices of violation and warnings of noncompliance, and significant ESHS impacts are occurring or imminent, until the contractors ESHS performance is brought up to acceptable standards;
- Provide appropriate training so as to assure that its workforce understands the requirements of Owner's ESMMP;
- Employ qualified ESHS staff to oversee the Project's ESHS performance and ensure that staffing and resources are adequate, commensurate with the magnitude and timing of work and potential ESHS risks;
- Employ an Owner's Engineer to advise on any engineering design questions;
- Ensure the Project is constructed and operated in accordance with the Owner's ESMMP;
- Develop and Implement a Community Grievance Mechanism, including information on how and with whom a community member can log a grievance or make suggestions;
- Notify the Lenders of any significant incidents or accidents in accordance with the requirements and timing of the Environmental and Social Issues Compliance Report;
- Monitor and report on the ESHS performance of the project during construction and operations as described in the Project Monitoring and Reporting section of this Owner's ESMMP;
- Proactively implement corrective actions to address any situations where the Project is not meeting the requirements of the Owner's ESMMP;
- Retain documentation of Project compliance with the Owner's ESMMP to facilitate Lender compliance audits;

- Cooperate fully with all compliance audits conducted by the Lenders, or the Lenders Independent Engineer (who is also responsible for serving as the Independent Environmental and Social Consultant); and
- Cooperate fully and implement any Corrective Action Plans required by the Lenders to address any situations where the Owner is not meeting the requirements of the Owner's ESMMP or complying with the laws of Nepal.
- EPC and O&M Contractor Requirements relative to the Owner's ESMMP
  - Comply with the applicable construction and operations phase requirements in the Owner's ESMMP (e.g., biodiversity related commitments);
  - Monitor and report on the ESHS performance of the project during construction as described in the EPC Construction Monitoring and Reporting section of this Owner's ESMMP;
  - Participate in regular (at least quarterly) ESHS performance meetings with the Owner to review ESHS performance;
  - Proactively implement corrective actions to address any situations where the Contractor is not meeting the requirements of the Owner's ESMMP;
  - Retain documentation of Project compliance with the Owner's ESMMP to facilitate Owner and Lender compliance audits;
  - Cooperate fully with all compliance audits conducted by the Owner, the Lenders, or the Lenders Independent Engineer (who is also responsible for serving as the Independent Environmental and Social Consultant); and
  - Cooperate fully and implement any Corrective Action Plans required by the Owner or the Lenders to address any situations where the Contractor is not meeting the requirements of the Owner's ESMMP or complying with the laws of Nepal.
- Lender Requirements
  - Review and provide comments to the Owner on the Draft Owner's ESMMP;
  - Comply with the Management of Change process described above for any changes to the Owner's ESMMP;
  - Conduct periodic monitoring visits; and
  - Provide the Owner with all Monitoring Trip Reports and notify the Owner of the need for any Corrective Action Plans.

This Owner's ESMMP Framework includes minimum Lender requirements for each of the following Management Plans:

- Biodiversity Management Plan
- Stakeholder Engagement Plan

- Land Acquisition and Livelihoods Restoration Plan
- Gender Action Plan
- Indigenous and Vulnerable Peoples Management Plan
- Labour Influx Management Plan
- Local Benefits Sharing Plan
- Employment and Skill Training Plan
- Industrial Benefit Sharing Plan
- Owner’s Environmental and Social Monitoring and Reporting Plan

In some cases, the Management Plans presented in this Framework may be essentially complete, but in other cases, some of the Management Plans may need to be updated to reflect to reflect and incorporate all of the commitments identified in the Environmental, Social, Health, and Safety Compliance Registry, which the Owner is required to prepare, as well as applicable items in the Lender’s Environmental and Social Action Plan (ESAP).

## **1.5. BIODIVERSITY MANAGEMENT PLAN**

### **1.5.1. Purpose**

Where biodiversity values of importance to conservation are associated with a project site or its AoI, the preparation of a Biodiversity Management Plan (BMP) provides a useful means to facilitate implementation of a project’s mitigation and management strategy. The development of a BMP might be required under a company’s own biodiversity policy, or International Finance Institutions (IFI or “Lenders”) might request a BMP to help document compliance with Lender standards. Other parties, such as government agencies, conservation organizations or Affected Communities, might also be interested in the development of a BMP to address a specific topic of concern.

This BMP has been prepared to support the corporate commitments of the Nepal Water and Energy Development Company (NWEDC) for conserving aquatic and terrestrial biodiversity in the Trishuli River Basin.

### **1.5.2. IFC Performance Standard 6**

IFC applies the Performance Standards (PS) to manage social and environmental risks and impacts and to enhance development opportunities in its private sector financing. IFC PS 6, Biodiversity Conservation and Sustainable Management of Living Natural Resources, aims at protecting and conserving biodiversity, the variety of life in all its forms, including genetic, species, and ecosystem diversity and its ability to change and evolve. This PS addresses how projects will avoid or mitigate threats to biodiversity arising from their construction and operations as well as incorporate sustainable management of renewable natural resources.

IFC PS6 categorizes habitats as follows:

- **Modified Habitat:** are areas that may contain a large proportion of plant and/or animal species of non-native origin, and/or where human activity has substantially modified an area's primary ecological functions and species composition.
- **Natural Habitat:** are areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition.
- **Critical Habitat:** are areas with high biodiversity value, including (i) habitat of significant importance to Critically Endangered and/or Endangered species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory species and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes.

#### ***1.5.2.1. Objectives of the BMP and Compliance to IFC PS6.***

In accordance to PS 6, Projects affecting areas of Natural Habitat, the client will not significantly convert or degrade Natural Habitats, unless all of the following are demonstrated:

- No other viable alternatives within the region exist for development of the project on Modified Habitat;
- Consultation has established the views of stakeholders, including Affected Communities, with respect to the extent of conversion and degradation; and
- Any conversion or degradation is mitigated according to the mitigation hierarchy

Furthermore in areas of Natural Habitat, mitigation measures will be designed to achieve no net loss of biodiversity where feasible. Appropriate actions include:

- Avoiding impacts on biodiversity through the identification and protection of set-asides
- Implementing measures to minimize habitat fragmentation, such as biological corridors;
- Restoring habitats during operations and/or after operations; and
- Implementing biodiversity offsets

The BMP initially classifies all habitats into modified, natural or critical by assessing the prevailing state of habitat modification by human use and presence of threatened, endemic or migratory species. For Modified Habitat, the BMP discusses minimization of impacts. For Natural Habitat, the BMP assesses whether any project alternatives are possible and whether stakeholders have been adequately consulted. It subsequently discusses how the mitigation hierarchy has been used to minimize impacts or compensate residual impacts through biodiversity offsets. The Project does not directly affect Critical Habitat, but the BMP describes measures to avoid or minimize indirect impacts on Critical Habitat.

### 1.5.3. Impacts on Terrestrial Habitat and its Mitigation

#### 1.5.3.1. Terrestrial Habitats Classification

The Project will directly impact approximately 108 hectares (ha) of land as summarized in Table B.1-2.

**Table B.1-2: Project Effects on Land Cover and IFC Habitat Classifications**

Land Cover <sup>a</sup>	Area (ha) <sup>a</sup>	Natural Habitat	Modified Habitat	Critical Habitat
Forest	80.9	2.6	78.3	0
Cultivated Land	20.6	0	20.6	0
Cliff	0.8	0	0.8	0
River Banks (bagar)	5.5	0	5.5	0
Total	107.8	2.6	105.2	0

The Project will directly impact biodiversity by the loss of vegetation and habitat and injuring wildlife; and indirectly by increased human activity (i.e. influx of workers, noise, vehicular traffic, potential for illegal hunting and plant collection) and the loss of habitat connectivity. The transmission line will pose electrocution threats to bird species.

#### Potential Impacts to Natural Habitat

Project construction and operation will directly impact approximately 2.6 ha of Natural Habitat, as defined in the International Finance Corporation’s Performance Standards. This small area is located on the east bank of the Trishuli River near the proposed dam/headworks and is part of Langtang National Park (LNP).

The small impact to Natural Habitat associated with the Project cannot be avoided or further minimized because of engineering constraints. In accordance with IFC PSs and the Forestry Guidelines (2017), NWEDC is required to mitigate this residual impact to achieve no net loss. NWEDC will achieve no net loss by working with the LNP to identify a suitable area of cleared/degraded land and reforest it using a 1:2 ratio. Species used will maintain parity with the impacted area. For additional compliance to these guidelines, NWEDC will also provide 2.61 ha of land to be annexed to the LNP and support its management and monitoring/evaluation. This will be as compensation for the 2.61 ha of natural forest required for the project. This will also align with IFS PS6 as mitigation for achieving no net loss for natural habitat lost.

Additionally, NWEDC will enhance riparian vegetation by developing a Riparian Vegetation Restoration Program which describes existing conditions, restoration design, and monitoring and maintenance activities.

#### Potential Impacts on Modified Habitat

The Project will impact approximately 105.2 ha of Modified Habitat, as defined by the IFC PSs. Modified terrestrial habitats on the west bank of the Trishuli River, where most of the Project components will be built, consist mostly of forest under management by local communities (78.6 ha) and agricultural or marginal lands. The forests are highly intervened and degraded by human activity (e.g. extraction of forests products, cattle grazing). Much of this land will only

be temporarily disturbed, and NWEDC will stabilize and revegetate approximately 76 ha with only approximately 31 ha permanently converted to Project facilities and the reservoir.

### **Potential Impacts to Critical Habitat**

According to the IFC Performance Standard 6, Critical Habitat is defined as “areas with high biodiversity value, including (i) habitat of significant importance to Critically Endangered and/or Endangered species; (ii) habitat of significance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory species and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes (Table B.1-2). We assess the potential presence of Critical Habitat below.

#### *Species Criteria*

There are no IUCN Critically Endangered, Endangered, or endemic flora or fauna species within the Project AoI, so no Critical Habitat is identified based on IUCN listed species. There are, however, some fauna species that are endangered or endemic in Nepal, which are evaluated below.

- Isisbill – is classified as Endangered in Nepal and is thereby assessed under Criteria 1 Tier 2 e. The species is widely distributed in Southern Central Asia and numbers in the Modified Habitat of the project’s AoI are not nationally or regionally significant. The Critical Habitat criteria are therefore not triggered.
- Assamese monkey (*Macaca assamese*) - is endemic to Nepal and relegated to a single population there. The Nepal population of the species is threatened due to its restricted distribution of less than 2,200 square kilometres extent of occurrence and 914 square kilometres areas of occupancy and continuing decline in area, extent and quality of habitat, the number of locations and in the number of mature individuals. Given its restricted extent of occurrence, threats on its population and habitat, and small numbers in fragmented patches, the Nepal population of this macaque is categorized as Endangered (Boonratana et al. 2008). The species will be affected by habitat loss within the Modified Habitat. However macaque species are highly adaptable and will either move to areas (if competition from other neighbouring troops is limited) or adapt within the cleared area which will be human dominated in the future. Given the wide range of the species in South and Southeast Asia, and that the numbers in the Modified Habitat in the Project’s AoI are not nationally or regionally significant, Criteria 1 Tier 2 e is not triggered.
- Asiatic black bear (*Ursus thibetanus*) - is classified as EN in Nepal and is thereby assessed under Criteria 1 Tier 2 e. The species is widely distributed in South and Southeast Asia and numbers in the Modified Habitat of the project’s AoI are not nationally or regionally significant. The Asiatic black bear may be found in modified habitat raiding garbage areas and agricultural lands.

### *Protected Areas Criteria*

LNP is an IUCN Category II protected area (Bhugu et al. 2007) and is recognized as an Important Bird and Biodiversity Area (Birdlife 2013). It is not a World Heritage Site or a Biosphere Reserve. IFC PS6 states that internationally and/or nationally recognized areas of high biodiversity value will likely qualify as Critical Habitat; examples include the following:

- Areas that meet the criteria of the IUCN’s Protected Area Management Categories Ia, Ib and II, although areas that meet criteria for Management Categories III-VI may also qualify depending on the biodiversity values inherent to those sites.
- The majority of Key Biodiversity Areas (KBAs), which encompass inter alia Ramsar Sites, Important Bird Areas (IBA), Important Plant Areas (IPA), and Alliance for Zero Extinction Sites (AZE).

Therefore, the LNP is considered Critical Habitat. The LNP, however, is divided into a “core area” and a “buffer zone,” which is technically outside the park, but within the park boundary. Much of the buffer zone is developed with roads, villages, and farmland. In fact, more than 80,000 people were estimated to live within the park in 2012 (Langtang National Park and Buffer Zone Management Plan 2012). The buffer zone lands need to be assessed on a case-by-case basis as to whether they would qualify as Critical Habitat.

The Project will disturb approximately 6.77 ha of land within the LNP boundary—2.61 ha for construction of the dam and 4.16 ha for the construction of the new worker camp (2.8 ha owned by the government and 1.36 ha privately owned). The new worker camp needs to be relocated from the previously approved Mailung School site for safety reasons in the aftermath of the 2015 earthquake.

Both sites (i.e. the entire 6.77 ha) are designated buffer-zone land along the edge of, but still within, the LNP boundary (Langtang National Park and Buffer Zone Management Plan 2012). The LNP Management Plan recognizes the potential for development of hydroelectric projects near the LNP, specifically mentioning the Upper Trishuli Project, and encourages use of alternative energy as a buffer zone objective.

The 2.61-ha site required for the dam is forested and identified above as Natural Habitat. This site, however, is designated buffer-zone land, which is isolated from the remainder of the LNP by steep cliffs and by the new Army Road. It does not provide habitat of significant importance to Critically Endangered or Endangered, endemic, restricted range, or restricted-range species; does not support globally significant concentrations of migratory or congregatory species; is not a highly threatened or unique ecosystem; and is not associated with any key evolutionary processes. Therefore, we do not consider this site to be Critical Habitat.

Although within the LNP, the 4.16-ha site required for the worker camp is designated buffer zone land, is disturbed and not forested, and is isolated from the remainder of LNP by the new Army Road. As with the 2.61-ha parcel, this site also does not meet any of the applicable criteria, so is not considered Critical Habitat.

Although these sites are not considered Critical Habitat and the Project will not directly impact any Critical Habitat, there is the potential for the Project to indirectly impact core areas of the LNP, which are considered Critical Habitat. This is less of a risk for the 2.61-ha site because the camp for the dam construction workers is on the west bank, with the Trishuli River and the extremely steep slopes on the east bank serving as a barrier limiting access to the LNP core areas.

The 4.16-ha site near the powerhouse, however, poses a greater risk because it will be used as the worker camp, and is located on the east bank of the river with roads providing easy access to the LNP’s core areas. The introduction of this workforce in close proximity of Critical Habitat presents several risks, including illegal hunting/poaching and the collection/trade of natural or wildlife products.

NWEDC has agreed to adopt the following measures to minimise indirect Project impact on LNP, Critical Habitat, as well as impacts to Community Forests:

**Table B.1-3: BMP Mitigation Measures**

Mitigation Measures	Responsibility
Ensure compliance with all applicable NWEDC commitments and the Biodiversity Management Plans are included in the EPC contracts	NWEDC
The Biodiversity Management Plan should include a Biodiversity Evaluation and Monitoring Plan (BEMP) that is developed before construction commences, since impacts to terrestrial diversity will occur during construction. The BEMP will also include monitoring actions discussed below.	
Demarcate in the field the approved limits of clearing to ensure no additional Natural Habitat or Community Forest is disturbed.	EPC
Install fencing around the dam site to prevent unauthorized worker access to LNP forest.	EPC
Collect and store topsoil for use in restoration.	EPC
Provide alternative fuel for heating and cooking to avoid use of forest related products.	EPC
Adopt a Worker Code of Conduct that prohibits unauthorized entrance to LNP or Community Forests; illegal hunting, fishing, and poaching; and the collection/trade of natural or wildlife products. Clearly indicate that these activities could result in the termination of their employment. In addition, provide hoarding boards showing illegal acts (poaching, hunting, etc.) in consultation with LNP. The conservation significance of black bear will be also displayed in the hoarding board.	EPC
Provide awareness training to construction workers, operations and maintenance (O&M) staff, and site management personnel regarding the elements of the Worker Code of Conduct.	EPC
Prohibit use of wildlife meat at the worker camps.	EPC
Provide staff to monitor/patrol activities in the LNG buffer zone at the dam site and powerhouse worker camp to ensure no illegal activity by construction workers. The staff should be recruited from the local communities.	EPC
Use signage and speed humps in areas where wildlife crossing is likely.	EPC
Train vehicle drivers regarding the driving risks through biodiversity sensitive areas and along remote roads.	EPC
Stabilize and rehabilitate/reforest temporarily disturbed areas, especially community forest. In accordance with the Nepal Ministry of Forest requirements, NWEDC will compensate for the loss of trees on a 2:1 basis in accordance with its PDA agreement. The requirement of	EPC

Mitigation Measures	Responsibility
compensatory planting shall be included in the design and Project contract. A Master Landscaping Plan and requirements of ecological monitoring or survey during different stages of the Project shall be prepared during the design stage, which shall be implemented during construction and maintained during operation. These planning and monitoring requirements shall be integrated into the overall Reforestation Plan.	
Visually monitor number of trees felled within 1 km of dam, access road and switchyard as well as baseline plots, as part of a Biodiversity Evaluation and Monitoring Program (BEMP) to be developed	NWEDC
In accordance with Nepal Ministry of Forest requirements, as mentioned earlier, NWEDC will acquire, reforest, and donate at least 2.61 ha of similar land to be annexed into the LNP to offset the Project's permanent acquisition of parklands. A Participatory Biodiversity Monitoring Program could provide local employment thereby proving opportunities to fulfil project commitments related to biodiversity monitoring. The monitoring should use the following indicators that measure progress against achieving no net loss <ol style="list-style-type: none"> <li>1. Plant species composition and diversity.</li> <li>2. Bird species composition and diversity.</li> <li>3. Ensuring that butterfly species composition and diversity.</li> </ol> Plant species composition and diversity needs to be compared to that of the impacted 2.61 ha to assess progress for no net loss. Bird and butterfly species composition and diversity needs to be compared to that of a control plot in the same habitat within the LNP. Plants, birds and butterfly are good indicators of habitat quality and are practical to monitor. The BEMP should include monitoring of the land annexed to the LNP with details on monitoring protocols and schedules specified.	NWEDC
Provide funding to local forest user groups for monitoring and surveillance to protect wildlife within community forests.	NWEDC
Protect the LNP from further losses of land due to shifting river course and from easy access to the park through dewatered zones during operation. Replanting of trees and vegetation to stabilize slopes and restore erosion regulation could also provide an opportunity for local employment.	NWEDC/ECP
Limiting disturbance and educating construction workers on steps to prevent damage to the park and/or its wildlife	NWEDC/EPC
Enhance riparian vegetation by developing a Riparian Vegetation Restoration Program which describes existing conditions, restoration design, and monitoring and maintenance activities	NWEDC
Regular ecological monitoring on the fauna, flora and specific habitats within the impact areas to ensure that numbers are stable and project activities are not leading to a population decline. A Participatory Monitoring Program could provide local employment thereby proving opportunities to fulfil project commitments related to biodiversity monitoring. Monitoring of flora and fauna within the impacted area needs to be included within the BMEP with details on monitoring protocols and schedules specified.	NWEDC
Raise the transmission poles with suspended insulators in order to reduce the electrocution of bird species or fixing insulated caps made of plastic.	EPC
Require bird-safe strain poles with insulating chains of at least 60 cm length.	EPC
Check for vacuums or holes in the towers to avoid nesting by any of the birds;	EPC
Monitor bird carcasses electrocuted on a monthly basis and record any threatened or migratory species observed. Any spurt in mortality will need consideration of design modifications to reduce mortality	NWEDC

Considering the relatively minor impacts on terrestrial biodiversity, and implementation of these mitigation measures, NWEDC should achieve no less loss of terrestrial Natural Habitat at the UT-1 Project, and should not result in any significant impacts to terrestrial habitat.

#### **1.5.4. Aquatic Biodiversity**

The Project will affect aquatic habitat and fish differently upstream of the dam, in the diversion reach, and downstream of the powerhouse. This section summarizes the types of impacts that will occur in each of these river segments and proposed mitigation and management measures.

##### ***1.5.4.1. Upstream of the Dam***

The Project should have negligible impacts on aquatic habitat upstream of the reservoir. No in-water construction will occur upstream of the dam that would modify riverine habitat, with the exception of the temporary coffer dam using to divert water around dam construction. The Project reservoir will only be 2.1 ha in surface area, which effectively limits the impacts on upstream aquatic habitat. Common snowtrout, which is by far the most abundant fish found upstream of the dam site (see Section 6.2), is known to inhabit lakes (Petr and Swar 2002; Petr 1999), and would be expected to colonize the small UT-1 reservoir, especially during the winter if the water temperatures of the reservoir are slightly higher than current ambient conditions.

The UT-1 dam has the potential to interfere with the ability of fish to move upstream or downstream past the dam, which could affect the abundance of Common (and possibly Dinnawah) snowtrout and its ability to reach upstream spawning grounds. NWEDC, however, proposes to construct a fish ladder at the UT-1 dam, which would allow Common snowtrout and potentially other species to move upstream past the dam. The magnitude of Project effects on Common snowtrout populations upstream of the dam will be largely dependent on the effectiveness of the proposed fish ladder in facilitating the movement of these fish from their over-wintering areas downstream of the dam to their breeding areas upstream of the dam.

##### ***1.5.4.2. At the Dam***

The UT-1 dam will interfere with the ability of fish to move upstream or downstream past the dam, which could affect the abundance of Common snowtrout (and possibly Dinnawah snowtrout) and its ability to reach upstream spawning grounds. NWEDC proposes to construct a fish ladder at the UT-1 dam, which would allow Common (and possibly Dinnawah) snowtrout and potentially other species to move upstream past the dam.

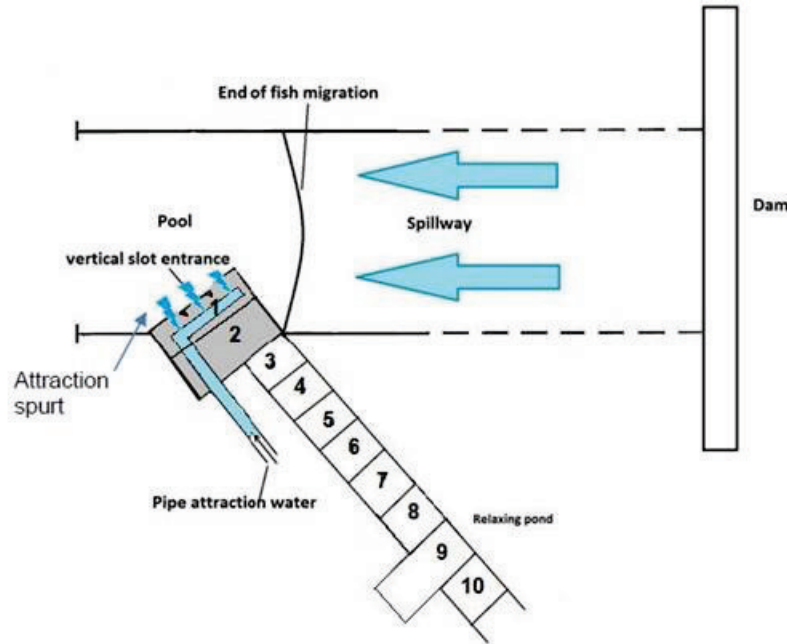
Fish surveys conducted in 2011, 2014, and 2016 collectively indicate that Common snowtrout migrate upstream of the UT-1 dam site in the early spring (late February to May) to spawn. Most of these fish remain in the upper portion of the river through the summer, with a large downstream migration of some adults, but predominantly juvenile fish, from May through September. Some Common snowtrout were found to overwinter above the dam site, but this population is relatively small.

These data demonstrate that different portions of the Project Area provide important habitat for various life stages of the Common snowtrout at different times of the year, and therefore the

importance of maintaining connectivity between aquatic habitat upstream and downstream of the dam.

NWEDC has committed to providing fish ladder at the UT-1 dam, and contracted with SWECO, a Norwegian company with extensive fishery experience in Nepal, to develop a conceptual design for fish passage at the UT-1 dam. In this case, the Common snowtrout was selected as the target species because it is the dominant species found in the Project area and its IUCN status as Vulnerable. Based on the Common snowtrout's size and swimming ability, SWECO proposed a fish ladder design with the following features (see Figure B.1-1):

- Fish ladder flow of 1 m<sup>3</sup>/s;
- An additional attraction flow of 1 m<sup>3</sup>/s from a pipe discharging at the top of the concrete roof that covers the first two chambers of the fish ladder (see Figure 7.2-2);
- The remainder of the Eflow will be routed into the entrance pool at the base of the ladder;
- Entrance pool at the base of the ladder equipped with hiding places for fish and water velocities of less than 0.6 metre per second (m/s);
- Approximately 100 steps with an approximate height of 0.3 metre, based on a dam height of approximately 30 metres;
- Water velocity through the vertical slots connecting the various steps with a maximum velocity of 0.7 m/s (slightly higher velocities are allowed in the lowest nine steps);
- Exit from the fish ladder at the top of the weir will be located as far as possible from the powerhouse intake where water velocities are less than 0.3 m/s to minimize the risk of the upstream migrating fish being entrained into the turbines.



**Figure B.1-1: Fish Ladder Design**

Following recommendations from SWECO, NWEDC has agreed to:

- Ensure conditions at the powerhouse tailrace are such that the upstream migrating fish are attracted to the flow from the diversion reach and are not diverted to the powerhouse tailwaters;

Ensure the channel in the river section just downstream of the dam leads the fish to the fish ladder entrance.

Monitor flow and temperature (preferably on an hourly basis) to have the data needed to optimize fish ladder functionality; and

- Monitor fish movement to detect the beginning of the upstream migration period and ensure proper functioning of the fish ladder entrance.

#### Downstream Fish Passage During Operations

Facilitating the safe upstream passage of migrating Common snowtrout above the dam is important, but ensuring the safe downstream passage of migrating fish is equally important. Most adult and juvenile Common (and possibly Dinnawah) snowtrout will migrate downstream in late summer and autumn as river temperatures gradually decline. In order to avoid fish being entrained into the powerhouse turbines, which, given the pressures associated with 327 m of head, would result in high levels of injury or mortality given the pressures associated with 327 m of head, NWEDC proposes to:

Provide a guidance mechanism to help direct adult and juvenile fish away from the powerhouse intake;

- Ensure a smooth spillway and a deep pool at the base of the dam to minimize injury to fish migrating through the flap gates with spillage water; and
- Preferably spill water via the spillway at the left side of the weir.

The fish ladder design has been peer reviewed by fish experts with the IFC (see Appendix G for the IFC fish expert's review). SWECO has provided advice and coordinated with the Project engineers on the fish ladder (SWECO 2018; see Appendix D, Design Advice on Fish Ladder and Associated Spillway Designs at the UT-1 Hydropower Project) to ensure its design is technically feasible and economically viable. This fish ladder design has now been incorporated into the overall dam design drawings.

### **Monitoring**

As indicated by SWECO, additional monitoring is required to ensure the proper operation of the upstream and downstream fishways. NWEDC has committed to contracting an international fish scientist with expertise in Nepal fish to oversee the following actions:

- During Project construction:
  - Develop a fish monitoring plan, as part of an overall Biodiversity Evaluation and Monitoring Program (BEMP), which would begin to be implemented prior to the initiation of construction to provide a solid baseline against which to measure Project effects on fish populations, especially the Common snowtrout, and to help better understand the timing of Common snowtrout upstream and downstream migration, the extent to which Common snowtrout spawns in the Trishuli River mainstem versus tributaries in the Project area, and the relative population of Common snowtrout in the diversion reach;
  - Monitor the effectiveness of the Project's diversion tunnels in allowing upstream and downstream migration of fish;
  - Monitor construction of the fish ladder and dam to ensure it is consistent with the SWECO design; and
  - Develop a more detailed design for the fish guidance mechanism around the powerhouse intake.
- During Project commissioning and reservoir filling
  - Ensure the fish ladder is ready to be operational before reservoir filling begins; and
  - Oversee commissioning of the fish ladder.
- During the initiation of Project operations:
  - Inspect the diversion reach to ensure no barriers or obstacles exist to upstream migration under Eflow only conditions, and if any are identified, recommend and implement measures to mitigate them;

- Ensure the channel in the diversion segment just below the dam leads the fish to the fish ladder entrance;
- Establish a flow and temperature monitoring program to optimize fish ladder performance;
- Develop a Biodiversity Evaluation and Monitoring Program and train NWEDC staff to monitor and report on the effectiveness of the fish ladder for upstream fish passage and the effectiveness of downstream fish passage guidance measures;
- Establish a program and train NWEDC staff to monitor and report on the populations of Common (and possibly Dinnawah) snowtrout upstream of the dam, in the diversion reach, and downstream of the powerhouse relative to baseline conditions using tagging methods; and
- Evaluate the effectiveness of the current Eflow program and determine whether further actions are warranted in accordance with the Eflow Adaptive Management Program, which is described in the Biodiversity Management Plan that is part of the Project Environmental and Social Management and Monitoring Plan (see Appendix B).

This monitoring program will involve national fish experts in order to build capacity and involve participatory monitoring by local community residents. The monitoring results will be reported and disclosed on the Project website.

The BEMP will be designed to demonstrate that viable populations of native fish species are maintained and that no net loss of biodiversity is achieved in the Project area, as indicated by the following key metrics:

- Successful upstream migration of Common (and possibly Dinnawah) snowtrout to, and through, the fish ladder as documented by actual counts in the fish ladder;
- Successful natural reproduction of Common (and possibly Dinnawah) snowtrout upstream of the dam as documented by presence of juveniles;
- Successful downstream migration of Common (and possibly Dinnawah) snowtrout over or around the dam as documented by the presence of juveniles in the diversion reach (note that Common snowtrout is not believed to spawn in the diversion reach so the presence of juveniles in this reach should likely reflect their successful downstream migration); and
- Maintenance of viable populations of catfish and loach species as documented by maintaining catches similar to those found during the baseline fish surveys.

#### Cumulative Impacts of HPPS on the Trishuli River

There are several other hydropower projects under construction and proposed both upstream and downstream of the Project area. There is the potential that decreases in the numbers of migrating Common snowtrout passing through the UT-1 Project area, and the populations of Common snowtrout found in the Project area could occur, and not be attributable to the UT-1 Project, as has likely recently occurred with the Dinnawah snowtrout population in the Project area as a

result of the UT-3A HEP (see Section 6.2). NWEDC is participating in a Trishuli River Basin Cumulative Impact Assessment funded by IFC, and has committed to participate in a Trishuli Basin Co-Management Platform to facilitate collaborate monitoring and management of cumulative impacts (see Section 7.12 for more details on Cumulative Impacts).

**1.5.4.3. Diversion Reach**

The Project will divert up to 76 cubic metres per second (m<sup>3</sup>/s) of flow from the 10.7-kilometre segment of the Trishuli River between the dam and the powerhouse (i.e. the diversion reach). This flow diversion will reduce the width, depth, velocity, and sediment transport characteristics of water in the diversion reach, thereby potentially impacting aquatic habitat and fish. During nearly six months of the year (November through April), this diversion would represent much of the Trishuli River flow.

In Nepal, hydropower projects are required to release 10 percent of the minimum monthly average flow or an alternative Eflow recommended in the project’s EIA, whichever is higher. The biodiversity purpose of the Eflow is two-fold: to preserve the minimum habitat required to support fish and other aquatic life in the diversion reach and to preserve flow continuity for fish movement/migration through the Project Area. As Table B.1-4 shows, 10 percent of the minimum monthly average flow for the UT-1 Project would equate to a required minimum flow of approximately 3.9 m<sup>3</sup>/s (i.e. 10 percent of 38.6 m<sup>3</sup>/s, which is the average flow during the river’s lowest flow months of February and March at the Project site).

NWEDC has proposed an Eflow that is higher than that required by Nepalese regulations during most months of the year, essentially providing 10 percent of the average monthly flow for each month, rather than 10 percent of the minimum monthly average flow. Actual flow in the diversion reach would typically be higher than this Eflow from May to October (e.g. the spring snowmelt and monsoon period) as river flow would exceed the hydraulic capacity of the Project and excess water would be spilled into the diversion reach. Table B.1-4 below shows the existing, required minimum, proposed minimum, and the proposed actual diversion-reach flow regimes by month.

**Table B.1-4: Flows into the Diversion Reach Based on Mean Monthly Flows under Regulated and Unregulated Conditions**

Flow Management Scenarios	Mean Monthly Flow (m <sup>3</sup> /s) at the Intake Site											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Existing average river flow regime	43.7	38.6	38.6	49.5	87.5	230.4	487	557.8	370.8	160.4	79.9	54.6

Flow Management Scenarios	Mean Monthly Flow (m <sup>3</sup> /s) at the Intake Site											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Required (Nepal law) minimum diversion reach flow regime	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Proposed minimum diversion reach Eflow regime	4.4	3.9	3.9	5.0	8.8	23.0	48.7	55.8	37.1	16.0	8.0	5.5
Proposed actual average diversion reach flow regime <sup>a</sup>	4.4	3.9	3.9	5.0	11.5	154.4	411.0	481.8	294.8	84.4	8.0	5.5
% of mean monthly flow	10%	10%	10%	10%	13%	67%	84%	86%	80%	53%	10%	10%

Source: Modified from ESSA 2014

<sup>a</sup> Includes flows above the hydraulic capacity of the powerhouse (76 m<sup>3</sup>/s) that would be spilled.

NWEDC proposes to release the Eflow as follows (SWECO 2018):

- Fish ladder – 1 m<sup>3</sup>/s through the fish ladder
- Fish ladder attraction flow - 1 m<sup>3</sup>/s from the top of the concrete roof that is covering the first two chambers of the fish ladder
- Flap gates - remainder of Eflow will be released through the flap gates into the pool at the entrance of the fish ladder

If the fish ladder is not operating (e.g., during periods when the snowtrout is not migrating), all the Eflow can be released from the flap gates.

### Project Effects on Aquatic Habitat and Common Snowtrout in the Diversion Reach

The 2016 DRIFT Model evaluated the effects of five alternative flow scenarios for the diversion reach on aquatic habitat and on the Common snowtrout. The results indicate that the Project

would have significant adverse effects on Common snowtrout in the diversion reach for all five flow scenarios. The overall ecosystem integrity scores for this reach would be reduced from a “B” rating (i.e. Slightly Modified condition) to a “D” rating (i.e. Largely Modified condition), which is primarily attributable to impacts of the low water flow on overwintering Common snowtrout populations in the diversion reach. The study concludes that the Common snowtrout may vacate the diversion reach during the winter primarily because of the low flows (assumed to be 3.9 m<sup>3</sup>/s) provided by the Project. The preliminary DRIFT model results indicate that the release of more water by the Project during the winter would be needed to sustain a year round Common snowtrout population in the diversion reach (see Appendix E – Final Eflow Report).

While the 2016 DRIFT model understandably predicts negative impacts on the Common snowtrout and its habitat in the diversion reach, evaluation of the baseline fish data provide additional insight into the relative magnitude and likelihood of the impacts. The fish survey data indicate that the population of Common snowtrout overwintering (October through February) in the diversion reach is small, with the total number of Common snowtrout captured at three diversion reach monitoring stations representing only approximately 17 percent of the number of Common snowtrout captured at a single station downstream of powerhouse monitoring station (see Section 6.2). Thus the lower flow during the winter months will impact only a small percentage of the Common snowtrout population in the area. In addition, the lower flow and warmer temperatures of the diversion reach may create better conditions for the snowtrout, including pools and spawning sites, which could lead to an increased population of snowtrout within the diversion reach. The 2018 connectivity assessment will analyse this potential impact further. The project’s Biodiversity Evaluation and Monitoring Program (BEMP) will closely monitor the conditions and fish population within the diversion reach and recommend adaptive management as needed to maintain fish habitat and population. Project Effects on Fish Migration through the Diversion Reach

Increasing flow and water temperatures are likely the cues for both snowtrout species to begin migrating upstream to spawn in early spring. The Project will have negligible effect on these cues downstream of the Project because of the true run-of-river operating mode (flow) and small reservoir/short detention time (temperature).

Section 6.2 summarizes the migration pattern of the Common snowtrout, which includes upstream migration of adults primarily in March-May and downstream migration of juvenile fish primarily in August-October. UT-1 will provide a fish ladder for upstream migration, and mechanisms for downstream migration (see below). However, the Eflow must provide appropriate water depths and velocities for the Common snowtrout to be able to reach the fish ladder and the upstream spawning areas. The literature reports a range of minimum depths for the species. The preliminary DRIFT Eflows assessment for the Project reported a preferred depth for adults of 1 to 3 m (S.A.N. Engineering Solutions 2017) based on one study from the 1970s (Shrestha and Khanna 1976), but more recent studies indicate a minimum depth of 0.8 m for spawning adult Common snowtrout (Mathur and Kapoor 2015).

Table B.1-5 compares the estimated flows, based on hydraulic calculations, required to provide average depth of 0.8 m through the diversion reach, assuming a trapezoidal channel and the average Trishuli River gradient through the diversion reach.

**Table B.1-5: Comparison of Minimum Flows Required to Achieve Critical Depths for Common Snowtrout (*S. richardsonii*) in the Diversion Reach**

Depth (m)	Manning Coefficient (n)	Gradient (m/m)	Flow (m <sup>3</sup> /s)
0.8	0.04-0.08	0.03	3.45-6.90

The Project’s proposed Eflow for the winter months (3.9 to 11.5 m<sup>3</sup>/s, see Table 7.2-1 above) provides sufficient depth in the diversion reach for the minimum 0.8 m critical depth. With adaptive management implemented as needed, the proposed Eflow during March and April should be adequate for the Common snowtrout, and other fish species to pass through the diversion reach. Obviously, the depth requirements will vary for different sizes of fish, with smaller fish likely to pass more easily through the diversion reach. Although the results of the 2018 Connectivity Assessment are not yet available, it should be noted that the spring 2018 field sampling in the Project area found evidence of successful Common snowtrout spawning in several tributaries of the Trishuli River (including the Mailung Khola) where water depths were much less than 0.8 m.

There are some uncertainties in this analysis, including the few studies establishing the 0.8 m critical flow depth required to support the upstream migration of Common snowtrout and estimates of the flow required to achieve this critical flow depth. Discussions with NWEDC indicate constraints on their ability to increase Eflows, especially during the critical early migration months, if monitoring indicates water depths are insufficient to allow the Common snowtrout to reach the fish ladder. These constraints include the terms of their Power Purchase Agreement and the economic impact of increasing Eflows, which means decreasing flows available for power generation during the peak demand months.

**Adaptive Management Program**

Given these uncertainties, NWEDC has agreed to implement an Adaptive Management Program as part of the Biodiversity Management Plan (BMP) based on intensive monitoring through a Biodiversity Evaluation and Monitoring Program (BEMP) during the 5 years of construction and the Project’s first few years of operation to ensure that upstream migrating Common snowtrout are able to reach the UT-1 fish ladder.

The Adaptive Management Program includes the following elements:

- Implement an intensive fish monitoring program during construction and the first few years of operation to ensure most upstream migrating Common snowtrout are able to reach the Project’s fish ladder, especially during the early portion of the migration period (i.e. March and April) when the proposed Eflows are relatively low.

- If a meaningful percentage of Common snowtrout are not able to reach the fish ladder (i.e. sufficient to achieve the “no net loss” standard in IFC PS 6), then NWEDC will evaluate alternatives to effectively increase water depths and guide the fish to the fish ladder; including, in the following sequential order of action:
- Constructing channel improvements to direct more flow to a primary channel in order to achieve critical water depths or to remove impediments to movement such as small cascades;
- Increasing the required Eflow during the periods of upstream fish migration to achieve critical water depths. As indicated above, NWEDC is limited in its ability to modify these Eflows given the constraints of its Power Purchase Agreement, but it would be worth investigating the potential to reduce Eflows during the pre-migration winter (i.e., peak demand) months of December to February, and increase them proportionally during March and April so, as to better support fish migration while having no net change in power generation during the peak demand season;

If monitoring indicates that initiating a trap and haul program to capture upstream migrating Common snowtrout, transport by vehicle, and release them upstream of the dam;

- Establishing a hatchery for Common snowtrout, possibly in combination with other hydropower developers in the area, and release sufficient numbers of hatchery-bred fish upstream of the dam to maintain fish populations in the Project area.

Management of sediment represents another potential risk to fish migration through the diversion reach. Although periodic sediment flushing from the desander and reservoir is unlikely to directly affect fish spawning, since nearly all documented spawning in the Trishuli River has been in the tributaries rather than the river itself, the flushing could result in sediment deposition within the diversion reach and affect channel morphology and critical water depths required for successful migration. As indicated in Section 7.2.2 above, the O&M Contractor will be required to develop a Sediment Management Plan that limits the flushing of the desander and the reservoir to periods when flows are sufficient to transport the sediment through the diversion reach.

Section 7.2.5 describes the process for establishing measurable targets and thresholds for implementing the Adaptive Management Program, which are linked to achieving the requirement for No Net Loss of Biodiversity in Natural Habitat. This Adaptive Management Program is incorporated into the Project’s Biodiversity Management Plan (see Appendix B.1, Owner’s Environmental and Social Management and Monitoring Plans). Implementation of this Adaptive Management Program provides assurance that Project effects on flow will not prevent Common snowtrout from reaching spawning grounds upstream of the UT-1 dam.

NWEDC’s 2018 Connectivity Assessment, which will include an enhanced hydraulic analysis and DRIFT modelling of the diversion reach, will help evaluate Common snowtrout’s upstream migration flow requirements.

#### **1.5.4.4. Downstream of the Powerhouse**

Impacts on aquatic habitat and fish downstream of the powerhouse will be relatively minor for the following reasons:

- Flow—The Project will operate in a true run-of-river regime and should have no effect on flow downstream of the UT-1 powerhouse;
- Sediment—The Project is designed to periodically flush sediments using a desander and the dam gates. The timing of this flushing will be generally consistent with periods of natural high sediment transport (i.e., during the monsoon season and other times of high flows, see Sections 2.3.4, Sediment Management, and 7.2.2, Sediment Transport), although the flushing will be more episodic than under natural conditions;
- Physical Water Quality—The Project has a very small impoundment (2.1 ha) with negligible water retention, so the Project is not predicted to have any effect on physical water quality (e.g. water temperature, dissolved oxygen) that could affect downstream fishery habitat; and
- Chemical Water Quality—The Project will provide wastewater treatment for both its construction and operation workforce and other construction waste streams, ensure proper handling and storage of all hazardous materials, implement an emergency preparedness and response plan in the event of any spills of hazardous materials, manage slope stability and sediment control, and stabilize and landscape disturbed areas (see Appendix B, Environmental and Social Management and Monitoring Plans).

The existing baseline ecological status of the Trishuli River downstream of the powerhouse is considered “Slightly Modified” (S.A.N. Engineering Solutions 2017). The DRIFT Model results confirm that the Project would have little effect on the overall ecological integrity of the Trishuli River downstream of the powerhouse, with the predicted ecological integrity remaining as “Slightly Modified,” with only a slight impact on Common snowtrout populations related to the assumed effect the dam will have on upstream spawning and the return downstream of breeding adults and juveniles.

Overall, Project design measures and Management Plans will be adequate to ensure that the Project will not adversely impact fishery habitat downstream of the Project powerhouse.

#### **1.5.4.5. Aquatic Habitat Classification**

Based on the physical habitat and water quality conditions documented by Project baseline studies, the aquatic habitat in the Project Area meets the IFC’s definition of Natural Habitat (IFC 2012). Although the concentrations of several metals (notably iron, manganese and zinc) as well as oil and grease were elevated during the monsoon period, the physical habitat in the diversion reach currently retains its natural ecological function and supports a viable aquatic community.

The Trishuli River is fragmented by the downstream Devighat and Trishuli hydropower projects, which have affected the ecological continuity of the river, but the prevalence of migratory species such as Common snowtrout in the UT-1 Project area demonstrates that the ecosystem is still functionally intact and capable of supporting migratory species. It should be noted, however,

that the Upper Trishuli 3A and 3B hydropower projects are under construction immediately downstream of the UT-1 site, and the Rasuwagadhi

Hydropower Project is under construction upstream of the UT-1 site. An additional risk to the local fishery is the introduction of the exotic species Rainbow trout from fish farms. The Common snowtrout population in the Project area appears robust at this time and the Rainbow trout population has not substantially altered the aquatic community to date.

The Trishuli River does not meet the definition of Critical Habitat because it does not support any Critically Endangered, Endangered Species, endemic, or restricted range species; or any highly threatened or unique ecosystems; nor is associated with any key evolutionary processes. The Trishuli River does support migratory species (e.g. Common snowtrout and possibly the Dinnawah snowtrout), but does not support globally significant concentrations of these species.

#### ***1.5.4.6. Achieving No Net Loss of Natural Habitat***

Pursuant to the IFC Performance Standards, the goal for Natural Habitat is No Net Loss of biodiversity. As indicated above, the Project is predicted to impact aquatic habitat upstream of the dam and along the diversion reach, but not downstream of the powerhouse because the Project will operate in a true run-of-river regime. IFC's Performance Standard 6 requires Project's to avoid "significant" conversion of Natural Habitats unless:

- No other viable alternatives within the region exist for development of the project on Modified Habitat;
- Consultation has established the views of stakeholders, including Affected Communities, with respect to the extent of conversion and degradation; and
- Any conversion or degradation is mitigated according to the mitigation hierarchy.

The Project has been designed to take advantage of the generation potential offered by the specific set of hydrologic conditions at the Project site and the entire Trishuli River Basin would be considered Natural Habitat, so there are no other viable alternatives for the Project in Modified Habitat. NWEDC has also engaged with stakeholders and communities within the Project area. The major habitat impacts (e.g. minimal impoundment of riverine habitat, reduced flow, and fragmentation of the river) are inherent in the design of the Project and cannot be avoided without fundamentally altering the design and purpose of the Project.

The next step in the mitigation hierarchy is minimization. The fragmenting effects of the dam and the size of the impoundment (and the consequent loss of riverine habitat) are functions of the size of the dam necessary to generate a sufficient amount of electricity to make the Project economically viable and cannot be minimized without jeopardizing the Project's economic viability. In this case, the Project reservoir is quite small. The loss of aquatic habitat in the diversion reach will be minimized through the Eflow as described above. As described in Section 7.2.3., the Common snowtrout has been selected as the indicator species for Eflow analysis; based on the available information on its habitat requirements, the Eflow is likely to be sufficient to maintain habitat connectivity through the diversion reach.

Mitigation follows minimization in the mitigation hierarchy. Although the Project does not propose any measures to compensate for the loss of riverine habitat that will occur upstream of the dam within the reservoir footprint, Common snowtrout is expected to persist in the reservoir, and may expand given the amount of new habitat that will be available within the reservoir and the incrementally warmer water temperature of the reservoir, so the loss of Natural Habitat upstream of the dam is negligible. As indicated above, the Project will not impact Natural Habitat downstream of the powerhouse.

Project impacts on the diversion reach relate to a net reduction in flow that will decrease available habitat for the Common snowtrout and other species. As discussed above, even under existing conditions, the diversion reach only supports a small population of Common snowtrout. Therefore, the impact of the Project on the value of aquatic habitat in the diversion reach is likely small. The critical issue for the diversion reach is the provision of sufficient flow to enable upstream migrating Common snowtrout to navigate the diversion reach and access the fish ladder.

NWEDC proposes the following measures to mitigate these impacts:

- Diversion Reach Eflow
  - Provide an Eflow sufficient to maintain habitat connectivity and support upstream fish migration through the diversion reach;
  - Implement the Adaptive Management Program described in Section 2.2.7 above to ensure the reduced flows in the diversion reach do not create any barriers or obstacles to upstream fish migration;
  - Adopt a Worker Code of Conduct that prohibits fishing in the Trishuli River. Require the EPC to provide awareness training of this requirement. Clearly indicate that this activity could result in the termination of their employment.
- Upstream Fish Passage
  - Install a fish ladder in accordance with the approved design to enable upstream migration of snowtrout;
  - Ensure conditions at the powerhouse tailrace are such that the upstream migrating fish are attracted to the flow from the diversion reach and are not diverted to the powerhouse tailwaters;
  - Ensure the channel in the river section just downstream of the dam leads the fish to the fish ladder entrance.
- Downstream Fish Passage
  - Ensure the main river current in the reservoir directs fish toward the spillway rather than the powerhouse intake;
  - Provide a guidance mechanism to help direct adult and juvenile fish away from the powerhouse intake;

- Ensure a smooth spillway and a deep pool at the base of the dam to minimize injury to fish migrating through the flap gates with spillage water; and
- Preferably spill water via the spillway at the left side of the weir.

The Project complies with the IFC's No Net Loss standard for Natural Habitat considering the relatively small footprint of the Project, the provision of Eflow and a fish ladder to maintain the ecological integrity and connectivity of the diversion reach, and NWEDC's commitments to:

- Contract with an international fishery biologist to help monitor and protect aquatic ecology during oversee the fish monitoring program (BEMP during Project construction and early operations;
- Develop and conduct a robust Biodiversity Evaluation and Monitoring Program (BEMP) and share any enhanced understanding of Common snowtrout biology with the Government of Nepal and other hydropower developers in the Himalayan region;
- Demonstrate No Net Loss of biodiversity Common snowtrout with monitoring metrics;
- Apply an Adaptive Management Program to ensure Common snowtrout are able to successfully reach their spawning grounds upstream of the dam; and
- Implement the Project's Biodiversity Management Plan.

The combined objective of the Eflow and fish passage will be to support a stable population of Common snowtrout in the Project area by achieving and demonstrating No Net Loss of aquatic biodiversity per IFC's PS6 requirements, so the comparative analysis and trend analysis will be conducted to identify patterns in year-over-year changes in the Common snowtrout population. The details of the metrics and analysis will be developed and guided by the fish expert to be hired by NWEDC. Particular attention will need to be paid to the changes not only in overall population but also in the life stage composition of the population because changes in the relative abundance of life stages within the population may indicate certain deficiencies in the Eflow or fish passage program. For example, a decrease in the number of juveniles occurring in the dataset that cannot be explained by a corresponding decrease in spawning adults the prior year may indicate that juveniles are experiencing high mortality due to passage through the turbines and that the exclusion devices at the dame need to be adjusted or replaced.

With the implementation of these measures, NWEDC should achieve no less loss of aquatic Natural Habitat at the UT-1 Project.

## **1.6. STAKEHOLDER ENGAGEMENT PLAN/ GRIEVANCE REDRESSAL MECHANISM**

A Stakeholder Engagement Plan and Community Grievance Redress Mechanism has been prepared and is included as Appendix G.

## **1.7. LAND ACQUISITION AND LIVELIHOOD RESTORATION PLAN**

Provided as Attachment 1 to this ESMMP.

## **1.8. GENDER ACTION PLAN**

### **1.8.1. Gender Assessment and Action Plan**

This document presents the Gender Action Plan (GAP) for the Upper Trishuli 1 project commissioned by Nepal Water and Energy Development Company (NWEDC) and the International Finance Corporation (IFC). This plan has been prepared as part of the Social Impact Management Framework (SIMF) for the project. This GAP provides an understanding of the role of women in the Area of Influence for the project and puts in place specific measures for women to be put in place as part of the LALRP process. This Gender Action Plan shall be implemented in parallel with the other plans prepared as part of the larger Social Impact Management Framework (SIMF) for the project, including the Livelihood Restoration Plan, Stakeholder Engagement Plan, Indigenous Peoples Plan and Grievance Redressal Mechanism.

#### ***1.8.1.1. Context of Gender Action Plan***

The Project is being developed as a 216 megawatt green field run-of-the-river project located in the upper part of the Trishuli watershed, approximately 50 kilometres north of Kathmandu. The project area of influence [AoI] is located in the former Haku, Ramche, and Dhunche Village Development Committees (VDCs), Rasuwa District in the Central Development Region of Nepal, (the Project's AoI currently includes four out of the five Gaonpalikas). In March 2012, the International Finance Corporation (IFC) Infra-Ventures signed a Joint Development Agreement with Korea South-East Power Co. Ltd, Daelim Industrial Co., Ltd; Kyeryong Construction Industrial Co. Ltd.; and Jade Power Private Limited to develop the Project. The Project Development Agreement (PDA) with the Government of Nepal was signed on 29th December 2016.

As part of this Project and in keeping with the applicable reference framework, a number of environmental and social assessments were performed and management plans were developed. As part of the Livelihood Restoration Plan (LRP) developed for the project, certain specific provisions were put in place for women amongst the Project Affected Families and in the AoI. This was based on an understanding that due to the socio-economic conditions and gender dynamics in the AoI, there was a risk that women would face differential impacts from the project activities and would not have equivalent access to the benefits accruing from the project.

Furthermore, in 2017, the Lawyer's Association for Human Rights of Nepalese Indigenous Peoples has undertaken a study on the project and provided certain feedback on the project activities and impacts. This study is primarily based on the studies/ reports prepared for the project prior to 2015, and information made available by the local community during consultations undertaken by the organization's representatives. One of the key observations of this report was that the engagement activities undertaken for the project thus far (prior to 2015) did not allow for adequate participation of women or vulnerable Indigenous People PAFs. The report was of the opinion that the participation of women till 2015 was 'inadequate and tokenistic', as most of the women can't speak Nepali and thus could not be properly engaged.

The 2015 Gorkha earthquake also resulted in changes in the Project baseline. These changes included residences, asset ownership, livelihood profile, financial status of the Project, and stakeholder expectations from the Project. Due to these changes, the impact assessments and management plans needed to be updated. In keeping with these aspects, the present Gender Action Plan has been formulated.

#### ***1.8.1.2. Aims and Objectives of the Gender Action Plan***

The primary objective of the Gender Action Plan is to ensure equivalent participation of women in the project lifecycle and decision making processes, in keeping with the project context stated above. The GAP is thus aimed at putting in place, specific targets and performance indicators to ensure gender inclusion and facilitate women's involvements in the project lifecycle. While the LRP, SEP, GRM and ESIA and benefit sharing plans put in place the project's commitments towards the local community in the AoI and specifically the PAFs, the GAP is aimed at identifying specific measures within these plans which would allow for gender inclusion and parity.

#### ***1.8.1.3. Applicability of the Gender Action Plan***

The GAP applies to the entire Upper Trishuli-1 Project, including any new acquisitions such as offices, camps, research and development, and associated facilities. This document is applicable to the entire life cycle of the Project with a specific focus on the implementation of the SIMF and other management plans. The GAP is a part of the larger SIMF and is to be considered as a living document, to be updated regularly based on the emerging needs and patterns for engagement with the various stakeholders.

#### ***1.8.1.4. Applicable Reference Framework***

The GAPs and its provisions are governed by the applicable reference framework for the project, which include the following:

- Applicable national regulations;
- Applicable World Bank Group (WBG) Performance Standards (PSs);
- Asian Development Bank (ADB) Safeguards; and
- Asian Infrastructure Investment Bank's (AIIB) Environmental and Social Standards.

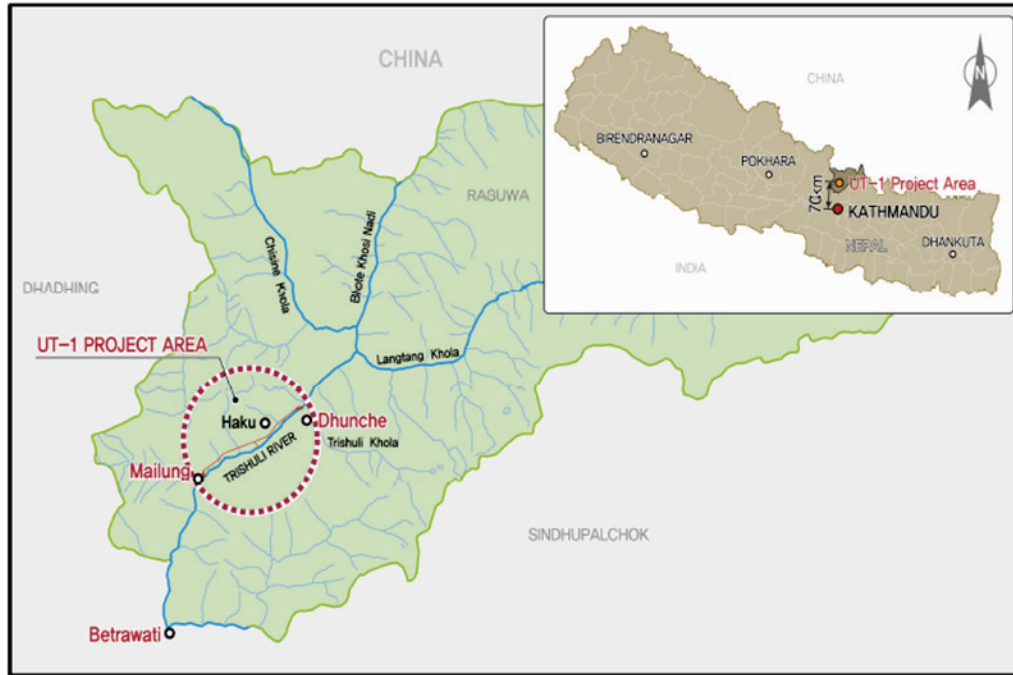
### **1.8.2. Project Understanding**

This section provides a brief description of the Project, Project background, and the AoI. This information is important for setting the context of the GAP.

#### ***1.8.2.1. Project Background***

The Project is a 216 megawatt green field runoff- river hydropower facility to be located in the upper part of the Trishuli watershed, in the Rasuwa District in central Nepal, 50 kilometres

northeast of Kathmandu, with the geographical coordinates longitude between 85°12'40"E and 85°18'03"E, and latitude between 28°04'27.50"N and 28°07'42"N (see Figure B.1-2).



Source: Upper Trishuli-1 Detailed Project Report

**Figure B.1-2: Project Location**

**1.8.2.2. Area of Influence of the Project**

The Project footprint is spread across three former VDCs: Haku, Dhunche, and Ramche. Land acquisition for the Project is from eight villages (Haku Besi, Sanu Haku, Thullu Haku, Gogone, Tiru, Thanku, Mailung, and Phoolbari) from the Haku VDC. A total of 107.79 hectares of land are required for the Project. LRP provides an understanding of the land take process till date for the Project.

The introduction of the new Nepalese Constitution in 2015 was accompanied by a change in the administrative structure of the country (see Figure B.1-3) in keeping with this, the following wards and Gaunpalika/ Gaupalika are now included in the Project footprint (Table B.1-6). The figure shows the Project layout in reference to both the former administrative structure and the new administrative structure.

**Table B.1-6: Change in Administrative Structure for the Project’s AoI**

Impacted Village	Old Administrative Structure	New Administrative Structure
Haku Besi, Sanu Haku and Thullu Haku	Haku Ward number 3	Parvati Kunda Ward number 1 & 2
Gogone and Tiru	Haku Ward Number 8&9	Uttar Gaya Ward number 1

Impacted Village	Old Administrative Structure	New Administrative Structure
Mailung	Dadagaon Ward number 9	Uttar Gaya Ward number 1
Thanku	Haku Ward number 5	Parvati Kunda Ward number 1 & 2
Phoolbari	Haku Ward number 3	Parvati Kunda Ward number 1 & 2
No directly affected villages	Ramche	Kalika Ward Number 1
No directly affected villages	Dhunche	Gosaikunda Ward number 6

Source: NWEDC

Under the previous administrative structure, the Rasuwa district was comprised of 18 VDCs, each with nine wards. However, under the new administrative structure, there are five Gaunpalikas in the Rasuwa district. Thus, while the Project footprint was previously directly affecting 3 of the 18 VDCs, it is now affecting four of the five Gaunpalikas in the Rasuwa district. Furthermore, the reorganisation of the wards within the 18 VDCs has been done in such a manner that even if the wards fall under one VDC, they may not fall under a single Gaunpalika. This results in an increase in the population within the Gaunpalikas within the Project footprint.

The AoI for this GAP is comprised of the directly affected villages and VDCs, and areas of indirect Project impacts on ecosystem services, upon which there is livelihood dependence, and associated facilities that have a land impact. The AoI as determined by the ESIA covers the three former VDCs of Haku, Dhunche, and Ramche. Certain Project benefits will be at the district and Gaunpalika level (such as the Benefit Sharing Plans); however, they are outside the scope of this Plan. Please refer to the ESIA, LRP and the Indigenous Peoples Plan for a detailed description of the Project's AoI.

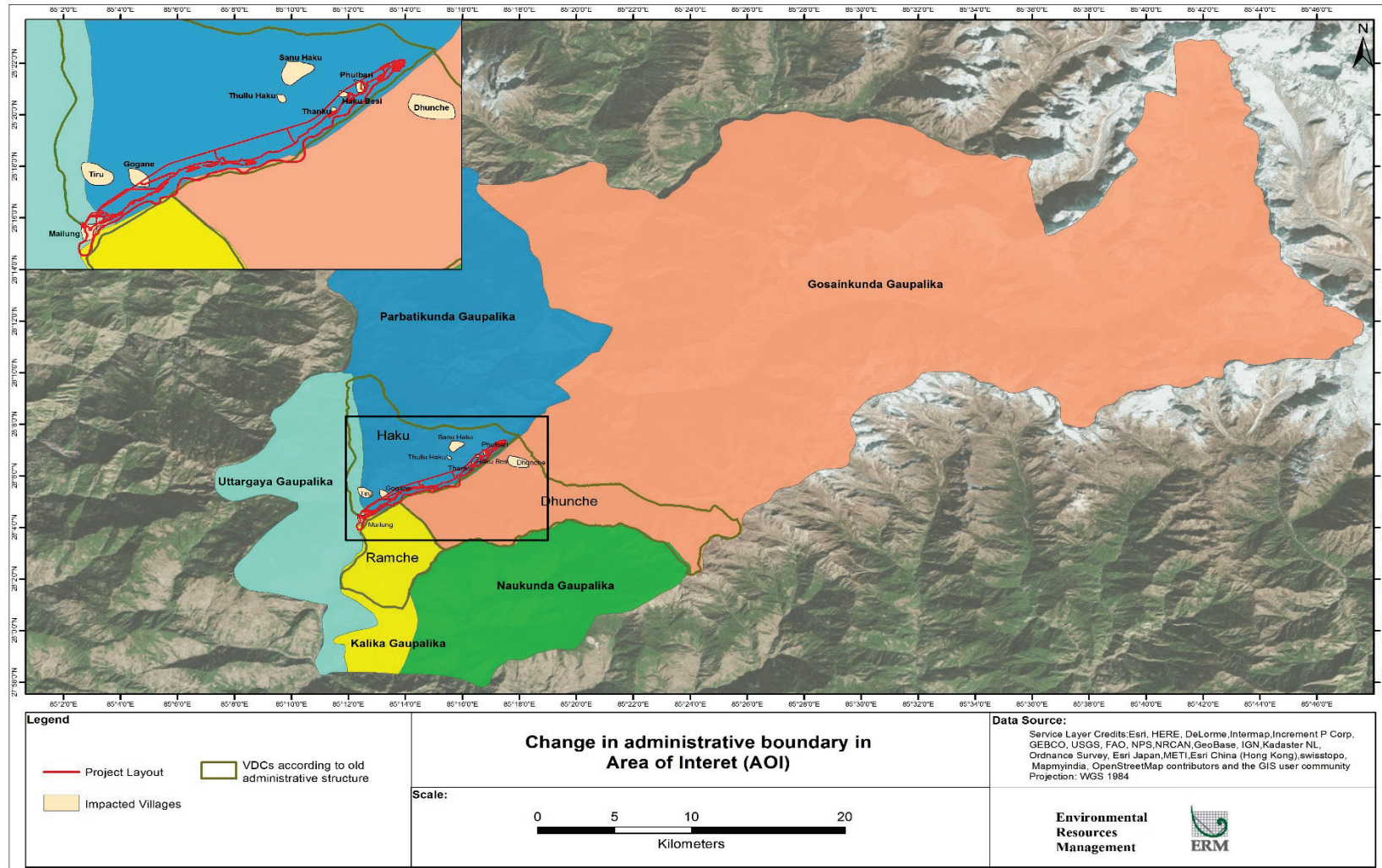


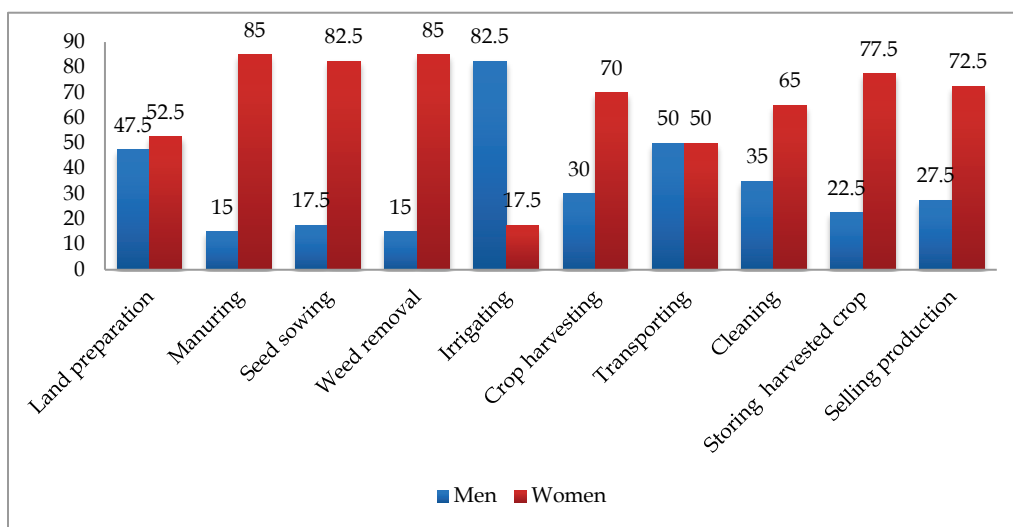
Figure B.1-3: Project Layout Against the Revised Administrative Structure

### 1.8.3. Understanding of Women’s role in Society

As has been discussed in the Section 4 of the LALRP the project AoI are characterised by a negative sex ratio of 989 females per thousand males. The following sub sections provide a detailed understanding of the role of women in certain key sectors in the AoI. The following discussions provides an understanding of the overall role of women in the Project AoI, and is not specific to any particular social group. The following discussion is based primarily on data collected as part of the supplementary social baseline for the project. This baseline was formulated based on structured questionnaires and focus group discussions undertaken with the local community in the AoI.

#### 1.8.3.1. Livelihood and Economic Activities

According to the discussions undertaken during the complementary SIA and the LALRP preparation, it is understood that women play a critical role in the society in terms of their role in the decision making within the household and in economic activities, especially agriculture and small businesses.



Source: UT-1 Supplemental ESIA Appendix A, 2014 based on the responses given

**Figure B.1-4: Gender Based Division of Labour (%) in agriculture-related works in Project AOI (VDC level)**

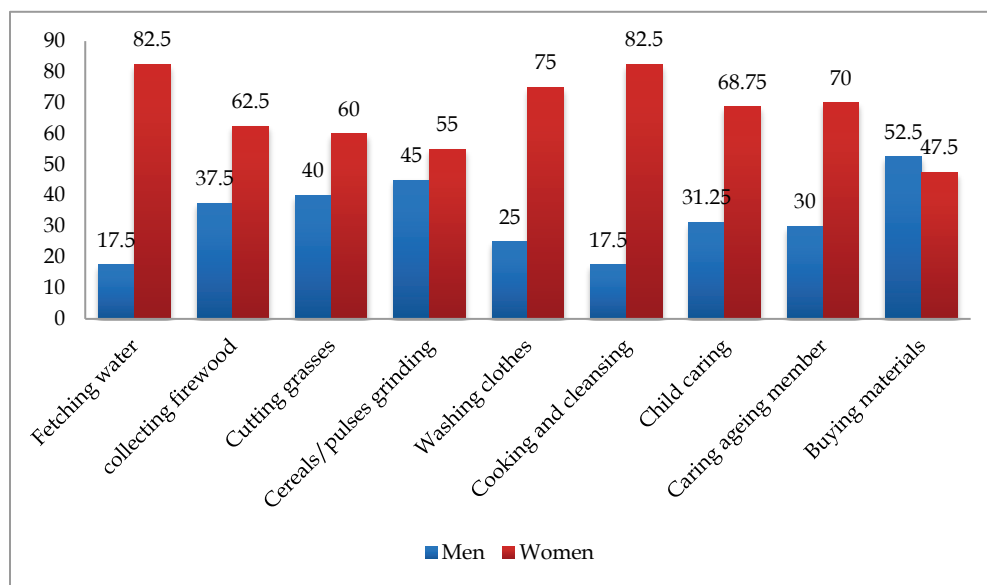
As can be seen from the above figure, the ratio of the involvement of women is higher than men in activities such as manuring, seed sowing, weed removal, crop harvesting, cleaning, storing of the harvested crop and sale of the produce. The involvement of men and women is reported to be equivalent in land preparation and transport of the produce.

However, post-earthquake; as a result of the exposure of the villages to the market economy and opening up of communication/transportation routes, there has been a clearer division of labour along gender lines. The women in the households on the other hand, are reported to be more engaged in wage based labour, especially, stone breaking. The consultations with the women’s

groups suggested that pre-earthquake, the women generally did not work outside their houses, agricultural fields or their own shops (close to their houses). However, the scenario started changing after 6-7 months of the earthquake, where livelihood and income constraints, led to the women getting involved in livelihood generating options outside the households, such as work as construction labours, in stone cutting activities, etc. On the other hand, the introduction of wage based labour in the society has led to men preferring to migrate out of the villages for wage labour either to India, Malaysia or Arab countries. However, the household commitments and young children requiring attention do not let the women engage in work for more than 10-12 days in a month.

**1.8.3.2. Role in Household Activities**

Similarly, the role of women in household activities is higher in proportion to that of the men, except in case of purchasing materials. Women are reported to be prominent in activities such as fetching water, cooking and cleaning, washing clothes, caring for the elderly members of the family, child caring, firewood gathering, grass cutting and cereal/pulses grinding.

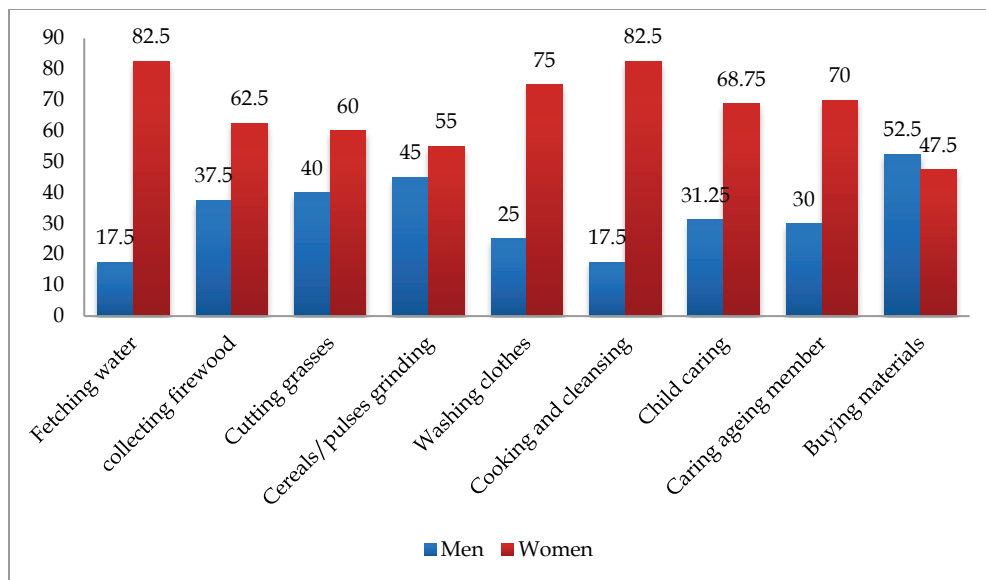


Source: UT-1 Supplemental ESIA Appendix A, 2014 based on the responses given

**Figure B.1-5: Gender based Division of Labour (%) in household Activities in Project AoI (VDC level)**

**1.8.3.3. Decision Making Process**

The men are reported to be more visible in the decision making process at the household and community level, although the participation of women is understood to be crucial, especially at the Household level. According to the consultations undertaken, the women are reported to have the least say in the decision making, especially in regards of borrowing money and purchase of land and property. However, in aspects such as agricultural activity and the education of the children, women were reported to take more decisions than men.

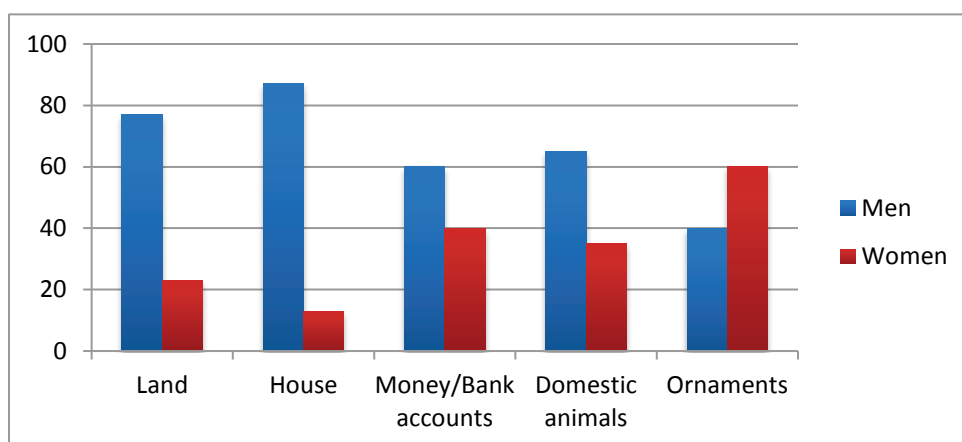


Source: UT-1 Supplemental ESIA Appendix A, 2014 based on the responses given

**Figure B.1-6: Gender Participation (%) in Decision Making Process in Project AoI (VDC level)**

#### 1.8.3.4. Ownership of Property

In terms of ownership of property, in most cases (65%) it remains in the name of men. However, certain assets are predominantly owned by women, such as ornaments.



Source: UT-1 Supplemental ESIA Appendix A, 2014

**Figure B.1-7: Gender based ownership of Property (%) in the Project Area VDCs**

#### 1.8.3.5. Share in UT-1 Compensation and its Use by PAFs

Of the total 38 land owners/tenants, 7 are women, while of the 142 PAFs, 7 were reported as women headed households. In terms of receiving the compensation amount, there does not appear to be a significant difference amongst men and women. It is understood that the compensation payment has been completed for the affected households and was paid through

cheques in the name of the land owners, irrespective of the gender. The money was further divided internally among families sharing the household, depending upon how the family was organised and the way the land ownership was understood within the family. Furthermore, according to the consultations undertaken during the LRP survey it is understood that in many instances, the compensation was split amongst the daughters and sons of the land owners albeit with sons getting the larger share. However, assessing the exact number of families in which payment reached the female member of the family is difficult.

*A woman PAP who received the compensation amount of 30 lakhs NR divided this sum among each of her three sons, while she kept a sum of only 3 lakhs NR for herself. She continues to stay with the sons and sometimes resides with her daughters too. The same trend is reflected for the male land owners too who have multiple sons and daughters.*

*In another case, a lady PAP received payment of almost 20 lakhs NR. She is a widower and hence lives with her daughter who is settled in Mailung. Consultations with her suggested that she purchased jewellery for herself and her daughter with the compensation and then spent the rest of the amount for the construction of the house for the daughter. In a third case, the compensation amount of 16 lakhs NR was divided among her two sons, while some amount was kept for herself. She expected the sons to take care of her.*

It is important to note that one of the reasons why the compensation amount was also shared with the daughters (though this is not the norm) was that most of the girls are married in the same locality and a sense of strong relationship between the parents and daughters exists even after the marriage. However, the proportion of the compensation shared with the married daughters is much lower than that shared with the sons.

Another important indicator of the gender dynamics in the community is the role women played in deciding the utilization of the compensation received. It is understood that despite the fact that the education levels and exposure to market forces in the older generation of women was limited; it is common practice for men to consult women in deciding the use of the compensation. ERM found that construction or buying of land or house in Dhunche or Kathmandu is the first preference of many of the HHs and the women too have supported such a choice. Alternate land for farming has been bought in very few instances. In cases where the compensation amount was not enough to facilitate house construction in an urban centre, the compensation amount has either not been used or has been used to support the family's daily needs, or has been used for children's education. For children's education no discrimination was reported along gender lines.

#### **1.8.3.6. Role in Community Forest User Groups**

The women are important in the membership of Community Forest User Groups (CFUGs) and are quite vocal, once they understand the context and the implications of the project community forest land requirements and the loss of the community forest. However, their understanding of the process related to cutting of the trees in the community forest or the area diverted for the construction of the project access road was limited. While in case of Gogone and Tiru, where the project has impacted on the community forest, the women articulated their concern about the

losses. In Haku Besi, the women, though aware of the project, compensation etc., were unclear about the project's impact on community forests and loss of the trees therein.

#### **1.8.3.7. Consultations with Women's Groups**

This sub section provides an understanding of the perception of women towards the project and its activities.

##### **Awareness about Project Activities**

The awareness levels of the project and its activities was observed to differ across the groups engaged during the consultation process. This was understood to be resultant from the location of the village of residence and the subsequent proximity to project activities and larger VDCs of Mailung and Dhunche and exposure to market forces. The women's group consulted in Mailung prior to earthquake, were aware of the project activities, the land acquired, the negotiation process and the payments received because they were located closer to the project. However, the women from the villages of Gogone and Tiru were observed to have minimal understanding of the project and its activities and were not aware of the negotiation process, while it was underway. Furthermore, while both the women groups had an understanding of the compensation provided and played some role in how the money was to be spent.

The women are less aware and updated in land related matters. In the present scenario, the women are less informed on the cultivable land available in their original villages. It is the men's group which has largely undertaken visits to the original villages, which can also be attributed to destroyed access to the villages, from the present places of residence and lack of adequate shelter in the villages.

##### **Expectations of women: Post-earthquake**

The preference of work amongst women is still reported as those activities which can help them earn while maintaining balance with household responsibilities, e.g., tailoring, poultry, livestock farming, etc.

As per the consultations undertaken, the key expectations of women from the project primarily pertain to the generation of livelihood opportunities and employment in the project for the local community. Apart from this, the project was expected to provide trainings and assistance in establishment of alternative livelihoods, while allowing them to fulfil their familial responsibilities.

#### **1.8.4. Purpose of this Gender Action Plan**

In keeping with this understanding of the role and status of women in the community, a specific gender action Plan has been formulated. The management plans prepared as part of the SIMF identify specific action items and steps to be taken by the project, to ensure minimization of negative impacts, maximization of benefits and community participation. The purpose of the GAP is to maximize the involvement of women in the action items thus identified, and to minimize the possibilities of increasing the vulnerability of women after the completion of the

implementation of these plans. While the management plans prepared as part of the SIMF provide the exact details of the action items, the specific measures to be taken to ensure women's participation include the following:

- **Encouragement of women's participation in public meetings:** the SEP, ESIA and LALRP for the project put in place specific requirements for engaging with the local community in the AoI and PAFs and minimizing project related impacts. As part of the implementation of these plans, NWEDC will facilitate the involvement of women in the public meetings held for the project as well as any other public meeting/ discussions held in the villages, especially during the Free Prior Informed Consent (FPIC) process. The objective is not just to increase the attendance of women in these meetings, but also enhancement in their participation in discussions and decision making. For this purpose, NWEDC will identify key women in the community with leadership qualities who can assist in creating awareness amongst women and encouraging them to participate in project led engagement. Also, specific engagement will be undertaken with women for this purpose across the project area, in the manner discussed in the SEP for the project.
- Increasing women's awareness towards project activities and health and safety risks associated with the same: as part of the regular engagement to be undertaken by the project during its lifecycle, specific engagement activities will be undertaken with women. Through these engagement activities, an attempt will be made to increase women's awareness on aspects such as potential in-migration due to the project, code of conduct for the workers, risks such as human trafficking, sexually transmitted diseases, potential of accidents due to vehicular movement, provisions in place for women's safety and security etc.
- Increasing women's participation in LALRP entitlements: Furthermore, as part of the engagement activities an attempt will be to ensure that women avail the LALRP options developed for PAFs. This will be achieved through regular engagement with women by the ESMC, in the form of focus group discussions and individual interactions with key informants as discussed in the SEP. Beneficiary selection will be conducted in a manner so as to ensure that women are equally benefitted. In cases where a PAF is getting multiple entitlements and women and men identify different entitlements, the same shall be enabled to the extent possible by the project. Also, women's feedback should be taken for the designing of the implementation plan for the specific entitlements identified. This may be in terms of the timings of the trainings, location of trainings being near the IDP camps, number of days of the training, crèche facility for young mothers etc. through this an attempt should be made to implement the LRP in a manner so as to allow the women to gain maximum benefit while fulfilling their familial responsibilities;
- LALRP Implementation: The LALRP implementation by the social team of the ESMC will be undertaken keeping the gender aspect in context. It will be ensured that decision making on LALRP implementation issues like the provision of employment opportunities to the locals, training and capacity building, selection of beneficiaries, duration and location of the training, types of training, provision of support and linkage with

government schemes etc., is done with special emphasis on women's participation. Also, the project is in the process of hiring two women Community Liaison Officers, which is aimed at further enabling adequate participation by women in the LALRP process;

- Ensuring Women's Feedback in LALRP implementation and Monitoring Process: As part of the LALRP implementation and monitoring process the social team of the ESMC will try and ensure that the feedback and viewpoint of women is captured separately as well as in a larger group and taken into consideration through targeted engagement activities and identifying specific monitoring indicators for the LALRP. Furthermore, to the extent possible, women will be involved in the internal monitoring process as identified in the LALRP

These proposed measures will be disclosed to the local community as part of the disclosure and FPIC process and specific feedback will be sought from women on the same. Based on the discussions and feedback received, the Gender Action Plan will be updated into a detailed plan.

### **1.8.5. Implementation Roles and Responsibilities**

As stated earlier, the project acknowledges the importance of ensuring adequate engagement and participation of women. For this purpose, the project will give the implementation of the GAP as much importance as the other project activities and ensure the availability of the required resources. Since the GAP is linked to the implementation of the SIMF, the specific plans such as LALRP, SEP and GRM put in place the specific requirements for resources and documentation and monitoring. The following sections provide an understanding of the specific provisions within the larger SIMF for the implementation of the GAP.

#### **1.8.5.1. Manpower**

In order to ensure the proper implementation of the GAP, the project will make available human resources as required in the form of internal resources within the project as well as external resources such as NGOs or other third parties.

#### **Internal Resources**

As discussed in the LALRP and SEP, the project will form an Environmental and Social Management Cell for the Project. The following figure provides an understanding of the proposed structure of the ESMC.



**Figure B.1-8: Organization Structure of the ESMC**

The project has already employed 2 site level community liaison officers, one of whom is a Tamang PAF for the project. In addition to this, the project will employ two more women CLOs, at least one of which should be a local and conversant in the Tamang language. In addition to this, the project will also identify any additional personnel which may be required for the effective implementation of the GAP. In case the existent resources at the project appear to be insufficient to meet the needs for the implementation of the GAP as outlined in the previous sections, the employment off personnel specifically for the purpose of enabling participation of women through the life of the project will be undertaken.

Furthermore, due to the fact that a number of contractors and external parties will be involved in the project at various stages of its development, it will be ensured that the contractors/third parties abide by the principles established as part of the SIMF. Wherever possible, relevant conditions will be inserted into the contracts, including right to investigate reported incidents of violence against women and penalties for non-compliance. Also, it will be ensured that regular monitoring is undertaken of the compliance of the contactors and their staff to the Labour Influx Management Plan, which includes a code of conduct for the labourers.

### **External Resources**

In case the internal resources at the project appear to be insufficient, the project will also consider engaging a reputed third party in the form of the organization (NGOs/CSOs) working in the field of women empowerment and gender dynamics, familiar with the region and are

acceptable to the community. The NGO would then not only serve as a link between the company and the community but as a third party in the implementation of the GAP.

#### ***1.8.5.2. Training Requirements***

The project will, from time to time assess the adequacy and capacity of the ESMC team members in terms of their understanding of the SIMF and specifically the GAP put in place for the project and the principles governing the same. Provisions for refresher trainings will be put in place.

#### ***1.8.5.3. Financial Resources***

The project will ensure that the budget formulated for the purpose of the SIMF implementation is sufficient to meet the expenses of the same. The recruitment of two female CLOs is included as part of the budget for the LALRP implementation. Any other expenses identified are also to be met through the SIMF.

#### ***1.8.5.4. Documentation, Monitoring and Reporting Process***

The review and appraisal process in any project is an extremely important component for the smooth functioning and the avoidance of major risks within a project. This importance of the review process lies in the fact that it allows for the corrections of any oversight which may have been made during the initial stages of a project through mid-course corrections. This also serves as an important quality assurance mechanism.

The review process becomes all the more important when it is kept in mind that the GAP is a 'live document' or in other words a document which needs to be revised in a timely manner so as to make it comprehensive for any given period of time. This is so because of the fact that due to the life span of the project, it is difficult to properly identify and understand the gender dynamics and requirements for ensuring gender parity at the beginning of the project lifecycle. The GAP thus requires regular reviews keeping in mind attributes such as the requirements of the SIMF, the gender dynamics in the AoI and the feedback of stakeholders over the course of the project lifecycle.

The specific documentation, monitoring and reporting requirements are as specified in the LALRP and SEP. The reporting and monitoring for the LALRP will be inclusive of these gender based indicators and gender segregated information will be provided.

### **1.9. INDIGENOUS PEOPLES PLAN**

An Indigenous Peoples Plan has been prepared and is included as Appendix H.

### **1.10. LABOUR INFLUX MANAGEMENT PLAN**

This document presents the Labour Influx Management Plan (LIMP) for the Upper- Trishuli 1 (UT 1) Hydropower project in Nepal. This plan has been prepared in the keeping with the requirements of the applicable reference framework for the project. The following sections provide an understanding of the purpose of the LIMP, the institutional framework put in place

for its implementation, the scope of the LIMP, the measures included in the LIMP and the monitoring, reporting and reviewing process for the same.

### **1.10.1. Purpose**

The UT1 project is expected to employ approximately 1090 skilled, semi-skilled and unskilled workers over a 60 month construction period. The skilled workforce will be recruited either directly by NWEDC or by its EPC contractors and the subcontractors hired by EPC Contractors. The semi-skilled and unskilled workforce, will however, be subcontracted, to local Nepali subcontractors or local petty contractors in the Rasuwa district or the nearby districts. Based on the project skill requirement and the present skill level of the local community, it is understood that most of the skilled and semi- skilled workforce will be migrant population from other districts of Nepal and expats.

As part of the ESIA for the project, an assessment was undertaken of the potential environmental and social impacts from labour influx due to the project in the construction phase. In keeping with this impact assessment, certain mitigation measures were identified, and included in the Construction phase ESMMP for the project. However, in keeping with the socio-economic profile of the local community in the Project Area of Influence (AoI), a need was identified for a detailed Labour Influx Management Plan (LIMP).

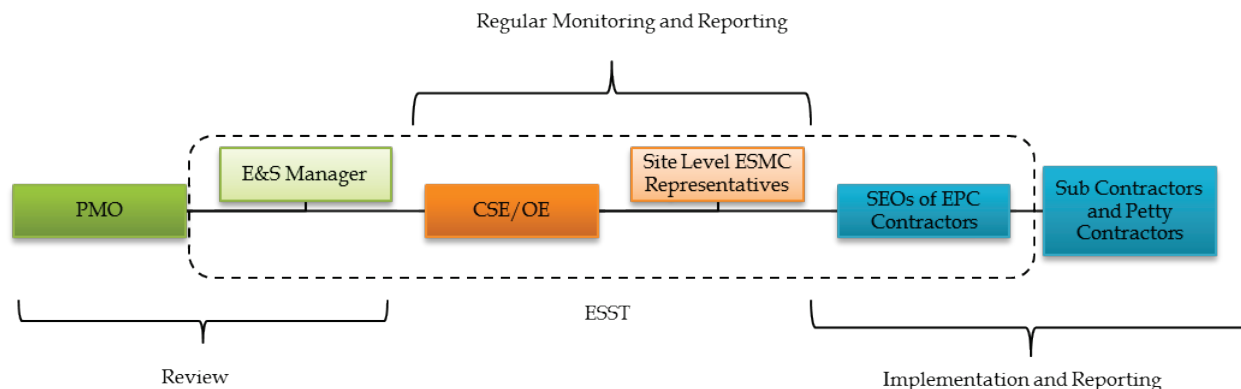
This LIMP is thus aimed at putting in place measures and processes, to allow for avoiding, minimizing and mitigating the risks identified due to influx of labour from outside the AoI.

The CSE/OE shall in turn report the status of the LIMP implementation and any key areas of concern to the Project Management Office (PMO) and EHS Head. The PMO and E&S Managers shall in turn be responsible for the overall review and assessment of LIMP in terms of the requirements of the applicable reference framework. The final decision making authority in regards to the provisions of the LIMP shall lie with the PMO, who shall be supported in their decision by the E&S Manager.

### **1.10.2. Institutional Framework**

The implementation of the LIMP thus formulated, shall be undertaken by the NWEDC Environmental and Social Management Cell (ESMC), ESST and the EPC Contractors and sub-contractors for the project.

The EPC contractors and sub-contractors shall be responsible for ensuring the everyday implementation of the LIMP and ensuring that their labourers and workers comply with the same. On the other hand, the CSE/OE for the project (assisted by the site level ESMC representatives) shall be responsible for the overall monitoring and review process of the LIMP implementation and ensuring that the plan is implemented in keeping with the requirements of the applicable reference framework and the principles identified.



**Figure B.1-9: Institutional Framework for the LIMP Implementation**

The CSE/OE shall in turn report the status of the LIMP implementation and any key areas of concern to the PMO and EHS Head. The PMO and E&S Managers shall in turn be responsible for the overall review and assessment of LIMP in terms of the requirements of the applicable reference framework. The final decision making authority in regards to the provisions of the LIMP shall lie with the PMO, who shall be supported in their decision by the E&S Manager.

### 1.10.3.Scope

The LIMP is applicable for the entire UT-1 project and its associated facilities. This plan has been formulated for the mitigation of social impacts from project induced in-migration into the AoI during the construction phase of the project. This plan has to be read in conjunction with the other management plans such as the Stakeholder Engagement Plan (SEP), Grievance Redressal Mechanism (GRM) and the Construction Phase ESMMP.

### 1.10.4.Potential Environmental and Social Impacts from Labour Influx

The ESIA for the project identifies the following potential environmental and social impacts due to labour influx during construction phase of the project.

**Table B.1-7: Potential Impacts from Labour Influx**

Social Impacts	Environmental Impacts
<ul style="list-style-type: none"> <li>Increased competition for the direct and indirect economic opportunities created due to the project and potential resentment amongst the local community</li> <li>Increased pressure on and competition for infrastructure and services in the AoI</li> <li>Increased waste and sewage generation and possible community health and safety risks due to inadequate waste disposal</li> <li>Risk of social unrest and conflict due to increased presence of migrant population in the AoI</li> <li>Risk of spread of communicable diseases, especially sexually transmitted diseases in the workers and local population</li> </ul>	<ul style="list-style-type: none"> <li>Increased pressure on and competition for natural resources in the AoI</li> <li>Risk of pollution of water resources in the AoI due to lack of appropriate wastewater discharge</li> <li>Risk of disturbance to wildlife due to presence of labour camp and movement of labour</li> </ul>

Social Impacts	Environmental Impacts
<ul style="list-style-type: none"> <li>• Risk of Change in Community dynamics and potential for community conflict</li> <li>• Additional influx of population seeking economic gains from presence of migrant population (through establishing small businesses and enterprises)</li> <li>• Increased risk of illicit behaviour and crime, especially gender based violence</li> <li>• Increased risk of child labour and school drop outs due to increased opportunities for host community to engage in economic activities</li> <li>• Increased risk of inflation and increase in expenses for the local community due to a general increase in prices in the AoI</li> </ul>	

It should be noted that, during the discussions with the local community, the representatives did not report any apprehensions or concerns regarding the presence of migrant workers in the area. The community reported to appreciate the presence of migrant workers in the area as they allowed for economic opportunities to be created. The representatives did not report any instances of conflict or violence due to the presence of the migrant workers involved in the access road construction.

- There are no reported existing issues or tension with the migrant workers in the area
- The community see the labourers as a positive presence and did not report an issue with migrant labourers coming into the area
- However, if the locals don't get employment opportunities from the project or general economic opportunities it may lead to resentment
- Furthermore, cultural conflict can arise if labourers do not respect the local traditions of the community
- Workers on infrastructure projects are predominantly young and male. Those who are incoming are single or are separated from their family or spouse, and are outside their habitual sphere of social control. Further, in rural settings, where the presence of law enforcement is often low, the risk of sexual harassment for local women is likely higher, in particular for younger women and girls, but also boys.

### 1.10.5. Labour Influx Management Measures

In keeping with the impacts identified, the following mitigation measures have been put in place as part of the LIMP.

**Table B.1-8: Labour Influx Management Measures**

<b>Potential Impact</b>	<b>Contractor Responsibility</b>	<b>NWEDC responsibility</b>
Overall Impact	<ul style="list-style-type: none"> <li>• Undertake regular engagement with the workers and sub-contractors through workshops, training sessions and tool box talks to ensure understanding and compliance to the LIMP requirements</li> <li>• Put in place a detailed Code of Conduct, based on the LIMP and ensure its implementation</li> <li>• Undertake regular internal monitoring to ensure compliance to the contract agreement and the overall requirement of the LIMP</li> <li>• Ensure that the workers have all required documentation as follows: employment contract, insurance, routine check-ups, vaccinations, occupational health training, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Undertake regular and timely engagement with the local community in keeping with the SEP formulated</li> <li>• Undertake timely information disclosure, to ensure the community is aware of the project activities, opportunities in the same and potential adverse impacts from the project</li> <li>• Implement the GRM for the project and ensure the community is aware of the same</li> <li>• Ensure the inclusion of relevant clauses in all sub-contract agreements</li> <li>• Undertake a training of the EPC contractors, sub-contractors and petty contractors to ensure understanding and compliance of the LIMP</li> <li>• Undertake regular monitoring of the compliance of the contractors to the LIMP</li> </ul>
Increased competition for the direct and indirect economic opportunities created due to the project and potential resentment amongst the local community	<ul style="list-style-type: none"> <li>• To the extent possible, recruit local population in keeping with the Employment and Skill Trainings plan for the project;</li> <li>• Undertake timely information disclosure, to ensure the community is aware of the project activities, opportunities in the same and potential adverse impacts from the project.</li> </ul>	
Increased pressure on and competition for infrastructure and services in the AoI	<ul style="list-style-type: none"> <li>• Put in place a detailed Code of Conduct, based on the LIMP and ensure its implementation</li> <li>• Ensure the worker camp has adequate provisions for water, electricity and sanitation facilities</li> <li>• Identify an authorized water supply source for the worker camp and prohibit of use from other community sources;</li> </ul>	<ul style="list-style-type: none"> <li>• Investment in and capacity building of local public service providers</li> <li>• Put in place contingency plans for temporary rise in demand for utilities and public service provision.</li> </ul>
Increased waste and sewage generation and possible community health and safety risks due to inadequate waste disposal	<ul style="list-style-type: none"> <li>• Ensure adequate waste and sanitation facilities in worker camp</li> <li>• Ensure workers' camp and associated facilities are connected to septic tank or other wastewater systems which are appropriate and of sufficient capacity for the number of workers and local conditions.</li> </ul>	<ul style="list-style-type: none"> <li>• Undertake community sensitization campaigns to build awareness about public health impacts from labour influx.</li> <li>• Undertake regular inspections and monitoring of the worker camps and associated facilities in terms of the adequacy of sanitation provisions and their maintenance</li> </ul>

<b>Potential Impact</b>	<b>Contractor Responsibility</b>	<b>NWEDC responsibility</b>
<p>Risk of social unrest and conflict due to increased presence of migrant population in the AoI</p> <p>Risk of Change in Community dynamics and potential for community conflict</p>	<ul style="list-style-type: none"> <li>• Ensure the worker camp has adequate facilities for entertainment and basic provisions to reduce the need for workers to use local community facilities and resources;</li> <li>• Ensure the code of conduct has adequate provisions for the interaction of the labourers with the local community</li> </ul>	<ul style="list-style-type: none"> <li>• Undertake community sensitization campaigns to build awareness about potential impacts from labour influx</li> <li>• Undertake regular and timely engagement with the local community in keeping with the SEP formulated</li> <li>• Ensure adequate security provisions across project area, including worker camp and associated facilities</li> </ul>
<p>Risk of spread of communicable diseases, especially sexually transmitted diseases in the workers and local population</p>	<ul style="list-style-type: none"> <li>• Undertake a health and fitness to work assessment of each worker prior to initiation of work;</li> <li>• Ensure all workers have required vaccinations against common and locally prevalent diseases;</li> <li>• Implement HIV/AIDS education program for all workers;</li> <li>• Undertake information campaigns on STDs and transmission of diseases among the workers;</li> <li>• Establish a health centre at the camp and construction sites, which should include                             <ul style="list-style-type: none"> <li>– Free testing facilities;</li> <li>– Regular health check-ups;</li> <li>– Database of all the worker health records</li> <li>– Provision of condoms</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Undertake community sensitization campaigns to build awareness about public health impacts from labour influx;</li> <li>• Undertake community sensitization campaigns towards STDs</li> <li>• Ensure access to GRM;</li> <li>• Hold community health camps and check-ups on a regular basis with a focus on the presence and spread of communicable diseases;</li> <li>• Ensure an HIV service provider is available on-site;</li> </ul>
<p>Additional influx of population seeking economic gains from presence of migrant population (through establishing small businesses and enterprises)</p>	<ul style="list-style-type: none"> <li>• Hire workers through recruitment offices and avoid hiring “at the gate” to discourage spontaneous influx of job seekers.</li> <li>• Hire workers in keeping with the employment and skill training plan</li> </ul>	<ul style="list-style-type: none"> <li>• Undertake regular and timely engagement with the local community in keeping with the SEP formulated</li> <li>• Undertake timely information disclosure, to ensure the community is aware of the project activities, opportunities in the same and potential adverse impacts from the project</li> </ul>

<b>Potential Impact</b>	<b>Contractor Responsibility</b>	<b>NWEDC responsibility</b>
Increased risk of illicit behaviour and crime, especially gender based violence	<ul style="list-style-type: none"> <li>• Pay adequate salaries for workers, in keeping with the prevalent wage rates in the country to reduce incentive for theft;</li> <li>• If possible, Pay salaries into workers’ bank accounts rather than in cash; however access to banking system need to be looked into.</li> <li>• To the extent possible, recruit local population in keeping with the Employment and Skill Trainings plan for the project</li> <li>• As part of the Code of Conduct, include sanctions (e.g. dismissal) for workers involved in criminal activities;</li> <li>• Introduce substance abuse prevention and management programs and undertake worker sensitization programs on the same</li> <li>• Undertake regular training for workers on required lawful conduct in host community and legal consequences for failure to comply with laws;</li> <li>• Ensure cooperation with law enforcement agencies investigating perpetrators of gender-based violence;</li> <li>• allow for opportunities for workers to regularly return to their families;</li> <li>• Ensure the worker camp has adequate facilities for entertainment and basic provisions to reduce the need for workers to use local community facilities and resources;</li> </ul>	<ul style="list-style-type: none"> <li>• Support and assist local law enforcement agencies investigating perpetrators of gender-based violence;</li> <li>• Monitor the Contractor and worker performance in keeping with the local law requirement in terms of drug abuse and traffic;</li> <li>• Ensure access of local community to the GRM in place</li> </ul>
Increased risk of child labour and school drop outs due to increased opportunities for host community to engage in economic activities	<ul style="list-style-type: none"> <li>• Ensuring that children and minors are not employed directly or indirectly on the project.</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor the contractor performance and ensure compliance to local labour laws, pertaining to child labour</li> </ul>
Increased risk of inflation and increase in expenses for the local community due to a general increase in prices in the AoI	<ul style="list-style-type: none"> <li>• Undertake procurement of law material and goods in keeping with the industrial benefits plan in place</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure compliance to the Industrial benefits plan in place</li> </ul>

<b>Potential Impact</b>	<b>Contractor Responsibility</b>	<b>NWEDC responsibility</b>
Increased pressure on and competition for natural resources in the AoI	<ul style="list-style-type: none"> <li>• Ensure the worker camps and associated facilities have adequate provisions for water conservation and recycling of water, including potential for rainwater harvesting</li> <li>• Ensure workers' camp and associated facilities are connected to septic tank or other wastewater systems to avoid contamination of fresh water sources.</li> <li>• Ensure that only wood from commercial sources is used on the project;</li> <li>• prohibit use of wood for fuel in worker camp;</li> <li>• put in measures to reduce energy demand, noise and light generation in labour camp</li> <li>• Minimise land use change and use of other natural resources to the extent possible due to worker camp and associated facilities</li> <li>• Avoid deforestation and cutting of trees around camp area;</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure inclusion in contract of requirement for rainwater capture, use of non-potable water for construction works, etc.</li> <li>• Cooperation with environmental organizations in the area to seek their advice and allow for early feedback on adverse impacts.</li> <li>• Undertake regular monitoring of impact on natural resources with enforcement of contract or legislative options.</li> </ul>
Risk of pollution of water resources in the AoI due to lack of appropriate wastewater discharge	<ul style="list-style-type: none"> <li>• Ensuring workers' camp and associated facilities are connected to septic tank or other wastewater systems which are appropriate and of sufficient capacity for the number of workers and local conditions.</li> </ul>	<ul style="list-style-type: none"> <li>• Regular inspection to ensure proper functioning of the systems in place</li> </ul>
Risk of disturbance to wildlife due to presence of labour camp and movement of labour	<ul style="list-style-type: none"> <li>• Ensure placement of workers' camp away from environmentally sensitive areas to avoid impacts on the local wildlife;</li> <li>• Ensure routing of new access routes for workers' camp to avoid/minimise environmentally sensitive areas.</li> </ul>	<ul style="list-style-type: none"> <li>• Inclusion in contract of requirements for camp locations.</li> </ul>

A major concern during the construction of large hydroelectric projects is the potential negative impacts that might arise from the interaction of outside workers with local communities. For this reason, it is important that the Contractor establish a Code of Conduct that emphasizes the importance of appropriate behaviour, respect for local communities and customs, and compliance with all Nepalese laws and regulations. Each employee/worker shall be informed of the Code of Conduct, once she/he has signed the contract to work for the Project. The Code of Conduct as well as all other ESMMP requirements of the contractor also apply to all subcontractors and should be referenced by the main contractor in all subcontracts. The Code of Conduct should be available to local communities at the Public Information Centres (PIC) established for the Project. The Code of Conduct should address at least the following topics:

- Expectations for workers to carry out their work in a safe manner, and to look after the safety of others.
- Expectations of workers to look after, be aware of, and minimize their impacts on the environment.
- All the workers/labourers shall comply with the laws and regulations of Nepal.
- All illegal substances, abuse of drugs and alcohol, carrying of firearms, as well as pornographic material and gambling shall be prohibited.
- Fighting (physical or verbal), creating nuisances and disturbances in or near communities, disrespecting local customs and traditions shall be prohibited.
- Smoking shall only be allowed in designated areas.
- Workers must follow appropriate standards of dress and personal hygiene while visiting local communities and in the accommodation quarters.
- Workers visiting the local communities must behave in a manner consistent with the Code of Conduct.

The following activities (which must be included in the Code of Conduct) are prohibited on or near the Project site:

- Cutting of trees outside the approved designated areas.
- Hunting, fishing, trapping and trade of wildlife especially endangered species and collection of flora.
- Caging wild animals.
- Purchase of wild animals for food.
- Illegal hunting and poaching of any kind.
- Fishing in any river of water body within the Project area
- Use of unapproved toxic materials such as lead-based paint, asbestos, etc.
- Damage to any property with architectural or historical value.

- Building of unapproved fires.
- Wood collection for cooking or heating and as a fuel for heating during the processing or preparation of any materials forming part of the works.
- Burning waste or vegetation.
- Use of firearms (except authorized personnel).
- Use of alcoholic beverages during working hours.
- Washing machines, vehicles or clothes in rivers, streams or lakes.
- Maintenance of machinery and vehicles outside designated areas.
- Disposal of trash or construction waste outside designated areas.
- Driving vehicles or equipment improperly or under the influence of drugs or alcohol on local roads or in the Project area.
- Working without the proper protective equipment (including helmets and boots).
- Spilling potential contaminants such as petroleum products.
- Defecation or urination outside designated sanitary facilities. The Contractor shall provide portable toilets on all work fronts.
- Any construction worker, office staff, Contractor’s personnel, the project’s personnel or any other person related to the project found violating the Code of Conduct, the prohibitions established in these specifications, or the rules, regulations, and procedures implemented at the construction camp shall be subject to disciplinary actions that can vary from a simple reprimand to termination of employment, depending on the severity of the offense.

### 1.10.6. Monitoring

In order to ensure proper implementation of the LIMP, regular monitoring shall be undertaken by the site level ESMC representatives and the CSE/OE. The monitoring shall be undertaken on a weekly, monthly and annual basis. The key aspects to be covered in the monitoring and the means of monitoring are provided in the table below.

**Table B.1-9: Monitoring Requirements**

Type of Monitoring	Frequency	Aspects to be covered
Internal Monitoring by CSE/OE	<ul style="list-style-type: none"> <li>• Weekly</li> <li>• Monthly</li> </ul>	<ul style="list-style-type: none"> <li>• Adequacy of provisions in labour camp</li> <li>• Compliance to code of conduct</li> <li>• Review of Records required to be maintained by law and as part of the LIMP</li> </ul>

Type of Monitoring	Frequency	Aspects to be covered
	<ul style="list-style-type: none"> <li>• Annually</li> </ul>	<ul style="list-style-type: none"> <li>• Records of GRM and community engagement activities</li> <li>• Compliance to code of conduct</li> <li>• Review of Records required to be maintained by law and as part of the LIMP</li> <li>• Review of records of previous monitoring undertaken at weekly and monthly basis and the status of the action items identified in the same</li> </ul>
Internal Monitoring by ESMC Representatives	<ul style="list-style-type: none"> <li>• Monthly</li> </ul>	<ul style="list-style-type: none"> <li>• Records of GRM and community engagement activities</li> </ul>
External Monitoring by Third Party	<ul style="list-style-type: none"> <li>• Annually</li> </ul>	<ul style="list-style-type: none"> <li>• Records of GRM and community engagement activities</li> <li>• Compliance to code of conduct</li> <li>• Review of Records required to be maintained by law and as part of the LIMP</li> <li>• Review of records of previous monitoring undertaken at weekly and monthly basis and the status of the action items identified in the same</li> </ul>

### 1.10.7. Reporting, Record Keeping, and Auditing

The EPC contractors, sub-contractors shall maintain detailed documents of the implementation of the LIMP. Some of the records to be maintained (but not limited to) are as follows:

- Detailed code of conduct and any action/ sanction against any worker in keeping with the same;
- Records of trainings, programs, workshops and tool box talks held;
- Compliance to the local laws and regulations;
- Records of the workers, age, their health records, vaccination records etc.;
- Records of the health centre and visitation by workers;
- Records of wage payment ; and
- Records required as part of the employment and skill training plan and industrial benefit sharing plan, GRM and any other management plans in place

In addition to this, the CSE/OE shall maintain detailed records of the monitoring activities undertaken and those required as part of the employment and skill training plan and industrial benefit sharing plan, GRM and any other management plans in place.

### 1.10.8. Adaptive Management System

It should be noted that the LIMP presented above is based on the present understanding and resource requirement available. This resource requirement or the socio-cultural dynamics in the AoI are susceptible to change during the construction phase. In keeping with this, it is important that the LIMP is a live document and is reviewed and revised in a timely manner. This is important to ensure that the LIMP remains relevant throughout the construction phase of the

project. This will also allow for the inclusion of any additional measures in the LIMP, which may be identified as part of the monitoring exercise.

### **1.10.9. Funding**

NWEDC will ensure that the budget formulated for the purpose of the LIMP implementation is sufficient to meet the expenses of the same.

## **1.11. PLANS REQUIRED BY THE PDA**

### **1.11.1. Introduction**

The Upper Trishuli (UT-1) Hydropower project is a 216-MW green field runoff-river hydropower facility to be located in the upper part of the Trishuli watershed, in the Rasuwa District in central Nepal, 80 km northeast of Kathmandu. Once commissioned, the project will account for sizeable portion of Nepal's current installed capacity and will sell power under a long-term power purchase agreement (PPA) with Nepal Electricity Authority ("NEA"), the national utility company.

As a part of the Project Development Agreement (PDA) signed between - Nepal Water & Energy Development Company (hereinafter referred to as "NWEDC"), as well as Government of Nepal (hereinafter referred to as "GoN"), the parties (NWEDC and GoN) are committed to maximize the positive impacts and manage and mitigate the negative outcomes of the project to the extent possible.

The PDA requires the following in terms of Benefit sharing:

- The Local Benefit Sharing Plan, including
  - Local Share for the people from affected Project Area;
  - Rural Electrification
- The Nepal Employment and Skills Training Plan;
- The Nepal Industrial Benefits Plan;

The common discourse however does not segregate these interventions and are usually clubbed together under the umbrella of 'benefit sharing' to capture the whole gamut of benefits which can potentially be shared with the community. These benefits are based on differentiated entitlements, achieved through consultations with the various stakeholders as well as complying with the regulatory requirement of GoN and especially the PDA for the Project.

The detailed plan preparation will be undertaken in due course of time. As a part of the present scope, an annotated outline is being developed for each of the relevant plans. Each of the plans has been segregated into separate chapters; however in some cases some of the requirements have been consolidated into a single plan. The annotated outline will provide a framework for the benefit sharing plan. This will include brief description of the following:

Section 3.6.1	Introduction:	<p>This section provides an understanding of:</p> <ul style="list-style-type: none"> <li>• Purpose of the benefit sharing plans;</li> <li>• Context of the plan;</li> <li>• The legal framework governing the plan;</li> <li>• Existing benefit sharing mechanisms in Nepal;</li> <li>• Guiding principles to be followed by NWEDC; and</li> <li>• The implementation mechanism to be followed by NWEDC.</li> </ul>
Section 3.6.2	Local Benefit Sharing Plan	<p>This includes guidelines &amp; benefit sharing plan mechanism, including:</p> <ul style="list-style-type: none"> <li>• Benefit Sharing guideline;</li> <li>• Benefit Sharing Program Identified including Rural Electrification;</li> <li>• Reporting and documentation requirements;</li> <li>• Monitoring and review; and</li> <li>• Schedule and budget for implementation.</li> </ul>
Section 3.6.3	Employment and Skill Training plan	<p>This includes the employment and skill training plan for the project, which includes the following:</p> <ul style="list-style-type: none"> <li>• Skill set requirement for the project;</li> <li>• Recruitment Process;</li> <li>• Trainings to be provided;</li> <li>• Monitoring and review process;</li> <li>• Reporting and documentation;</li> <li>• Schedule and budget for implementation.</li> </ul>
Section 3.6.4	Industrial Benefit Plan	<p>This section will provide a detailed industrial benefit sharing plan, in keeping with the requirements and guidance of the PDA, which will include:</p> <ul style="list-style-type: none"> <li>• Resource requirements of the project</li> <li>• Vendor strategy and principles</li> <li>• Procurement plan</li> <li>• Monitoring and review mechanism</li> <li>• Reporting and documentation</li> <li>• Schedule and budget for implementation</li> </ul>

**1.11.1.1. Purpose of the Plan**

The PDA specifically asks for the local benefit sharing to be undertaken by NWEDC through different means as mentioned in Table B.1-109 below.

**Table B.1-10: Benefit Sharing Requirements as per PDA**

PDA provisions for Benefit Sharing	Relevant Sections of the PDA
Local Share	Section 10.17 of the PDA
The Local Benefit Sharing Plan	Section 11.3.2 (A) Schedule 11 (Local Benefit Sharing Plan- Guidance Note)
The Nepal Employment and Skills Training Plan	Section 11.3.2 (B) Schedule 12 (Nepal Employment and Skills Training Plan- Guidance Note)

<b>PDA provisions for Benefit Sharing</b>	<b>Relevant Sections of the PDA</b>
The Nepal Industrial Benefits Plan	Section 11.3.2 (C) Schedule 13 (Nepal Industrial Benefits Plan- Guidance Note)
Rural Electrification	Section 11.8

The parties also commit that systems and plans will be put into place to ensure that the skill level and level of employment of the local community is maximized. While the Land acquisition & Livelihood Restoration plan (LALRP) will specifically address the management of socio-economic impacts from the displacement (economic and physical) resulting from the project land requirements, the ESMP will address the management of environmental and social impacts from the construction and operation of the project.

The present document provides an annotated outline of the various plans required to be prepared as part of the benefit sharing which Local Benefit Sharing Plan (hereafter referred to as the “LBSP”). These plans will be supported and will be implemented in coordination with the LALRP and other management plans formulated for the project.

The plan will be implemented for all phases of the Project lifecycle and will be limited to the locals situated within the project impacted VDCs and district, with priority being given to those who have been directly impacted by the project due to land procurement. With the current administrative reorganisation, the Gaunpalikas will be used for deciding the area within which these plans will need to be rolled out.

Note: While some of the benefits like rural electrification will be undertaken based on the PDA requirements and also reflects Supreme Court of Nepal judgement in another HEP Project in Nepal. However, for the sharing of the equity shares, NWEDC will need to coordinate with GoN to agree on the area of influence.

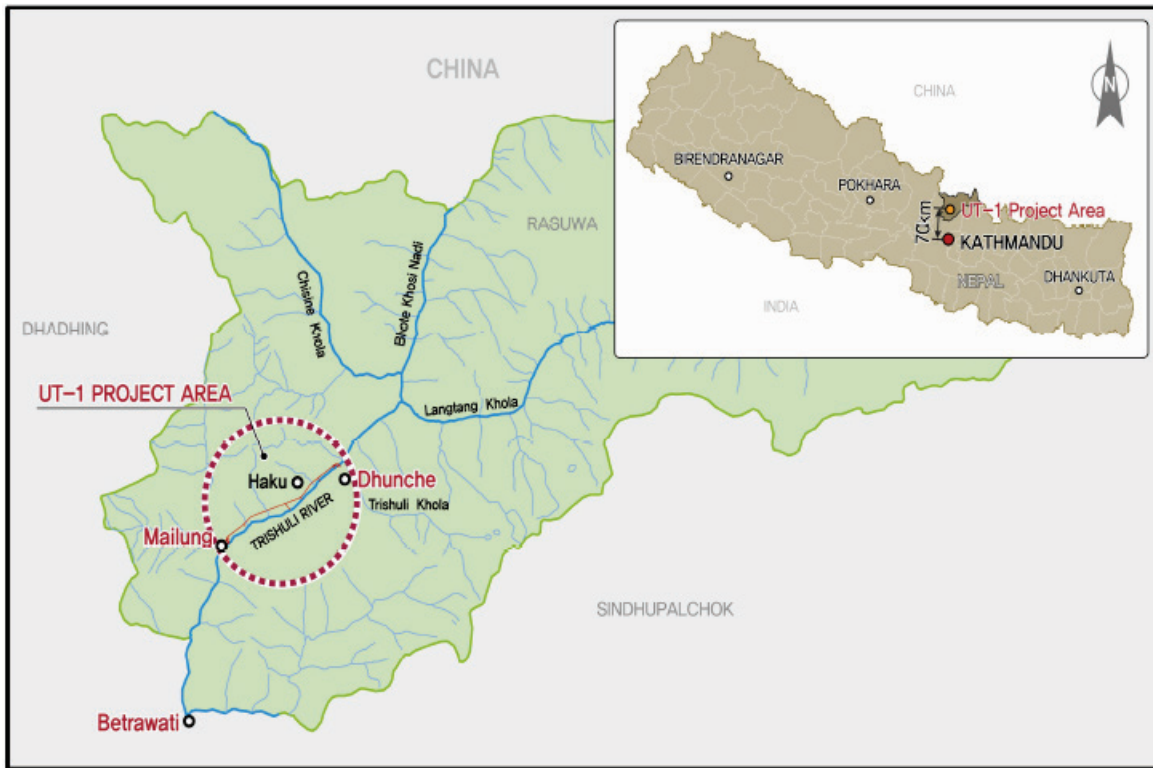
Here clarity is required on the manner in which the scope of the plan will change due to the change in the administrative structure. Based on the discussion with the GoN, the scope of the plan will have to be revised. There may also be instances, where specific components of the plan (such as employment opportunities, rural electrification and skill trainings etc.) have different applicability and scope. For instance, the present employment opportunity may be focused on the PAFs and local community members who received training as part of earthquake relief, but skill trainings may be expanded to the entire population in the VDCs. The detailed plan will identify the specific scope of each mechanism identified in the following sections. This section will provide an overview of the scope in terms of the plan itself.

### ***1.11.1.2. Context Setting***

#### **Project Overview**

The Upper Trishuli (UT-1) Hydropower project is a 216 MW green field runoff-river hydropower facility to be located in the upper part of the Trishuli watershed, in the Rasuwa District in central Nepal, 80 km northeast of Kathmandu. The geographical coordinates of the project are longitude (between 85°12'40"E and 85°18'03"E) and latitude (between

28°04'27.50"N and 28°07'42"N). The details of the project can be referred to in the Detailed Project Report (DPR) of the project. The location of the project is depicted in Figure B.1-10.



**Figure B.1-10: Upper Trishuli 1 Project Location**

The intake site is located near the confluence of Bhotekoshi river at Dunche and Haku VDC on the east bank of Trishuli River, about 70 km directly north of Kathmandu. The dam will be located about 275m downstream of the junction with the Bhotekoshi River. The direction of the valley is mostly south-west. The dam site can be viewed on Google Earth at 28-07-36.61N and 85-17-52.42E. Apart from the dam and spillway, all structures are located underground on the east bank of the river. The Pasang-Lhamu highway passes on the left bank of the river, and is the primary access route for the development.

**Land Requirement for the Project**

A total of 99.79 ha of land was earlier required for the project. Of this amount, 26.15 ha were required on a temporary basis during the construction phase of the project. Post the earthquake, an additional 1.2 ha of land has been identified in Mailung for the new camp site. The following table (Table B.1-11) provides an understanding of the main components of the project and their land requirement.

**Table B.1-11: Land Requirement for the Project**

Project Component	Land requirement (in ha)	Habitation Impacted
Permanent Land Take	73.64	
Private Land	3.96	<ul style="list-style-type: none"> <li>• Mailung</li> <li>• Gogone</li> <li>• Tiru</li> </ul>
Trust (Guthi) Land	15.53	<ul style="list-style-type: none"> <li>• Haku Besi</li> <li>• Budget Farm</li> <li>• Thanku</li> <li>• Phoolbari</li> </ul>
Community Forest and other Government land like Flood plain	51.54	<ul style="list-style-type: none"> <li>• Gogone</li> <li>• Tiru</li> <li>• Mailung</li> <li>• Haku Besi</li> <li>• Gosumba</li> <li>• Budget Farm</li> </ul>
Langtang National Park <sup>1</sup>	2.61	NA
Temporary Land Take	26.15	
Community Forest and other Government land like Flood plain	25.13	<ul style="list-style-type: none"> <li>• Gogone</li> <li>• Tiru</li> </ul>
Mailung HEP land ( 5 year lease)	1.02	<ul style="list-style-type: none"> <li>• Mailung</li> </ul>
Total	99.79	

Source: NWEDC 2014

1. An additional 2.8 ha of already disturbed/deforested LNP land will be temporarily used for the workercamps; however, returned once construction is completed.

Note: the Government land includes the forest land apart from the community forest land and the flood plain land

However, in keeping with the design changes caused by the 2015 earthquake, NWEDC is in the process of procuring the additional 1.2 ha of land required, and is presently in negotiations with 7 private land owners for the same.

### Impact of the Gorkha Earthquake

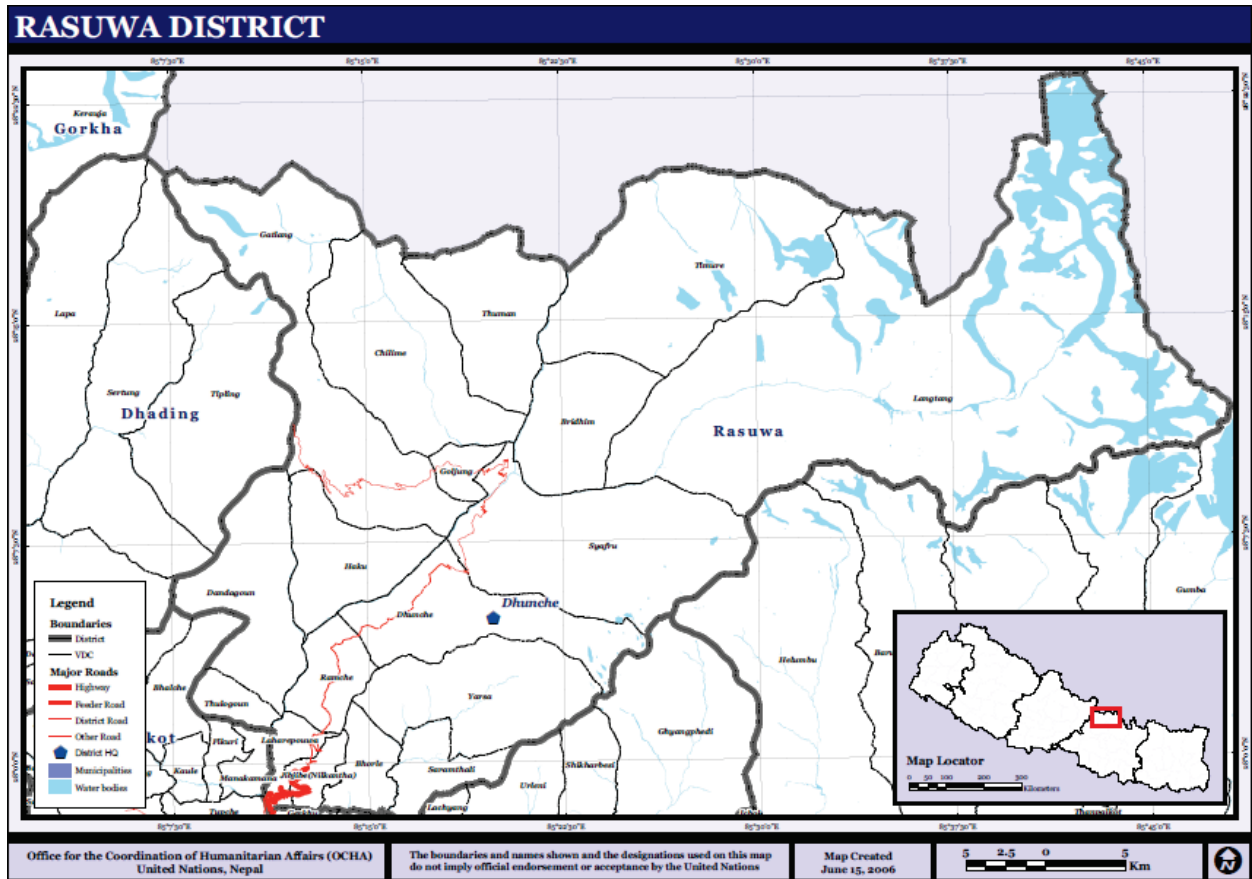
Nepal was struck by 7.8-8.1 magnitude earthquake; the ‘Gorkha Earthquake’, on 25th April 2015. This earthquake, was the worst natural disaster to strike this country since the 1934 Nepal-Bihar earthquake, and killed nearly 9000 people and injured over 22,000. The epicentre of this earthquake and its aftershocks was located east of the Gorkha District at Barpak, Gorkha; less than 100 kilometres from the UT-1 project site.

The Rasuwa District was one of the worst hit districts from the 2015 Gorkha Earthquake. The earthquake damaged more than 80% of the houses in the project footprint area (3 village development councils- VDCs- accounting for about 500 households) and resulted in more than 200 deaths in the area (43 on the project site) and the access road to the project was totally compromised.

The post-earthquake scenario led to wide spread influx of NGOs in the area and relief support in the form of livelihood and skill related trainings. The present livelihood and skill profile in the area is thus based on the pre-earthquake profile of the community, the impacts of the earthquake led displacement and the relief activities undertaken by NGOs/INGOs in the area.

### Rasuwa District Socioeconomic Profile

The Rasuwa District is located in the north central part of Nepal with a population of 43,300 individuals and 9,778 households and is one of the districts with the lowest population in the country.



Source: United Nations Nepal Information Platform, <http://www.un.org.np/attachments/district-map-rasuwa>

**Figure B.1-11: Rasuwa District Map**

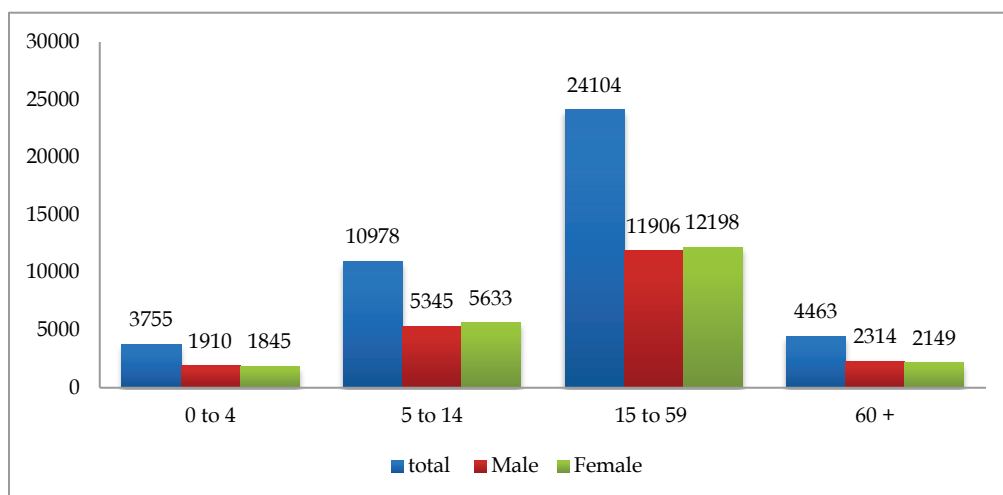
The district has an average household size of 4.43 individuals, and a sex ratio of 1016 females per thousand males, which is higher than but comparable to the national average (1050 females per thousand males). Covering approx. 1,544 sq. km. the district has a population density of 53.6 persons per sq. km as can be seen from the following table.

**Table B.1-12: Rasuwa District Demographic Profile**

Variables	Value
Total Population	43,300
Total Area (sq. km)	1,544
population density	53.6
Total Households	9,778
Sex Ratio	1016
Average Household Size	4.43

Source: UT-1; Complementary Social Baseline, NESS, July 2014

However, post-earthquake, the district is expected to have undergone a shift in terms of the overall population, average household size and population density. This is primarily understood to be resultant from a portion of the population getting displaced and seeking refuge in VDCs such as Dhunche, Lahare Pahuwa etc. This is expected to have increased in the population and its density in the urban areas and in settlements in the valley. Similarly, the families are also understood to have split up post the earthquake, due to space issues in temporary housing and also to gain maximum benefit from relief support given by NGOs/INGOs.



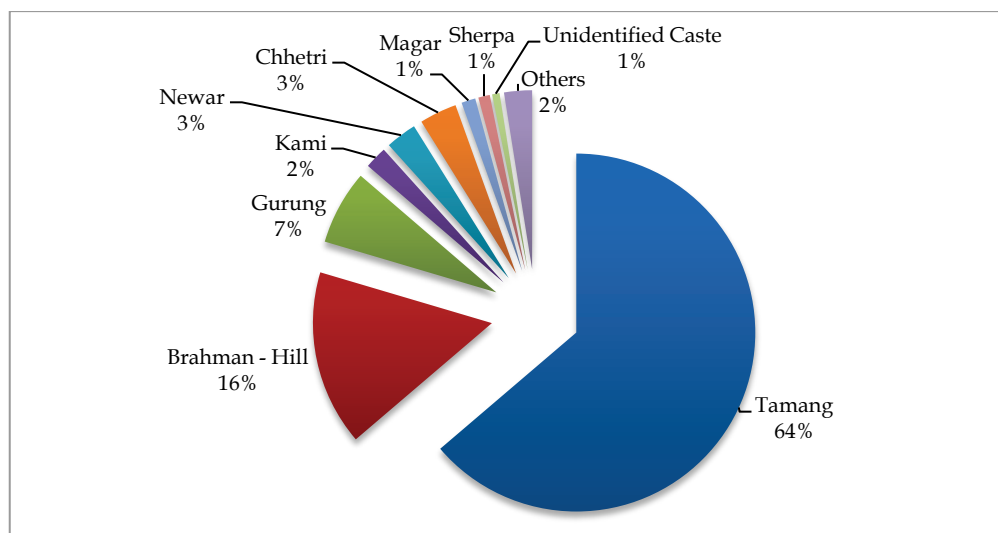
Source: UT-1; Complementary Social Baseline, NESS, July 2014

**Figure B.1-12: Classification According to Age Groups**

According to the information available, 34% of the district is reported to be in age group of 0-14 years, while the age group between 15 to 59 (the productive age group) represent 56% of the population. The figure above showcases the age classification of the population in the district.

### *Social Groups*

The population in the district is reported to be comprised of 18 ethnic groups, with the Tamang group (an indigenous group) comprising of the majority of the population (63.75%). The other main ethnic groups in the area are Hill Brahman, Gurung, Kami, Newar, Chhetri, Magar and Sherpas amongst others. The following figure provides an understanding of the ethnic composition of the district.



Source: UT-1; Complementary Social Baseline, NESS, July 2014

**Figure B.1-13: Ethnic Composition of the District**

The main religion in the area is Buddhism (69% of the total population), followed by Hinduism (25.4%) and Christianity (4%). The other religions in the area comprise of Islam, Kirat, Prakriti, and Bon. From the discussions with the local community, it is understood that over the last years, there has been an increase in the number of conversions to Christianity. This is primarily reported to be resultant from the high presence of NGOs/ INGOs in the district and an increase in the number of children studying in Catholic boarding schools.

The district is characterised by 9 languages, the most prominent of which is Tamang (60%), followed by Nepali (31.67%). The other languages spoken in the area are Newari, Magar, Gurung, Sherpa, Maithali, Tharu and Tibetan.

*Gender*

While the female population constitutes 50.4% of the total population in the district, their access to education, property ownership and participation in social organization and economic activities is lower than in the case of their male counterparts. Compared to the 60.58% male literacy rate, 46.5% of the women are reported to be literate and only 8% of the women have legal ownership of property. However, the life expectancy of women at 54 years is lower but comparable to that of men at 55 years. The following table provides an understanding of the ownership of assets by women.

**Table B.1-13: Female Ownership of Assets**

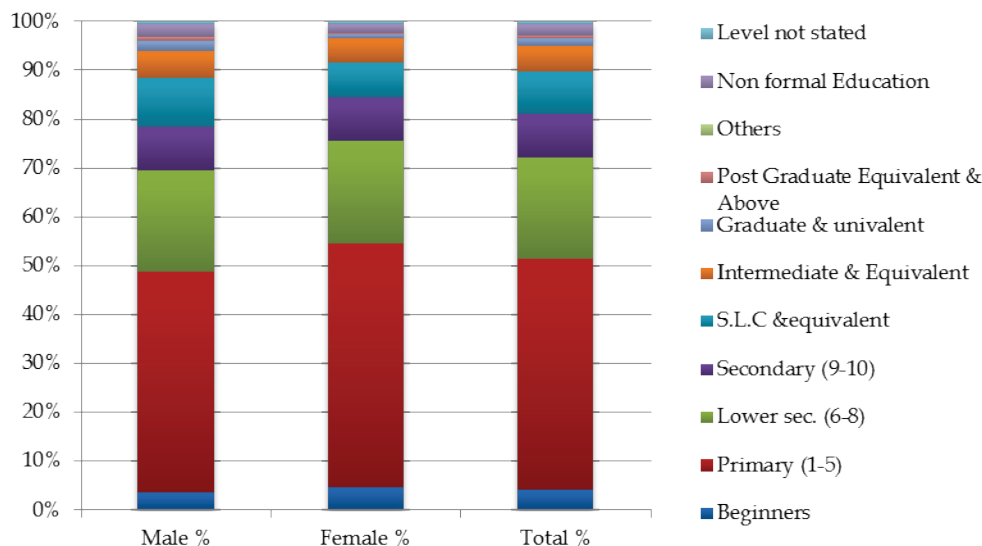
Asset	HHs No.	Percentage
Both House and Land	460	5
Land only	322	3
Neither house nor land	8892	91
Not stated	67	1
Total	9741	100

Source: UT-1; Complementary Social Baseline, NESS, July 2014

While involved in income generating activities such as agriculture and small businesses, women are reported to be mostly involved in household activities including child care, animal husbandry, water fetching, and looking after the welfare of family members.

### Education Profile

The district is characterised by a literacy rate of 53.6%, with the male literacy rate being 60.58% and the female literacy rate being 46.5%.



Source: UT-1; Complementary Social Baseline, NESS, July 2014

**Figure B.1-14: Educational Profile for the Rasuwa District**

Of the literate population, 50% is reported to have education till the primary level while only 16% of the population is reported to have received the School Leaving Certificate and 7.18% has education above the intermediate level.

This literacy profile of the district is undergoing a change in the post-earthquake scenario. This is reported to be resultant from a larger population moving towards urban areas and thus having better access to educational infrastructure.

The district is reported to have 129 educational institutions, of which 123 are managed by the community and 6 are institutional. The primary education institutions comprise of 80% of the total educational institutions.

### Health

The district has 18 health care facilities, including 1 hospital at Dhunche. In addition to this, there are 17 health posts and sub-health posts at the VDC level. Apart from this, there are 42 primary health care outreach clinics, 57 Expanded Program on Immunization (EPI) clinics and 24 female and child health volunteers.

The predominant diseases in the district include skin diseases, respiratory problems, diarrhea, parasitic infections, gastric disorders and eye and ear infections.

### *Water Supply and Sanitation*

In the district, 88% of the households are reported to be supplied with tap/piped water, while the remaining are primarily dependent upon nearby springs and rivers. The sources of the water supply in most of the cases are springs.

While 57% of the district is reported to have some type of toilet (predominantly being flush toilets with septic tanks) in their homestead, facilities of storm water drainage and wet sewage drainage do not exist in the district.

As part of the detailed plan, NWEDC will review and update the socio-economic profile put in place. This update shall be based on the understanding of the changed administrative structure and scope of the plan, in discussion with the GoN. Some of the sources of information which may be used include the following:

- Central Bureau of Statistics/UNFPA, Kathmandu, 2002 Population Census 2001, National Report
- CBS/ICIMOD, Kathmandu, 2003 Mapping Nepal Census Indicators 2001 and Trends
- CBS/ Survey Department 2004, The Population and Socio- Economic Atlas of Nepal
- Central Bureau of Statistics 2012, National Population and Housing Census 2011 (National Report)
- Central Bureau of Statistics 2012, National Population and Housing Census 2011 (Tables from form II )
- Department of Education, 2012-2013, "Flash Report 2067"
- Department of Health Services, Kathmandu, Annual Report 2011
- National Planning Commission / UNDP, Nepal Human Development Report 2014
- Central Bureau of Statistics, Kathmandu, 1013 Nepal In Figures 2013
- CBS/ Survey Department 2004, The Population and Socio- Economic Atlas of Nepal

### **Context for Developing the Local Benefit Sharing Plan**

The benefit sharing plan has thus been formulated in keeping with the above mentioned understanding of benefit sharing, project context, the impacted area and the impact of the Gorkha earthquake on the district and the project area of influence. Some of the specific points to be kept in mind for this benefit sharing plan are provided below:

### *Earthquake-Related Losses and Internal Displacement of People*

- The Project area has been impacted by the 2015 Gorkha earthquake.
- The earthquake of April 2015 caused huge losses to the people residing in Rasuwa district at large; especially in Gogone and Tiru. The local community in the project area suffered impacts pertaining to loss of life and property, loss of livelihood, physical injuries, psychological trauma and damage to agricultural land.
- The earthquake and subsequent landslides resulted in the local community ( Haku Besi, Phoolbari, Gogone, Tiru etc.) vacating their villages and seeking refuge in Internally Displaced People's (IDP) camps, such as Naubesi, Satbise, Bogetitar etc.
- The land of Gogone, Tiru and Mailung, is heavily impacted by the earthquake. The path from these locations to these villages has been severely damaged and only a few families have gone back to Tiru or Gogone because of the highly prevalent risk of landslides.
- In case of Haku Besi, Thanku, Phool Bari and other nearby villages, though there was destruction of residential structures, the agricultural land is reported to have suffered minor damages, most of which can be or have been repaired. Thus, the people of these villages have started going back to their original villages, either for short duration or some families permanently.
- Most households are moving back and forth between the native villages and the IDP camps. From most households, at least a few household members return to the native village for cultivation three times in a year, for usually 10-15 days at a time. The families return to the IDP camps during monsoons and winters. However, none of the households from Gogone have not returned due to extensive damage and continued risk of landslides.

### *Permanent Housing and Livelihood Concerns*

- Government has identified resettlement site, but this does not include agriculture land.
- Reconstruction or construction of new house in a safe location is another concern of the HHs living in the IDP. In case of Gogone, Tiru identification of an alternate land is also an issue.
- The people living in the IDP camps have been facing various issues in terms of lack of space for livestock and poultry; unsanitary conditions leading to various diseases affecting people frequently, etc.
- Another issue is safety concerns post-earthquake, due to risk of landslides because of which people are still hesitant to move to their native village locations.
- Majority of the IDP camps are constructed on private land for which the people have to pay rents. There are a considerable number of families which are struggling to meet their basic expenses on account of shrinking savings, erratic employment opportunities and increased expenditure.
- Another issue being faced by the community is the instability and uncertainty associated with the present livelihood options available.

- In the pre-earthquake scenario, the local community was primarily dependent upon agriculture and livestock rearing.
- However, in the post-earthquake scenario, the community has reported a shift towards non-farm based livelihoods. This is understood to be primarily resultant from loss of access to agricultural land, loss of livestock in earthquake, issues with climatic conditions in IDP camps which makes it unsuitable for the high mountain breeds earlier kept by the local community.
- A significant portion of the local community has also started undertaking labour as masons or other construction related activities. However, the opportunities with this are also understood to be reducing due to a general reduction in the construction activities in the district

#### *Alternative Land Identification for Resettlement of IDPs*

- A government Geological team visited the project villages and assessed the level of earthquake impact in the affected villages. According to the preliminary information available, the areas of Gogone have been identified as High Risk, and resettlement has been suggested for the same; Tiru has not found mention in the draft report. Haku has been considered safe as per the draft geological study.
- For the villages identified as safe, a housing reconstruction grant has been identified. This grant shall be provided to those households, who have lal purza/ tenancy certificates for the land. These households would then be provided with monetary assistance to rebuild houses in keeping with pre-approved designs
- Of the 820 HHs in Haku VDCs, 803 are understood to have been identified as those who were eligible for receiving the grant
- For the villages identified as high risk, resettlement to an alternative land parcel.
- For this purpose, the government has already identified 72/82 ropani of land in Khalte, Lahare Pahuwa for resettlement of the households. This land is understood to have the capacity of accommodating 200 households.
- The ground levelling activities have been initiated by the NGO, Samaritan Purse and entire construction is expected to be completed in 1.5 years.
- Another 65 ropani has been identified in the Uttar Ganga Gaonpalika. However, no activity has been initiated for the same.

#### *Capacity Building Training by NGOs and Government Agencies Post-Earthquake*

- Over the last two years, however, the skill set of the community has evolved, due to the numerous trainings given by the NGOs/INGOs active in the area as part of the relief activities post-earthquake, including skill training for plumbers, electricians, masons, poultry farming, WASH etc.
- A lot of the NGOs (including Lumanti, Manekor, LaCCoS, Parivartan Nepal) have been involved in the district as a whole in different training- some are women specific and others

are general. In some cases need assessment was done but not always. Cottage department also did training in Rasuwa.

- Some people have benefited but some took trainings only for livelihood and for some it was too basic for sustaining livelihoods so need refresher courses.
- There is also a lack of understanding amongst the local communities in terms of the purpose of the trainings and the possibility of future livelihood opportunities from the same.
- There are also reported to be certain people who attended training just for the sake of being engaged and to earn money being paid to attend trainings;
- The project can build on this base and with people. This can be done keeping in mind the constraint, such as access to land – which was a major source of sustenance.

#### *Current Livelihood Status*

- One of the most important concerns of people has been the continuous pressure to find enough livelihood sources to help them meet the financial needs of their families, in the present temporary shelter. This has also led to a higher level of diversification of the livelihood dependence of the households;
- The most common sources of livelihoods in the local community presently are labour, stone breaking, Masonry, foreign employment, agriculture and remittance;
- While some households are now returning regularly to the original villages. Some households are also undertaking agriculture on share cropping basis in the vicinity of the IDP camps. However, this is limited to households who can afford the rent/ share in crop. There is also a limitation in the total land available for rent/share cropping
- Activities such as livestock are likely to be restricted in the area due to instability associated with residential status and land availability the company will do this.
- Furthermore, it is understood that the breeds to livestock that were maintained by the communities in the native villages are non-compatible with the climatic conditions of the IDP camps, which are hotter as they are mostly in the plain region.
- There is also reported to be a reduction in the availability of labour work opportunities associated with construction such as Masonry, electricians, plumbers etc. due to a reduction in construction activities in the district.
- The livelihood profile and the present trends, is largely dependent upon the present residence of the population and are likely to change once again, if the population goes back to the original village or changes location of residence.

### *Livelihood Expectations of the Project-Affected Population*

- A number of the local community members, especially younger population, are interested in direct employment, petty contracts and daily wage.
- The preference for direct employment pertains to job profiles such as security, housekeeping, general administration, drivers etc.
- There is reported to be a shift, especially amongst the local population, towards foreign employment, as it is perceived as providing better returns and more stable incomes. Thus, there is an interest in the youth to develop skills which would allow them to pursue livelihood opportunities not just in the country but also abroad.
- However, the skill set required by the project, at least in the initial few years, may not be available in the project area. These skill sets however may be available in urban areas such as Battar, Betrawati etc.

### *Livelihood Options Likely to be Available from UT-1 Project*

- As a result of this, it is possible, that in the first few years, the project may have to recruitment workers from outside the project area and the district. However, it is expected that through the training plan, the skill set available in the AoI will increase and after a certain number of years, the project will be able to recruitment a majority of its workers from the project area itself.
- However, one of the challenges in recruiting for the project is the remoteness of the site, due to which finding appropriate skill sets becomes a challenge
- The employment and skills training plan thus formulated will put in place a recruitment plan which will prioritize the recruitment of the locals from the project area, followed by the Gaonpalikas being touched by the project boundaries and then the district, and if not available in the district, then a Nepali citizenship.

#### ***1.11.1.3. Legal and Regulatory Framework***

The plan implementation will be ensured to be in compliance with applicable requirements/guidelines which as per PDA should comply with Nepal regulations as well as Performance standards (IFC PS and ADB SPS etc. already referred to in the PDA).

#### **Provisions of the Project Development Agreement (2016)**

As per the Project Development Agreement:

- In addition to the budget committed in the EIA, the Company shall throughout the Term, support community development of affected communities through benefit sharing activities;
- The Company will set up a grievance mechanism to resolve grievances at the community level as per the EIA;
- As part of the Company's obligations regarding Disclosure of Information and Consultation, the Company will disclose all Plans in Nepali and English;

- The Company shall submit reports, every six months up to Commercial Operation Date and every 12 months thereafter, to GON describing in detail the activities undertaken under the Plan, the amounts spent on such activities and impact evaluation of such activities.
- Local community development activities aim to improve the standard of living of the affected communities through livelihood enhancements and support to construction and maintenance of physical infrastructure such as roads, trails, pedestrian bridges, water supply and sanitation schemes, communication infrastructures, community infrastructure development, such as schools, health posts, community centers, women's centers, small enterprise development funds etc. These initiatives should be developed in coordination with local governments to avoid duplication of interventions/support and ensure sustainability of efforts.
- The Local Benefit Sharing Plan shall also include a component detailing local community development activities (as committed in GON approved Environment Reports), that includes a detailed breakdown of specific activities, timeline, budget and implementation modalities.
- This does not preclude the Company from committing additional resources for the above and other benefit sharing activities.
- The Company and GON shall as per Section 11.3.2 (Plans) jointly prepare the Local Benefit Sharing Plan to be implemented within 12 months from the Agreement Date in accordance with this Schedule.
- The Company shall, and shall ensure that its Contractors and Representative shall, in connection with the conduct of the Project:
  - maximise the use of Nepali resources and give first consideration and full and fair opportunity to technically and commercially qualified Nepalese citizens and firms provided that in each case, the use of such Nepali resources meet the quality, quantity and availability requirements of the Company and provided further that use of such resources does not have a material and adverse impact on the costs and the timelines for the Project;
  - ensure that its Nepal Industrial Benefits Plan provides for an outreach programme under which the Company engages with Nepali suppliers for Project-related opportunities;
  - comply with the Laws of Nepal including the Labour Act, 2048 and Labour Regulation, 2050;
  - ensure that its Nepal Employment and Skills Training Plan provides for appropriate training of suitable citizens of Nepal for Project-related opportunities;
  - conduct employee training programmes from time to time, including training in each of the skills used in the Project, including management training;
  - comply with the Nepal Employment and Skills Training Plan, Nepal Industrial Benefits Plan and Local Benefit Sharing Plan and ensure that appropriate programmes are designed to assist suitable Nepali citizens, entities, and firms to meet the Project's requirements for goods and services;

- shall (to the extent applicable) submit reports every six (6) months to GON for the first three (3) years of the Construction Period and every twelve (12) months thereafter, describing in detail (A) its employee training programmes, (B) the implementation of such training programmes, (C) the progress made towards meeting the objectives set forth in this Section 11.9 (Use of Nepali resources; training and development) the Nepal Employment and Skills Training Plan, Nepal Industrial Benefits Plan and Local Benefit Sharing Plan.

### **Other Applicable Provisions**

#### *Constitution of Nepal (2015 AD)*

Nepal is governed according to the Constitution of Nepal, which came into effect on Sept 20, 2015, replacing the Interim Constitution of 2007.

- Policies of the State: The state shall pursue a policy of raising the standards of living of the general public through the development of infrastructures such as education, health, housing and employment of people of all regions by equitably distributing investment of economic investment for the balanced development of the country;
- The state shall pursue a policy of making the women participate to the maximum extent in the task of national development by making special provisions for their education, health and employment
- The state shall pursue a policy of making special provisions of social security for the protection and progress of the single women, orphans, children, the helpless, the aged, the disabled, incapacitated persons and tribes on the verge of extinction
- The State shall pursue a policy of making a special provision, based on positive discrimination, for the minorities, landless people, landless squatters, bonded labours, the disabled, backward regions and communities and victims of conflict, the women, Dalit, indigenous people, Madhesi and Muslims, as well.

#### *Nepal Hydropower Development Policy 2056 BS (2001 AD) Requirements*

The Hydropower Development Policy was implemented by the Department of Electricity, Nepal to ensure supply of electricity to rural and urban areas, to enhance hydro-power development and to motivate the national and foreign private sector investments for the development of the hydropower sector in the country.<sup>1</sup>

The policy specifies requirements for various works to be undertaken for the development of hydropower in the country, from which, the following specifications are relevant to the Project:

- Foreign entrepreneurs shall be encouraged to be affiliated with local organizations as the cost of hydropower decreases if the project is developed through the domestic construction entrepreneurs and consultants;

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<sup>1</sup> Hydropower Development Policy, 2001, [http://www.doed.gov.np/policy/hydropower\\_development\\_policy\\_2001.pdf](http://www.doed.gov.np/policy/hydropower_development_policy_2001.pdf)

- The person licensed to build or operate a hydropower project shall carry out or cause to be carried out works such that technology is transferred to the Nepalese citizens in the course of performing the works in accordance with the license;
- The person licensed to build or operate a hydropower project shall utilize Nepalese labor, skills, means and resources to the maximum extent possible and, shall also give priority to utilize local labor. 6.8.4 Development of industries producing construction materials and equipment to be used in the power sector shall be encouraged.

*Land Acquisition, Resettlement and Rehabilitation Policy for Infrastructure Development Projects 2071 BS (2015 AD)*

In September 2015, the Government of Nepal formulated the Land Acquisition, Resettlement and Rehabilitation Policy for Infrastructure Development Projects (2071 BS). The main objective of the policy is to make the process of land acquisition for development projects smooth and scientific. Key features of the policy (relevant to benefit sharing) are as follows:

- Social mobilization income restoration and life skill program: Project affected persons should be given necessary training for development of life skills, income generating schemes, savings and credit schemes so that PAFs can take up self-employment projects at the resettlement zone. Preference should be given to women;
- Vulnerable groups such as Janajati/Adivasi, Dalits, landless, women, especially women-headed households, differently-abled, poverty groups and senior citizens are entitled to special benefit and assistance packages in addition to compensation and resettlement;

*International Reference Guidelines Requirements*

IFC Performance Standards 2012

IFC applies the Performance Standards<sup>2</sup> to manage social and environmental risks and impacts and to enhance development opportunities in its private sector financing to its member countries eligible for financing. Together, the eight Performance Standards establish standards that the Client is required to meet throughout the life of an investment by IFC or other relevant financial institutions. The key requirements of these standards in terms of community development and benefit sharing are as follows:

- The project must improve, or at least restore the livelihoods and standards of living of displaced persons
- the project will offer displaced communities and persons compensation for loss of assets at full replacement cost and other assistance to help them improve or restore their standards of living or livelihoods
- economically displaced persons whose livelihoods or income levels are adversely affected will also be provided opportunities to improve, or at least restore, their means of income-earning capacity, production levels, and standards of living

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<sup>2</sup> <http://ifcext.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards>

- The project may also provide alternative income earning opportunities may be provided, such as credit facilities, training, cash, or employment opportunities.

#### ADB Safeguard Policy Statement

In July 2009, ADB's Board of Directors approved the new Safety Policy statement (SPS) governing the environmental and social safeguards of ADB's operations<sup>3</sup>. The SPS builds upon ADB's previous safeguard policies on the Environment, Involuntary Resettlement, and Indigenous Peoples, and brings them into one consolidated policy framework with enhanced consistency and coherence, and more comprehensively addresses environmental and social impacts and risks. The SPS also provides a platform for participation by affected people and other stakeholders in the Project design and implementation.

The key requirements of these standards in terms of community development and benefit sharing are as follows:

- The project shall at least restore, the livelihoods of all displaced persons<sup>1</sup> in real terms relative to pre-project levels; and improve the standards of living of the displaced poor and other vulnerable groups.
- The project shall aim to provide displaced persons with opportunities to share project benefits in addition to providing compensation and resettlement assistance.
- Project shall attempt to ascertain specific opportunities for engaging affected persons as project beneficiaries and to discuss how to spread such opportunities as widely as possible among affected persons
- The project shall prioritize land-based resettlement strategies for displaced persons whose livelihoods are land-based.
- If land is not the preferred option of the displaced persons, or sufficient land is not available at a reasonable price, non-land-based options built around opportunities for employment or self-employment should be provided in addition to cash compensation for land and other assets lost.
- The project will also provide assistance to displaced persons in the form of credit facilities, training, and employment opportunities so that they can improve, or at least restore, their income-earning capacity, production levels, and standards of living to pre-displacement levels
- The borrower/client will also provide opportunities to displaced persons to derive appropriate development benefits from the project.

#### ***1.11.1.4. Benefit Sharing Mechanism: Practice in other HEP Projects of Nepal***

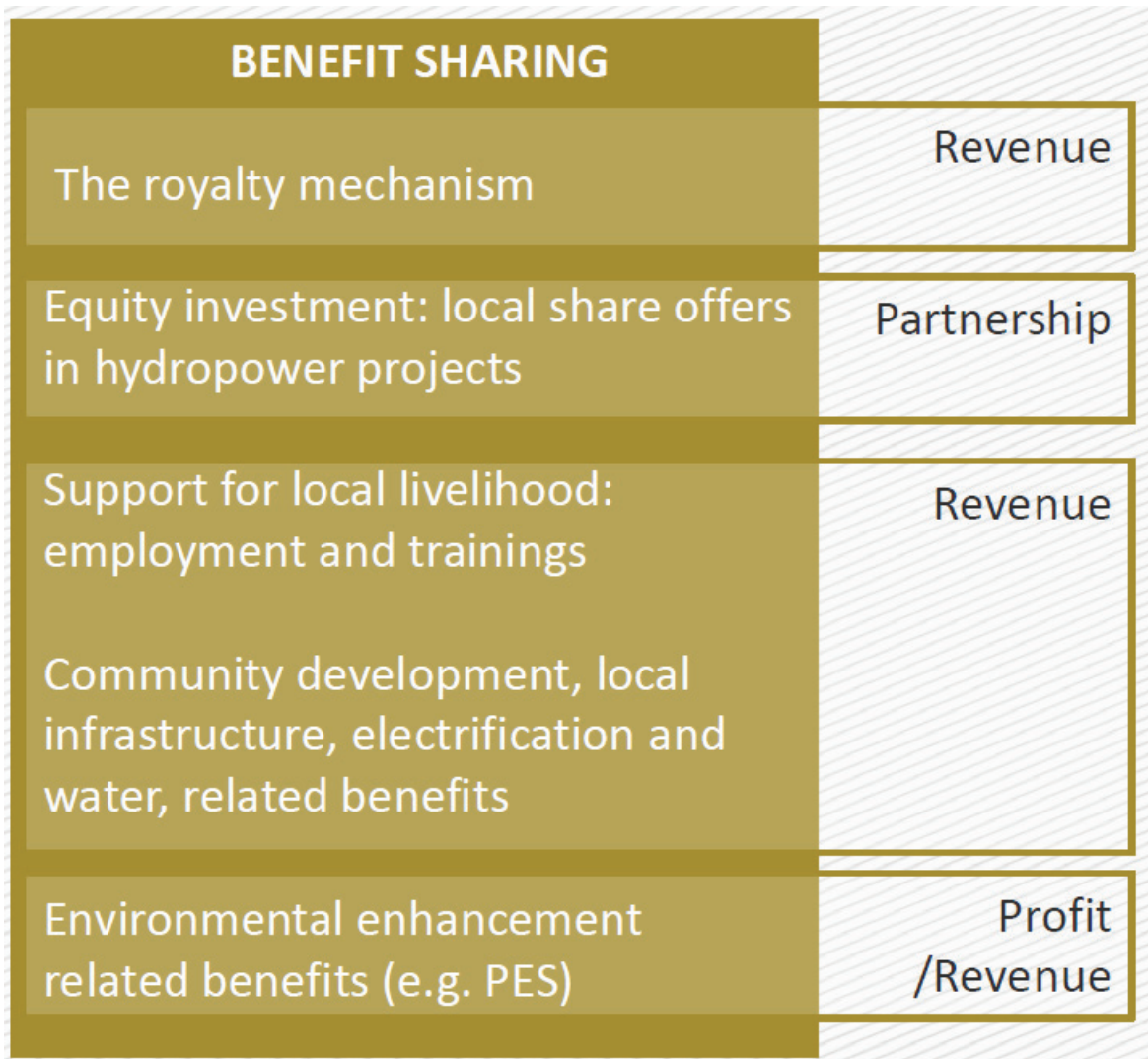
According to the PDA, "Benefit Sharing is the systematic effort of the Company, as well as GON and GON nominated agencies to equitably share benefits of Project with affected communities through benefit sharing mechanisms beyond mandatory mitigation and

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<sup>3</sup> <http://www.adb.org/sites/default/files/institutional-document/32056/safeguard-policy-statement-june2009.pdf>

compensation measures, including but not limited to the enhancement measures detailed in the environmental reports during construction phase, and continued community development activities that benefit the affected communities throughout the concession term".

The benefits typically include monetary and non-monetary initiatives. The following figure provides an understanding of the typical components of a benefit sharing mechanism.



Source: Rai, N & Neupane S. "Sharing benefits" of Hydropower projects: with special reference to the "Shares model". Advancing Sustainable Hydropower Technical Workshop Series. January 23-24 2017

**Figure B.1-15: Typical Components of a Benefit Sharing Mechanism**

The concept of benefit sharing has been used in many HEP projects in Nepal. While the benefit sharing is used liberally by many, it has also been used liberally in some contexts. The modalities of benefit sharing have definitely evolved over time with communities engaged in continued struggle to get benefits from the Project in their backyard which they consider to be rightfully theirs.

A brief snapshot of how similar HEP Projects in Nepal have implemented benefit sharing in their respective Projects is captured in Table B.1-14.

**Table B.1-14: Examples of Benefit Sharing in Nepal**

SN	Project name	Royalty	Local project shares	Community development fund	Local livelihoods programme	Electricity support	Water and environment benefits
1	Kulekhani I	Pays	N/A	No	Local jobs, trainings	Infrastructure provided and no load shedding	Drinking, fisheries
2	Kulekhani II	Pays	N/A	No	Local jobs, trainings	Infrastructure provided	Drinking
3	Marsyangdi	Pays	N/A	Yes	Local jobs, trainings	N/A	Drinking, irrigation
4	Aadhi Khola	Pays	N/A	Yes	Local jobs, trainings	BPC grid distribution	Drinking, irrigation
5	Jhimruk	Pays	N/A	Yes	Local jobs, trainings	BPC grid distribution	Drinking, irrigation
6	Khimti	Pays	N/A	Yes	Local jobs, trainings, local union	MHP plant built and local cooperative established	Drinking, irrigation
7	Upper Bhotekoshi	Pays	6% private pending	Yes	Local jobs, trainings	Infrastructure provided	Drinking
8	Kali Gandaki A	Pays	N/A	No	Local jobs, trainings	Connections to some houses	Drinking, irrigation, fisheries
9	Chilime	Pays	10% issued	Yes	Local jobs, trainings	Infrastructure provided	Drinking
10	Middle Marsyangdi	Pays	N/A	No	Local jobs, trainings	Infrastructure provided	Drinking, cultural, environment data
11	Ridi	Pays	10% issued	Yes	Provided	Preferential tariff and no load shedding	Drinking, irrigation
12	Siuri Khola	Pays	10% issued	No	Provided	Infrastructure provided	None
13	Mai	Pays	10% issued	Yes	Provided	Infrastructure provided	Drinking
14	Upper Marsyangdi	N/A	N/A	No	Provided	N/A	Drinking
15	Puwa Khola I	N/A	10% planned	No	Provided	N/A	TBD
16	Kulekhani III	N/A	N/A	No	Provided	N/A	Drinking, attempted environment scheme
17	Rasuwegadhi	N/A	10% planned	No	Provided	Infrastructure provided	Cultural, environment data
18	Upper Tamakoshi	N/A	10% pending	No	Provided	Infrastructure provided	Drinking, environment data

Note: BPC = Butwal Power Company; MHP = micro hydro plant; N/A = not applicable; TBD = to be decided

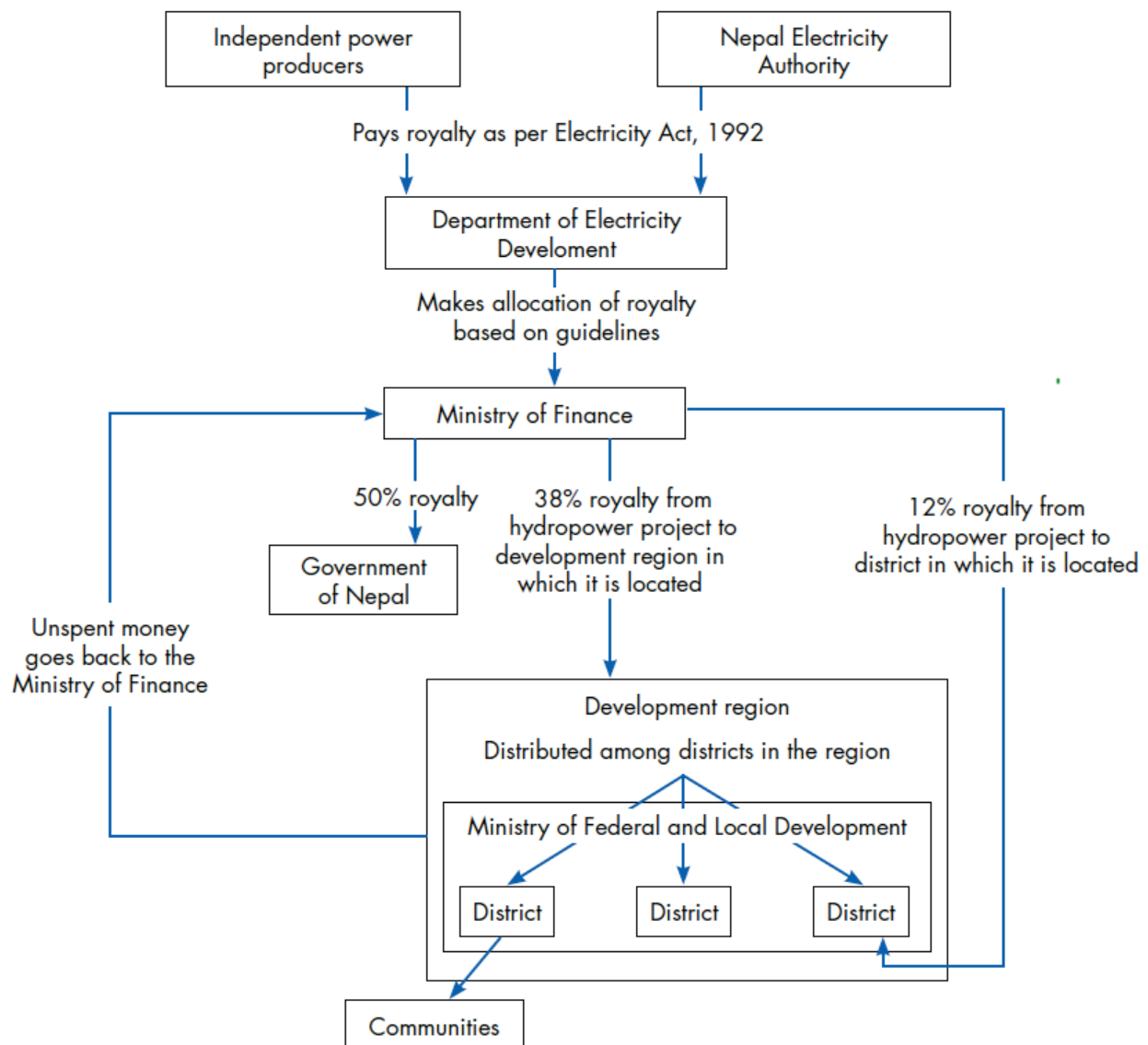
Source: Shrestha, P; Lord, A; Mukherji, A; Shrestha, RK; Yadav, L; Rai, N (2016) Benefit sharing and sustainable hydropower: Lessons from Nepal. ICIMOD Research Report 2016/2. Kathmandu: Nepal

### Royalty Sharing

The royalty sharing mechanism is one of the most common types of benefit sharing and usually works on a system of royalty collection by the government from HEP Projects and distribution to local community through local governments.

Typically, the royalty collected is based on the capacity of the hydropower plant and the annual generation of electricity. The annual capacity royalty amount increases ten times after 15 years and the energy royalty increases by five times after 15 years.

The typical process followed for the royalty sharing mechanism is given in the following figure.



Source: Shrestha, P; Lord, A; Mukherji, A; Shrestha, RK; Yadav, L; Rai, N (2016) Benefit sharing and sustainable hydropower: Lessons from Nepal. ICIMOD Research Report 2016/2. Kathmandu: Nepal

**Figure B.1-16: Royalty Sharing Process**

The table below provides an understanding of some of the projects in which royalties have been collected.

**Table B.1-15: Royalties collected by the Government of Nepal from Hydropower Projects in Fiscal Year 2068/69 BS (2012 AD)**

SN	Project name	Capacity royalty	Generation royalty	Total
1	Kulekhani I (60 MW)	NPR 60,000,000	NPR 77,136,754	NPR 1,37,136,754
2	Kulekhani II (32 MW)	NPR 32,000,000	NPR 38,531,556	NPR 70,531,556
3	Marsyangdi (69 MW)	NPR 69,000,000	NPR 240,457,529	NPR 309,457,529
4	Aadhi Khola (5.1 MW)	NPR 5,100,000	NPR 14,227,684	NPR 19,327,684
5	Jhimruk (12 MW)	NPR 12,000,000	NPR 34,054,469	NPR 46,054,469
6	Khimti (60 MW)	NPR 6,000,000	NPR 56,293,747	NPR 62,293,747
7	Upper Bhotekoshi (45 MW)	NPR 4,500,000	NPR 35,601,380	NPR 40,101,380
8	Kali Gandaki A (144 MW)	NPR 14,400,000	NPR 92,953,213	NPR 107,353,213
9	Chilime (22.1 MW)	NPR 2,210,000	NPR 17,843,078	NPR 20,053,078
10	Middle Marsyangdi (72 MW)	NPR 7,200,000	NPR 45,906,287	NPR 53,106,287
11	Ridi Khola (2.4 MW)	NPR 240,000	NPR 1,082,686	NPR 1,322,686

Note: Project numbers 1–5 have been in operation for more than 15 years and pay higher royalties as per the Electricity Act, 1992; USD 1 = NPR 107 as in June 2016

Source: Department of Electricity Development, Government of Nepal

Source: Shrestha, P; Lord, A; Mukherji, A; Shrestha, RK; Yadav, L; Rai, N (2016) Benefit sharing and sustainable hydropower: Lessons from Nepal. ICIMOD Research Report 2016/2. Kathmandu: Nepal

The royalty mechanism is intended to promote development on a district and regional scale by distributing benefits to local government institutions rather than individual beneficiaries.

According to the Hydropower Royalty Distribution and Utilization Directive, 2063 BS:

- The district with the hydropower project that receives 12% of royalty has to spend half of that money (that is 50% of the 12%) for environmental restoration work in upstream areas (20%);
- For supporting work in surrounding areas impacted by project’s infrastructure like the dam, powerhouse, reservoir, transmission lines, tunnel, etc. (15%);
- For work in downstream dry areas below the dam (15%).
- For the remaining 50% of the 12% royalty and the contribution from the 38% royalty distributed within districts of the development region, DDCs have to give higher priority to electrification, alternate energy, and community electrification in affected areas.

But again, as the local development officers have to deal with multiple needs in a district, they often allocate budgets for purposes other than electricity and beyond the affected areas.

## **Equity Shares**

This form of benefit sharing involves the provisioning of a percentage of equity or shares to the local stakeholders through both the public and private markets. This mechanism is aimed at allowing the local shareholders to get a direct financial claim to the project's projects. Although similar to the royalty mechanism in that the value of financial transfers to project beneficiaries is linked to project performance (in the form of dividends, bonus shares, or increased equity value).

As per the amended Securities Registration and Issuance Regulation 2008, only a hydropower company that is registered as a public limited company, not a private company can float a minimum of 30% of its shares to public, out of which 5% must be for company staff, 10% for locals, and the remainder for the general public.

The following table provides an understanding of some of the projects that have undertaken equity sharing as a mechanism.

**Table B.1-16: Share offers by Hydropower Projects**

Hydropower project, offering status, and offering year	Allocation of 'local shares'	Share offer details
Chilime (completed 2008–2010)	10% to local affected district and 15% to general public	The general initial public offering (IPO) was completed seven years after the completion of the project, post-profitability. The local share offer was conducted in 2010, following the resolution of a court case in which the percentage of shares allocated to the local population was revised from 5% to 10%. Due to this delay in the local offer, shares were offered at par with the IPO price (@ NPR 100) to 'highly-affected' locals in three VDCs and at a backdated share price premium (@ NPR 323) to affected locals. As a result, the company was able to pay dividends to locals immediately following the offer.
Mai (completed 2013–2014)	10% to local affected district and 20% to general public	The general IPO was completed in 2013 and the local share offer was conducted in 2014, both during the construction phase prior to the completion of the project in 2015. The project initially planned to allocate 40% of local shares to affected VDCs, but due to insufficient local demand the project allocated the remaining local shares to other residents of Ilam District. The general IPO was oversubscribed by 29 times.
Ridi (completed 2013–2014)	10% to local affected VDCs and 39% to general public, plus 50% promoter shares to locals	The construction of the project was completed in 2009. The local share offer to affected VDCs was done in October 2013 and the general IPO was done in February 2014. For both the offers, the IPO price was NPR 100 per share. Out of 300 promoters, about 50% are from local affected VDCs.
Siuri Khola (2015–2016)	10% to locals and 20% to general public	The construction was completed in September 2012. Ngadi Power Group completed the local share offer to affected districts in November 2015 and the general IPO in April 2016.
Upper Bhotekoshi (in progress/agreement reached)	6% private-market shares to locals only	Shares were demanded 14 years into commercial operation as a result of local protests following a landslide in August 2014. Following negotiations, project developers committed to provide 6% of 'private-market' shares to locals (distribution still pending).
Upper Tamakoshi (pending 2016–2017; delayed)	10% to local affected district and 15% to general public	The general IPO and local share offer was initiated in early 2015, after roughly 70% of the construction work had been completed. Concerns about eligibility criteria and uneven allocations to different affected areas led to protests and strikes in Dolakha District. Nepali employees of project contractor Sinohydro also organized a labour strike, demanding that workers be allowed to purchase shares in the project. The construction of the project and the share offer have been delayed due to earthquake-related damage.
Rasuwadghi (planned 2018)	10% to local affected district and 15% to general public	There are plans to offer local shares before completion of construction.
Puwa Khola 1 (planned)	10% to local affected district	There are plans to offer local shares before completion of construction.
Khimiti (demanded)	N/A	Local demands for shares emerged 14 years into commercial operation (partially a reaction to Bhotekoshi and Upper Tamakoshi protests/demands), but the project has not agreed to any share offer.
Upper Marsyangdi (demanded)	N/A	Local demands for shares emerged during the construction phase, but no shares have been issued.
Aadhi Khola and Jhimruk projects (demanded)	N/A	Project developer Butwal Power Company (BPC) is a publicly traded company on the Nepal Stock Exchange and, therefore, has not issued shares for its subsidiary projects in the past (although BPC is currently changing its policy by establishing a new project-specific company for its new undertakings). Local people from Aadhi Khola and Jhimruk have demanded shares.

Source: Shrestha, P; Lord, A; Mukherji, A; Shrestha, RK; Yadav, L; Rai, N (2016) Benefit sharing and sustainable hydropower: Lessons from Nepal. ICIMOD Research Report 2016/2. Kathmandu: Nepal

Note: Although the practice is not mandatory for all projects, shares are still widely offered by many power producers as public companies in order to harness domestic or ‘local’ capital and to obtain the ‘social license to operate’.

## Community Development

One of the oldest and most common types of benefit sharing is in the form of investment in community development or infrastructure development. This generally includes interventions in key areas such as: Health, Education, Agriculture, Road, Water supply, Religious/ cultural sites. These activities are also undertaken as part of the CSR activities by the project. Some of the community development activities undertaken by hydropower projects are depicted in the table below.

**Table B.1-17: Community Development Areas and Activities in Hydropower Projects**

Priority areas	Representative activities
Health care	Funding management of health care (e.g., Khimti, Upper Bhotekoshi) Construction of health posts (e.g., Kulekhani III, Middle Marsyangdi, Aandhikhola, Upper Marsyangdi, Upper Tamakoshi) Acquisition of ambulances (e.g., Middle Marsyangdi, Chilime, Rasuwaghadi, Puwa Khola I) Organization of health camps (e.g., Mai, Aandhikhola, Middle Marsyangdi)
Education	In-kind and cash support to schools (e.g., Khimti, Aandhikhola, Kaligandaki, Upper Tamakoshi) Maintenance of school buildings (e.g., Aandhikhola, Upper Marsyangdi, Kaligandaki) Construction of new school buildings (e.g., Middle Marsyangdi, Khimti, Mai, Kulekhani II, Upper Bhotekoshi) Provision of school bus (e.g., Kulekhani II) Support for teachers’ salaries (e.g., Upper Bhotekoshi, Khimti, Aandhikhola) Merit-based scholarships and awards (e.g., Upper Bhotekoshi, Khimti) Tuition fee waivers (e.g., Khimti) Literacy programmes (e.g., Khimti, Aandhikhola)
Roads	Opening track of road (e.g., Middle Marsyangdi, Jhimruk, Upper Marsyangdi, Puwa Khola I, Siuri)
Cultural sites	Construction of cremation sites (e.g., Kaligandaki, Upper Marsyangdi, Puwa Khola I) Construction/reconstruction of temples (e.g., Aandhikhola, Kaligandaki, Upper Bhotekoshi)
Mother’s group	Financial support (e.g., Upper Marsyangdi, Aandhikhola, Jhimruk) Literacy classes (Khimti)
Drinking water	One house, one tap programme (e.g., Upper Marsyangdi) Construction of water supply lines (e.g., Middle Marsyangdi, Lower Marsyangdi, Upper Marsyangdi, Jhimruk, Ridi, Kaligandaki)
Irrigation	Expansion and improvement of irrigation systems (e.g., Ridi, Aandhikhola, Jhimruk, Khimti) Irrigation canal maintenance (e.g., Ridi, Aandhikhola, Jhimruk) River works and river bank stabilization (Jhimruk)
Other	Support for fisheries development (Kulekhani I, Kali Gandaki A)

Source: Shrestha, P; Lord, A; Mukherji, A; Shrestha, RK; Yadav, L; Rai, N (2016) Benefit sharing and sustainable hydropower: Lessons from Nepal. ICIMOD Research Report 2016/2. Kathmandu: Nepal

## Rural Electrification

Another component of the benefit sharing mechanism is the rural electrification process. This may be undertaken based on the following models:

- Provision of free electricity and distribution infrastructure to the local electricity group, which then manages the distribution;
- Preferential tariff rates for those living in the affected VDCs;

- Provision of distribution infrastructure, but the electricity is purchased by rural electricity groups through NEA; and
- Rural electrification through NEA

The following table provides an understanding of the rural electrification process undertaken by some of the hydropower projects in the country.

**Table B.1-18: Support for Rural Electrification Provided by Hydropower Projects**

SN	Project name	Rural electrification support
1	Kulekhani I	Infrastructure support for electrification; no load shedding
2	Kulekhani II	No load shedding
3	Marsyangdi	Access through regular NEA connection
4	Aadhi Khola	Electricity connection through BPC distribution at subsidized rate
5	Jhimruk	Electricity connection through BPC distribution at NEA rates
6	Khimti	Free electricity (about 1 MW) to rural electricity cooperative through separate micro hydro plan
7	Upper Bhotekoshi	Some infrastructure support for electrification
8	Kali Gandaki A	Electricity connection to Bote community houses
9	Chilime	Infrastructure support for electrification
10	Middle Marsyangdi	Infrastructure support provided through neighbourhood development programme, complementing electrification policy of Lamjung District
11	Ridi Khola	Distributed electricity to 60 households at subsidized rate; no load shedding
12	Siyuri Khola	Infrastructure support for electrification
13	Mai	Infrastructure support for electrification
14	Upper Marsyangdi	N/A
15	Puwa Khola I	N/A
16	Kulekhani III	N/A
17	Rasuwagadhi	Infrastructure support for electrification (proposed)
18	Upper Tamakoshi	Infrastructure support for electrification (proposed)

Source: Shrestha, P; Lord, A; Mukherji, A; Shrestha, RK; Yadav, L; Rai, N (2016) Benefit sharing and sustainable hydropower: Lessons from Nepal. ICIMOD Research Report 2016/2. Kathmandu: Nepal

NWEDC will try and build case studies on the examples presented, based on the information available as part of the detailed plans. The primary purpose of this section will be to provide learnings for previous experiences, and the key take –away from the same. The key learnings may be in the form of activities/initiatives that were successful and those which were not.

### Employment and Training

The support for local livelihoods is another form of benefit sharing and pertains to employment (usually contractual) of the local community within the project, or development of additional skills through trainings. Typically, the majority of local hiring is unskilled and casual labour, hired formally or informally through the project contractor(s), while the project developer hires a smaller group of locals as drivers or entry-level office staff.

The following table provides an example of some of the hydropower projects that have undertaken local employment as a benefit sharing mechanism.

**Table B.1-19: Local Employment and Priority Hiring Programmes Provided by Hydropower Projects**

SN	Project name	Local jobs	Employment during construction	Employment after construction
1	Kulekhani I	Yes	Not known	35 locals NEA recruiting process
2	Kulekhani II	Yes	Not known	Some locals NEA recruiting process
3	Marsyangdi	Yes	Preference to people who lost more than 70% of land	Some locals in contract later NEA recruiting process
4	Aadhi Khola	Yes	Priority to locals	85 locals
5	Jhimruk	Yes	Priority to locals	Priority given to locals by Jhimruk Industrial Development Company (JIDCO) – previously established by the project, but later turned into a non-government organization (NGO)
6	Khimti	Yes	Priority to locals	Priority to affected district
7	Upper Bhotekoshi	Yes	17 displaced people Priority to affected VDC	26 out of 53 are locals Priority to affected VDC
8	Kali Gandaki A	Yes	Priority to local affected people (especially Bote)	7 locals in contract
9	Chilime	Yes	50/60 people from district	12–15 local staff
10	Middle Marsyangdi	Yes	Priority to locals	NEA recruiting process
11	Ridi Khola	Yes	Priority to affected VDC	8 local staff
12	Siuri Khola	Yes	Local contractor for buildings and 8 local workers	6–7 locals
13	Mai	Yes	15–16 locals after training Selected through concerned committee	10–15 locals Priority to affected VDCs for employment
14	Upper Marsyangdi	Yes	About 800 locals from affected district	TBD
15	Puwa Khola I	Yes	20–25 locals Priority displaced people	TBD
16	Kulekhani III	Yes	Priority to displaced people	TBD
17	Rasuwagadhi	Yes	Priority to people from most-affected VDCs	TBD (verbal commitment)
18	Upper Tamakoshi	Yes	Priority to 'local hiring' of people from Dolakha district, stated preference to hire from most-affected VDCs where possible	TBD (verbal commitment)

Note: TBD = to be decided

Source: Shrestha, P; Lord, A; Mukherji, A; Shrestha, RK; Yadav, L; Rai, N (2016) Benefit sharing and sustainable hydropower: Lessons from Nepal. ICIMOD Research Report 2016/2. Kathmandu: Nepal

However, one of the issues is that when the project construction is complete, the daily operations of the hydropower project require much less labour input. Hence, most of the jobs directly created by hydropower development are not durable in the long term. For this reason, the quality and duration of project employment are key variables affecting the distribution of benefits from employment. However, while jobs in hydropower construction are rarely sustainable in this sense, it does allow the local community to develop specific skills which may allow them to find employment elsewhere.

In addition to employment with the project, provisioning of skill trainings has also evolved as a benefit sharing mechanism. These trainings are usually aimed at allowing for the local

community to build and expand their skills to allow them to undertake new entrepreneurship opportunities or for finding employment in the country or abroad. The following table provides an understanding of the types of trainings provided by the various hydropower projects in Nepal.

**Table B.1-20: Trainings Provided by Hydropower Projects**

SN	Project name	Sample trainings to project-affected people
1	Kulekhani I	Watershed management and soil erosion prevention training for women
2	Kulekhani II	Skill enhancement training on electro-mechanical and 'doko' knitting (for Chepang community)
3	Marsyangdi	House wiring and plumbing training
4	Aadhi Khola	Vegetable farming training
5	Jhimruk	Construction work (welding, plumbing), mobile repair, fruit support programme training
6	Khimti	Skill development and non-formal education programmes
7	Upper Bhotekoshi	Income generating training programme for disabled and backward communities
8	Kali Gandaki A	Fish farming training
9	Chilime	Women's empowerment, cooking, knitting training
10	Middle Marsyangdi	Agriculture training (e.g., in beekeeping and herb identification)
11	Ridi Khola	Converting semi-skilled workers to skilled workers through construction-related training
12	Siuri Khola	None
13	Mai	Construction training to 60 workers (later jobs), knitting training to women
14	Upper Marsyangdi	70 labours trained in construction works (carpentry and bar bending) at Technical Campus
15	Puwa Khola I	Agriculture training
16	Kulekhani III	Driving, computer, stitching, agriculture training
17	Rasuwagadhi	Culinary training
18	Upper Tamakoshi	Electrical and plumbing training, driving, agriculture training

Source: Shrestha, P; Lord, A; Mukherji, A; Shrestha, RK; Yadav, L; Rai, N (2016) Benefit sharing and sustainable hydropower: Lessons from Nepal. ICIMOD Research Report 2016/2. Kathmandu: Nepal

#### **1.11.1.5. Guiding Principles: Benefit Sharing**

On the basis of the review of the PDA requirements, and based on understanding from the practices of other HEP Projects in Nepal, NWEDC will develop its own principles finalise in consultation with the GON at the time of formulating the detailed plan.

The Local Benefit Sharing Plan will be based on the following guidelines and principles:

- The Project will ensure compliance to relevant applicable Government of Nepal regulations, IFC Standards and ADB Safeguards Policy Requirements;
- The Project will clearly define and communicate to concerned parties, the areas and populations that qualify for LBS initiatives, with a list of criteria and mechanism for dispute resolution;
- The Project will ensure that the LBS initiatives will include all influenced VDCs and settlements, based on a fair selection process for prioritisation and stage-wise coverage);

- The Project work with credible local institutions and create an enabling environment to promote greater local ownership of initiatives, with the aim of transferring/handing-over operations (where feasible) to ensure both local ownership and long-term sustainability.<sup>4</sup>
- Ownership and user rights will be clearly defined with local participation and involvement of concerned stakeholders for all assets created/enhanced under LBS initiatives;
- The Project will take into consideration all forms of extant ownership and user rights (individual and community) to ensure that these are not involuntarily compromised by the project's initiatives;
- The Project will take into account all the impacts (beyond the 3 VDCs and ensure avoidance or effective management/mitigation);
- The Project will take into account existing schemes and programmes of the Government of Nepal, other plans formulated for the project and schemes and programmes of other multi and bi-lateral lending agencies with the purpose of ensuring complementarities and avoiding conflict or duplication;
- The Project will ensure transparency in disclosing information related to the LBS initiatives (impacts, benefits, eligibility criteria, people's participation, fund-utilisation/expenditure, time-lines etc.), across the project lifecycle;
- With the overall aim of furthering social inclusion, the Project will aim to ensure local participation, (with special care to include marginalised and/or indigenous groups and persons) from the planning stages to implementation and delivery;
- All stages and components of the initiatives will take into account gendered patterns in livelihoods and aim for greater gender equity to ensure practical benefits for women such as necessary safeguards, ensuring access, increased income opportunities and greater financial security;
- Recognising existing social and economic vulnerabilities in the local populations, the Project will build-in additional safeguards to ensure access and up-take of benefits;
- The project-related information dissemination, engagement and disclosure will be through informed consultation and participation (ICP), aiming for the widest coverage and use of the most effective mediums of communication; and
- The implementation of Local Benefit Sharing Plan will be monitored in terms of its impacts, process and outcomes as per agreed and approved indicators and timelines as defined in the Monitoring Plan.

### **1.11.2. Local Benefit Sharing Plan**

As per PDA, "Local Benefit Sharing Plan" is understood to refer to the plan through which the Company agrees to benefit sharing through local community development activities reflected in the EIA, and that which the Company as a good corporate citizen will continue throughout the

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<sup>4</sup> ICIMOD. Benefit Sharing and Sustainable Hydropower: Lessons from Nepal (2016).

concession period by channelling some of the benefits generated by the operation of the Project to the affected communities beyond mitigation and compensation measures.

As part of this section, the detailed plan will provide the benefit sharing programs based on the finding of the primary and secondary data of the demographic, socio-economic, and development indicators, as well as status of essential infrastructure in terms of housing, schools, hospitals and road networks. The plan will be developed on the following guidelines (but not limited to these guidelines)

#### ***1.11.2.1. Objective of the LBSP***

The Local Benefit Sharing plan has been formulated in keeping with the requirements of the PDA signed on 29th December 2016. The primary purpose of the plan is to sustainably benefit local communities affected by hydropower investments.

While the LALRP formulated for the project, is aimed at mitigating the impacts from land procurement for the project, the Local Benefit Sharing Plan (hereinafter referred to as “LBSP”), as per PDA, will be aimed at fulfilling the following objectives:

- Supporting the local development process through direct investments (including local shares, royalty sharing, supply of local rural electrification) as well as collaboration and support of complementary programmes/projects in the area so that communities and other stakeholders benefit from the Upper Trishuli Hydro Power Project;
- Demonstrating good corporate citizenship practices of the NWEDC.

It should be noted that the LBSP shall serve as an umbrella plan, and shall be supported by specific plans including Industrial Benefit Sharing and Employment and Skill training plan formulated for the project.

The plan will be detailed out further by NWEDC in consultation with Government of Nepal (GoN) & GoN nominated agencies.

The objectives of the Plan will be discussed with GoN and any changes in the objectives will be made accordingly.

#### ***1.11.2.2. Generic Options under Local Benefit Sharing (Community Development)***

In keeping with the EIA requirements and the understanding of benefit sharing in Nepal, the following options have been identified for the LBSP for UT-1.

**Table B.1-21: Benefit Sharing Programs**

Monetary Benefits	Non-Monetary Benefits
<p>Monetary benefit refers to sharing part of the monetary flows generated by the operation of the hydropower projects with local communities. It includes, but is not limited to, the following mechanisms:</p> <ul style="list-style-type: none"> <li>• Direct payments/royalty and revenue sharing</li> <li>• Preferential electricity rates</li> <li>• Payments for environmental or ecosystem services</li> <li>• Community development fund</li> <li>• Equity sharing</li> </ul>	<p>Non- monetary benefits refers to the approaches adopted by the project entity for ensuring that local communities benefit from construction and operation of a hydropower project in non-monetary terms.:</p> <ul style="list-style-type: none"> <li>• rural electrification,</li> <li>• improved infrastructure,</li> <li>• support for health and education programs,</li> <li>• improved access to fisheries and forests, and</li> <li>• legal title to land.</li> </ul>
<p><b>Note:</b> Based on the understanding of the above mentioned benefits, profile of the target district, the guidelines &amp; the PDA, following activities can be included in the benefit sharing plan.</p>	
<p><b>1. Sharing</b></p>	<p><b>1. Watershed management</b></p>
<ul style="list-style-type: none"> <li>• Allowing the local population an equity stake (i.e. shares). As mentioned previously, current thinking requires moving beyond mitigation and compensation to work with communities to maximize development benefits and engender more equitable outcomes.</li> <li>• Providing the local government a share in the royalties for the project.</li> </ul>	<ul style="list-style-type: none"> <li>• This includes development of an integrated management plan for the river watershed,</li> </ul>
<p><b>2. Community Development Fund/ Plan</b></p>	<p><b>2. Associated Infrastructure and Public Service Investment</b></p>
<ul style="list-style-type: none"> <li>• Community development funds financed from electricity sales can be established to foster economic development in the project areas, including the project-affected communities.</li> <li>• The sources of the fund can also be from the royalties and taxes paid to the government.</li> <li>• The objectives, structure, and duration can be the result of negotiations between local authorities and the hydropower project companies.</li> <li>• An important component of community development is rural electrification</li> </ul>	<ul style="list-style-type: none"> <li>• The investment can cover</li> <li>• Social and environmental investment such as for schools, health facilities, local infrastructure or watershed protection.</li> <li>• Local people will benefit from these investments if efforts can be made to ensure they are an integral part of the local development plan</li> </ul>

The following subsections provide an understanding of the key components of the LBSP.

Based on the programs identified above, during the preparation of the detailed plan, specifics of such mechanism will be put in place, which shall provide details on how each of the initiatives will be rolled out. While finalizing the modalities of such plans NWEDC will;

- Refer to PDA requirements;
- GoN regulatory requirements (including past precedence of Court Judgements in Nepal); and
- Refer to the lenders requirement (already stipulated under PDA).

These plans will provide an understanding of (but not be limited to):

- The specific objectives of each of the mechanisms identified;
- The target groups and population;
- The year wise targets for implementation; and
- The key steps for implementation

A year wise plan of implementation will be put in place for achieving the objectives identified.

These programs will be based on the understanding of the above mentioned benefits, profile of the target district & the guidelines. The section below describe the modalities in brief and suggests the way forward for detailed plans to be prepared to meet PDA requirements.

### Royalty to GoN

According to the PDA requirements (Section 11.22.2), the royalty payable shall thus be based on the following figure.

11.22.1 The Company shall pay the following royalties to GON:

From the first Unit Commissioning Date until the fifteenth (15 <sup>th</sup> ) anniversary of the Commercial Operation Date	From the earlier of the Energy Start Date or the Commercial Operation Date until the fifteenth (15 <sup>th</sup> ) anniversary of the Commercial Operation Date	For the period commencing on the day falling immediately after the fifteenth (15 <sup>th</sup> ) anniversary of the Commercial Operation Date and ending on the last day of the Term		
Capacity Royalty Rate (per KW per annum)	Energy Royalty Rate	Capacity Royalty Rate (per KW per annum)	Energy Royalty Rate	
NPR 200	2% of the Energy Receipts	NPR 1,500	10% of the Energy Receipts	

Source: UT-1 PDA

**Figure B.1-17: Royalty Payable to the Government**

The capacity royalty chargeable from the project shall be calculated based on the following:

- From and after the first Unit Commissioning Date until the Commercial Operation Date: Capacity Royalty Rate multiplied by the total nameplate capacity (in kW) of the relevant unit(s) of the Power Station that has been commissioned.
- From and after the Commercial Operation Date: Capacity Royalty Rate multiplied by the total nameplate capacity (in kW) of the Power Station.

However, the royalty shall not be payable if:

- If NEA is in default of its payment obligations under the Domestic PPA;

- Any payments received from GON or NEA in the circumstances described in the following PDA sections: Section 6.1 (GON rights and obligations), 12.7 (Staggered Remedies) or 12A.6 (Change in Law) or Local Free Power.

It is further clarified in the PDA that in the event of non-payment of any undisputed amounts due and payable by GON to the Company under this Agreement, the Company shall, at its option, be entitled to set-off such amounts against the Capacity Royalty and/or Energy Royalty payable by the Company hereunder.

Note: In keeping with the requirements of the PDA, the royalty sharing program with the local government shall be identified, in consultation with the GoN.

### **Equity Shares**

In addition to royalty sharing, the project shall make available shares to the local community. These shares shall be available for purchase by any member within the local community at a subsidized rate.

As per PDA,

10.17.1 *“At the option of the Project Affected People, the Company agrees that the Project Affected People:*

*(A) Required to be resettled and rehabilitated as a result of the Project; and*

*(B) Who are natural persons and other natural persons residing permanently in the districts of the Project Area at the date on which the construction activities for the Project commence,*

*shall, directly or indirectly, be sold or issued up to a maximum of ten per cent (10%) of all the Company Shares with the value of each share determined on the basis of the face value of such shares without applying any premium, which shall be exercised and the total value paid in full in the period from the date of Financial Close until the date which is three years after the Financial Close. GON shall work together with the Company to agree on a local share allocation plan and implement such effective mechanisms and processes that is not cumbersome in the ordinary course of business to the Company to give full effect to the transactions envisaged in this Section 10.17.1 (Local share). For the avoidance of doubt, the Company shall not be required to issue any Company Shares to the general public.”*

Note: In discussion with the GoN, the proportion of equity shares to be made available and the rate shall be identified.

Furthermore, the definition of local community for the purpose of making equity shares available shall be established.

## Rural Electrification Plan

Rural electrification is an important component of the benefit sharing mechanism.

As per the PDA,

11.8.1 *No later than the Financial Close, the Company in consultation with GON shall identify each household (an "Original Household") within the geographical area described in Schedule 12 (Nepal Employment and Skills Training Plan – Guidance Note) (the "**Free Electrification Area**").*

11.8.2 *From and after the Commercial Operation Date, the Company shall supply (at its own cost) twenty (20) kWh of electrical output ("**Local Free Power**") each Month during the Term without charge to each household within the Free Electrification Area as at the Commercial Operation Date to up to 200% of the number of Original Households identified pursuant to Section 11.8.1 (Rural Electrification) (each an "**Eligible Household**").*

Schedule 11, Rural electrification section additionally mentions that:

*From and after the Commercial Operation Date, the Company shall make available for use by **each Eligible Household within a 500 metre radius of the headworks and the Power Station** as at the Commercial Operation Date as identified by the Company and GON (which shall not be more than 200% of the Original Households), twenty (20) kWh of electrical output free of charge each Month during the Term.*

11.8.3 *Prior to Commercial Operation Date, the Company shall build the distribution network to supply such Local Free Power to each Eligible Household within the Free Electrification Area in accordance with Section 11.8.1 (**Rural Electrification**).*

11.8.4 *GON shall be responsible for the operation and maintenance of such distribution network at its sole cost.*

11.8.5 *GON and the Company shall jointly prepare a plan (the "Rural Electrification Plan"), based on a pre-feasibility study to be carried out by GON and the Company (at the Company's sole cost) to assess the costs and scope of rural electrification in accordance with this Section 11.8 (Rural Electrification). **The Company shall implement the Rural Electrification Plan.***

Note: The final plan to be submitted by NWEDC will need to consider the following:

- In consultations with GoN, identify each household (an "Original Household") within the geographical area described in Schedule 12 (Nepal Employment and Skills Training Plan – Guidance Note); however, Schedule 12 of PDA does not specify such specific Geographical area;

- Schedule 11, somehow defines, each Eligible Household within a 500 metre radius of the headworks and the Power Station;
- NWEDC will also take part in conducting a pre-feasibility study to be carried out by GON and the Company (at the Company's sole cost) to assess the costs and scope of rural electrification.
- Prior to Commercial Operation Date, NWEDC shall build the distribution network.

To sum it up, NWEDC as part of the detailed plan shall provide an understanding of the manner in which the rural electrification requirements of the PDA will be met.

### **Community Development Plan**

The project has undertaken a number of community development and infrastructure development activities in their Area of Influence (AoI) as part of their CSR activities. In addition to this the project was also involved in various relief efforts post-earthquake, an understanding of which is provided in the LALRP. The project is also supporting the rebuilding of two schools in Haku Besi and Dhunche and one health centre.

As per PDA,

- Schedule 11 *In addition to the budget committed in the EIA,*
- *The Company shall throughout the Term, support community development of affected communities through benefit sharing activities.*
  - *Local community development activities aim to improve the standard of living of the affected communities through livelihood enhancements and support to construction and maintenance of physical infrastructure such as roads, trails, pedestrian bridges, water supply and sanitation schemes, communication infrastructures, community infrastructure development, such as schools, health posts, community centers, women's centers, small enterprise development funds etc. These initiatives should be developed in coordination with local governments to avoid duplication of interventions/support and ensure sustainability of efforts.*
  - *The Local Benefit Sharing Plan shall also include a component detailing local community development activities (as committed in GON approved Environment Reports), that includes a detailed breakdown of specific activities, timeline, budget and implementation modalities.*

### *EIA Commitment*

There are certain community development initiatives which have been included as part of the commitments in the EIA for the project. The same shall be incorporated into the community development plan thus formulated. The EIA commitments of relevance are:

- Local people will be prioritized for employment in project construction works;
- Local people specifically women will be encouraged in agricultural practice through agricultural enhancement programme;

- The project will assist the school of the Haku VDC to provide education to the children of project staff and workers;
- The project will assist the local health institutions;
- The ethnic group 'Tamang' of the project area will be supported to preserve their, tradition, culture, identity as well as their traditional occupation;
- Dalit group will be prioritized in project works as per their skills and capacities with certain percentage reservation for dalit;
- Local people will be provided training on business and trade;
- Local people will be prioritized in training in project related works;
- The project affected VDCs will be supported for rural electrification;
- Local people will be encouraged for tourism enhancement;

Also, the following measures are suggested in the EIA,

- The erosion of river bank will be minimised by implementing river bank protection measures in susceptible site downstream of weir;
- The area equivalent to occupied forest area (27.20 hectares) for project physical infrastructures will be afforested and protected for 5 years and handed over to concerned stakeholders as per the Forest Guideline for the Allocation of the Forest land to other Development Projects. The afforestation area will be as per the area designated by the respective district forest office and LNP;
- The project will carried out compensatory plantation of 4797 felled trees at a ratio of 25 seedlings for each lost tree equivalent to 119925 numbers as per the Forest Guideline, 2006 in an area as directed by the District Forest office of Rasuwa district and LNP authorities;
- The construction workers will be prohibited to collect firewood, timber and other forest products from the local community forest of Haku VDC and such act will be termed illegal;

Note: NWEDC will finalise these and ensure that these are developed in coordination with local governments and GoN to avoid duplication of interventions/support and ensure sustainability of efforts. These commitments will be further streamlined with clarity on numbers, schedule and budget for implementation across years.

### ***1.11.2.3. Implementation of LBSP***

During the preparation of the detailed plan, an understanding of the overall implementation mechanism for the LBSP, in keeping with the specific programs identified, will be proposed. NWEDC will formulate this implementation mechanism, based on the specific requirements of the programs, the resources available and the requirements of the GoN.

## **Organization Structure**

The NWEDC and GoN, as per section 11.3.2 (of the project development agreement) jointly prepare the Local Benefit Sharing Plan to be implemented within 12 months from the Agreement Date in accordance with this Schedule.

NWEDC will put in place a team with clear cut roles and responsibilities for the implementation of the detailed plan. NWEDC will provide an understanding the team and the manner in which they will be involved in the implementation. Some key things to be kept in mind and questions which will be answered as part of this section are as follows:

- NWEDC's role;
- GoN's role;
- Stakeholders to be engaged in decision making;
- Decision making in relation to LBSP components;
- Possible implementation partner;
- The role of third parties (if any).

This section will provide a brief description about the effectiveness of the institution/implementation agency for planning, management, monitoring and delivery of the plan. This will also include suggestions for workable linkages with other programs/projects (government-run; multi/bi-lateral agency sponsored).

## **Implementing Partners**

For the purpose of implementing specific components of the plans, NWEDC shall/ may associate with external third party experts, as required, who have experience in the field and the geographical area.

As part of this, NWEDC will,

- Identify NGOs/civil society and government department/ agencies who shall be involved in the implementation of the plan thus formulated.
- Some of the key agencies identified include Manekor, Parivartan Nepal, LaCCoS, Cottage Industries department, veterinary department, horticulture department etc.
- The NRA may serve as a consolidation point for all the existing NGOs and agencies in the area.
- NWEDC will build on such networks and allow for opportunities to be created for knowledge transfer.

### **Interlinkage with other Plans**

The benefit sharing plans thus formulated are part of a larger social impact management framework for the project and shall be implemented in coordination with the other management plans such as the following (but not limited to):

- Stakeholder Engagement Plan;
- Livelihood Restoration Plan;
- Labour influx management plan; and
- Grievance Redressal Mechanism.

### **Schedule for Implementation**

This section provides an understanding of the schedule of implementation of the plan thus formulated

As part of the detailed plan, NWEDC will put in place a schedule for implementation of the LBSP, in discussion with GoN. This schedule will provide an itemized timeline for each step of the implementation process.

#### ***1.11.2.4. Engagement Strategy***

This section will provide the Engagement strategy for the LBS plan. An essential component of the implementation of the benefit sharing plan is the engagement with the local community and other external stakeholders.

The strategy will specifically explain the key needs and sensitivities viz. communities, government, and other stakeholders who will be associated or linked to implementation of the LBS plan.

Although this will be in line with the overall stakeholder engagement activities of LALRP /ESIA, it will describe how to position LBS actions and address a larger audience (3 VDCs and beyond).

The engagement strategy as a part of the detailed plan will include the following:

- Aim, objectives of LBS;
- Coverage, potential beneficiaries, thematic areas of intervention, entitlements;
- Engagement mechanism,
- Phased approach, timelines and outcomes;
- Disclosure mechanism;
- Grievance management (as per EIA/ESIA/LALRP); &
- Feedback, documentation, communication, multi-media.

#### **1.11.2.5. Monitoring and Review Mechanism**

The LBSP will serve as a macro plan that will be constantly reviewed and updated on annual basis, throughout the project lifecycle. Micro plans will be developed, that will comply with the major principles identified, and are ready for implementation during the project activities.

As part of the detailed plan, a monitoring and review mechanism will be put in place, which will include the following:

- Provision for internal and external monitoring
- Frequency of monitoring and review
- The KPIs for internal and external monitoring
- Process of reviewing and updating the LBSP based on the findings of the monitoring reports
- Responsibilities of NWEDC, GoN, implementation partners and any third party involvement for monitoring purposes
- Overlaps and integration with project and other reporting timelines (LALRP etc.); and
- Systems and institutional linkages for feedback and mid-course correction

#### **1.11.2.6. Budget**

NWEDC will ensure that adequate budget is allotted for the implementation of the LBSP.

As part of the detailed plan, this section will provide an itemized budget for each step in the implementation of the LBSP

#### **1.11.2.7. Reporting and Documentation Requirements**

As per the agreement, NWEDC shall submit reports, every six months up to Commercial Operation Date and every 12 months thereafter, to GON describing in detail the activities undertaken under the Plan, the amounts spent on such activities and impact evaluation of such activities.

The activities undertaken, observations made and mitigation measures implemented, if any, will be reported to the Government of Nepal on an annual basis by the Project team.

As part of the detailed plan, a reporting mechanism will be put in place, in consultation with the GoN, which will provide an understanding of the following:

1. Requirement for internal and external reporting
2. The frequency of reporting
3. Chain of reporting
4. The format- report, presentation, verbal discussion etc.

### 1.11.3. Employment and Skill Training Plan (ESTP)

This section puts in place the employment and skill training plan (ESTP) for the project. The ESTP shall comprise of following key components, namely:

- Employment opportunities in the project, directly by NWEDC as well as through the contractors and sub-contractors;
- Trainings for skill development of the local labourers, who are employed in the project; and
- Trainings for livelihood development for those who presently do not have the skills required for employment in the project or other hydropower projects in the area.

As per PDA, (Section 11.9) - Use of Nepali resources; training and development:

The Company shall, and shall procure that its Contractors and Representative shall, in connection with the conduct of the Project:

- 11.9.1 *maximize the use of Nepali resources and give first consideration and full and fair opportunity to technically and commercially qualified Nepalese citizens and firms provided that in each case, the use of such Nepali resources meet the quality, quantity and availability requirements of the Company and provided further that use of such resources does not have a material and adverse impact on the costs and the timelines for the Project;*
- 11.9.3 *comply with the Laws of Nepal including the Labour Act, 2048 and Labour Regulation, 2050;*
- 11.9.4 *ensure that its Nepal Employment and Skills Training Plan provides for appropriate training of suitable citizens of Nepal for Project-related opportunities;*
- 11.9.5 *conduct employee training programmes from time to time, including training in each of the skills used in the Project, including management training;*
- 11.9.6 *comply with the Nepal Employment and Skills Training Plan, Nepal Industrial Benefits Plan and Local Benefit Sharing Plan and ensure that appropriate programmes are designed to assist suitable Nepali citizens, entities, and firms to meet the Project's requirements for goods and services;*
- 11.9.7 *shall (to the extent applicable) submit reports*
  - *every six (6) months to GON for the first three (3) years of the Construction Period and*
  - *every twelve (12) months thereafter, describing in detail*
    - (A) *its employee training programmes,*
    - (B) *the implementation of such training programmes,*
    - (C) *the progress made towards meeting the objectives set forth in this Section 11.9 (Use of Nepali resources; training and development) the Nepal Employment and Skills Training Plan, Nepal Industrial Benefits Plan and Local Benefit Sharing Plan.*

Schedule 12 of the PDA, also mentions the following:

- Schedule 12
- *Identify expected labour force (Nepali and Non-Nepali) requirements over the Project life cycle by Year and by skill, both directly by the Company and by each of its expected major Contractors.*
  - *identify the expected opportunities for employment and skill development at local levels;*
  - *set out the Company's and the major Contractors' planned measures to recruit and train workers over time;*
  - *contribute to the development of employable skills and human resources*

*The employment and skills training plan will not restrict itself only to the hydro power related training, but will also comprehensively look into vocational training opportunities to provide impetus to the improvement of living standards of locals e.g.*

- *The area- specific farm (agriculture, animal husbandry;*
- *small orchards and other farm based allied activities) and non-farm linked training;*
- *productivity improvement (knowledge transfer) and*
- *Self-employment program.*

*As far as practicable, the Company shall attempt to transfer the skills of skilled and semi-skilled foreign personnel to Nepalese counterparts during the course of Project implementation.*

#### **1.11.3.1. Objective of the Plan**

The ESTP has been formulated in keeping with the requirements of the PDA signed on 29th December 2016. The plan has been developed by NWEDC and Government of Nepal (GoN) & GoN nominated agencies. The main objective of the plan is:

- To create opportunities for employment, training and skills enhancement in project related activities, or vocational trainings and other trainings.
- Encourage training and employment of local people in Project related activities, which employment will be commensurate with educational qualifications, relevant skills and experience;
- Hydro development will act as a stimulus to bring long term sustainable benefits to Nepal and its people, and that one of the key benefits is improved skill development and employment of the Hydro Property affected people;

- It is expected that the majority of job requirements can be met by Nepalese, and that the project cycle for hydro projects will enable training to be proceeded sufficiently in advance to enhance employment opportunities for the locals; and
- Comply with the Laws of Nepal including the Labour Act, 2048 and Labour Regulation, 2050.

The objectives of the Plan will be discussed with GoN and any changes in the objectives will be made accordingly.

The detailed plan will be developed, in consultation with the GoN, keeping in context the following:

- Literacy and skill profile of the area;
- The skill training programs being implemented in the area by the NGO/INGO and other agencies;
- Skill requirement for the Project during construction and operations stage;
- Potential employment opportunities- existing and during project construction;
- The One Belt One Road (OBOR)/ Belt and Road Initiative (BRI) and other future developments in the area.

#### ***1.11.3.2. Context of Livelihood and Associated Skill Set in Project Area***

Preparation of the ESTP will need to be situated in the context of the existing socio economic condition, earthquake induced impacts and the current livelihood practices in the Project area. A summary of the existing livelihood and associated skill profile of the PAFs which could to a great extent reflect the profile of the district (especially the ones affected by the earthquake).

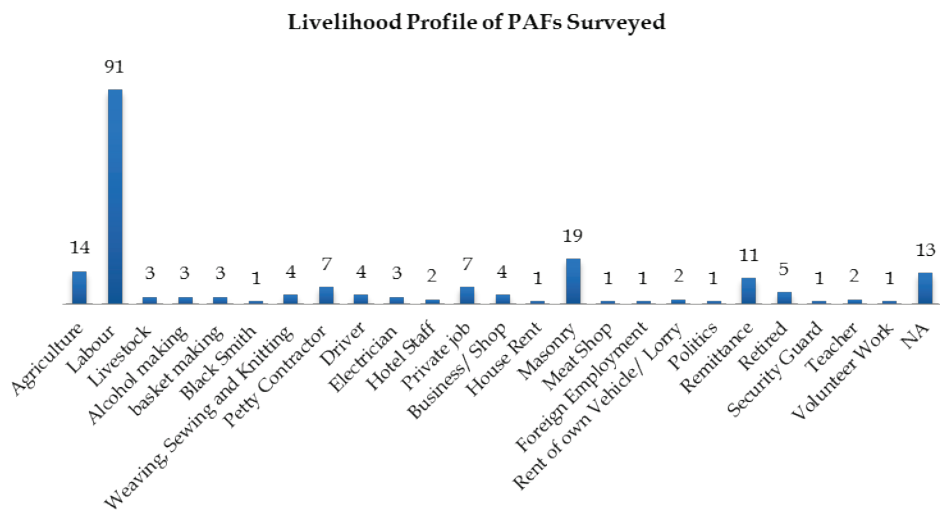
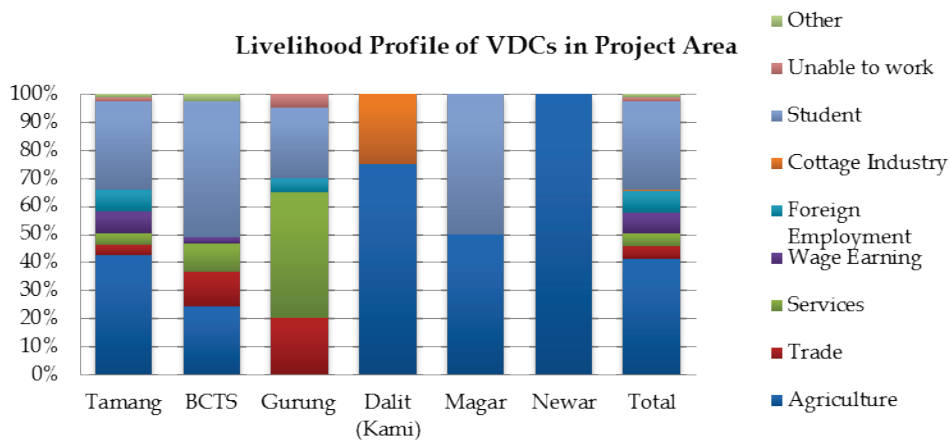
#### **Existing Livelihood Profile and Associates Skill Set of PAFs**

Subsistence agriculture has been the mainstay of the economy in the Project area. As can be seen from Figure B.1-18, a significant portion of the population (41.3%) within the economically active age group in the project area reported agriculture as the key source of livelihood. Apart from agriculture, the other sources of income identified are as follows:

- Wage labour (7.3%);
- Foreign employment (7.5%);
- Business (4.9%); and
- Service (4.76%).

As can be seen from the Figure B.1-18, within the project area, the social groups such as Kami, Magar and Newar are reported to have the highest dependence on agriculture. On the other hand, wage earnings and foreign employment is primarily undertaken by the Indigenous groups of Tamang and Gurung. From the discussions with the local community, it is understood that post-earthquake, the dependence on agriculture has reduced, due to loss of access to and damage to

agricultural land; this will however slowly build up once people start going back to their villages and repair their land parcels, some of which are affected beyond any repair, while in other cases they can be worked upon. However, post-earthquake, there has been an increase in the dependence upon wage labour in construction sites and stone breaking.



Source: UT-1 Supplemental ESIA Appendix A, 2014 and LALRP HH Survey 2017 based on the responses given

**Figure B.1-18: Livelihood Profile of the Project Area and PAFs**

Amongst the PAFs surveyed for the LALRP, the primary source of livelihood is reported to be labour (45% of PAFs) and Masonry (9% of PAFs). This is followed by Agriculture (7% of PAFs) and remittance (5% of PAFs). The remaining sources of income represent less than 5% of the total PAFs. This is a significant shift in the livelihood profile, in comparison to the pre-earthquake scenario, where approximately 50% of the population reported a dependence upon agriculture as a source of income. The decrease can also be seen in terms of complete dependency on agriculture; in most cases, people have been forced to look out for other options.

Post-earthquake, the situation is still uncertain; while the first year after 2015 earthquake, NGOs came out with some sort of support mechanism, this has gradually reduced with help directed on housing, skill building, education, water supply and sanitation. According to the discussions with the PAFs during the LALRP formulation, in the post-earthquake scenario, the livelihood profile of the community is characterised by a larger variation and uncertainty associated with income sources. The survey conducted in April 2017 provides evidence of the livelihood shift in the community. Of the 129 PAFs, 74 reported to having difficulty in finding sources of livelihood. The people were forced to look for livelihood options after the NGO support started diminishing around a year.

The trainings conducted by NGOs provided some skills and cash based support, but the utilisation of trainings after withdrawal of NGO intervention did not take place. Only some people could translate the trainings provided in having gainful employment/ engagement, which is largely in case of occupations like Masonry. Since the period between January 2016 and April 2017 witnessed a lot of activity on reconstruction and rehabilitation front, thus there was a huge requirement of masons, which was fulfilled by these trained people. However, most of the PAFs involved in labour work, reported to be gainfully engaged for approx. 8-15 days in a month. This has also resulted in the PAFs diversifying their livelihood sources, with income from labour work, being supplemented by livestock/ poultry farming, agriculture, weaving, basket making and sale of homemade alcohol.

Furthermore, 28% of the PAFs surveyed during the LALRP, expressed the desire to return to the original settlements. Also, most of the remaining 72% PAFs, reside in IDP camps, on rented private land or government land. Thus, this livelihood profile and the present trends, is largely dependent upon the present residence of the population and are likely to change once again, if the population goes back to the original village or changes location of residence.

Also, while in the pre-earthquake scenario, most women were engaged in agricultural or livestock farming activities, presently a larger number of women are reported to be engaged in income generating activities, primarily stone breaking. This is understood to be resultant from the fact the loss of agricultural land and livestock holding. Women trained on tailoring, weaving and mat making could not continue with the same after withdrawal of NGO support. The people were trained with basic skills of tailoring and handicrafts, which equipped them enough to manage household needs. However, these trainings could not result in income generating activities because of the following reasons:

- Lack of advanced or specialist skills and the general interest in taking things forward without support;
- There was lack of finishing in the goods produced which restricted them being able to adequately sell in the market; and
- Lack of market linkage provided as part of the training.

Another shift in the post-earthquake scenario has been the increased burden on the younger population. This has resulted from the older generations (50 years and above) losing access to agricultural land and livestock holding and to not having any other skill training or physical

fitness to undertake wage labour. While in the pre-earthquake scenario, the elderly population could sustain themselves, by sustenance agriculture or taking care of the family's livestock holding, they are now forced to depend upon the younger generation for support. There are thus situations where the elders of the family are living in a separate household, in the IDP camp or original village, but are dependent completely upon their sons for maintenance and support in terms of provisions, food and medical care.

The following sub sections provide an understanding of the key sources of livelihood amongst the PAFs, namely wage labour, agricultural production, livestock holdings and foreign employment.

### *Wage-Based Labour*

As discussed previously, 7.3% of the population in the project area reported dependence on wage labour as a source of livelihood in the pre-earthquake scenario. However, there is a profound shift in the livelihood profile of the PAFs, from agriculture to wage based livelihoods. 54% of the PAFs reported undertaking wage labour and masonry as the source of livelihood during the LALRP updation survey. This wage labour is primarily daily wage labour and is comprised of both semi-skilled (masonry, plumbing, bag weaving etc.) and unskilled work (stone breaking, labour in shops). The people were trained on construction of houses (both mud and stone) by the NGOs under the "Food for Work" programme.

### *Stone Breaking*

A large number of members from the PAFs have reported to be engaged in stone breaking activities, as a primary or secondary source of income. A large number of unskilled women and aged people (above 50 years) are involved in stone breaking activities, earning an amount ranging from 250-500 NPR per day, being paid on a piece per rate basis. This activity is one of the most prominent sources of income because of its proximity to the IDP camps, especially near Farm Camp and Pradhikaran camp in Dhunche.

### *Agriculture*

In the pre-earthquake scenario, agriculture was reported to be one of the most important sources of livelihood in the community. The main crops grown in the area include paddy, buck wheat, pulses, oil seeds, maize, potato, corn, millets and vegetables. While crops such as paddy and maize are grown primarily for household consumption, crops such as potato and vegetables are grown both for household consumption and for sale in the market. The households owning irrigated land parcels (Khet) are understood to grow multiple crops (two or more) on their land. On the other hand, those households who own unirrigated land (Bari) primarily understood to grow a single crop, with certain households growing vegetables, pulses and potatoes on small scales. Most of the land parcels are reported to be unirrigated, and depending upon monsoons and rainfall for irrigation.

However, post the earthquake, and the damage to agricultural land, there is a marked shift from agriculture to other sources of livelihood. Another reason, for the shift away from agriculture, is the increased proximity of the PAPs to urban areas and consequently non-farm based livelihoods.

As discussed earlier, only 7% of the 129 PAFs surveyed during the LALRP reported a complete dependence on agriculture as a source of livelihood over the last 2 years. Also, these PAFs are reported to be undertaking agriculture solely for the purpose of self-consumption. The present agricultural practices are comprised of agriculture on rented land in the vicinity of the IDP camps and agriculture in Native villages.

### *Livestock Rearing*

The PAFs were understood to have considerable livestock holdings prior to the earthquake, which serves their needs of dairy products, eggs, meat, etc. Of these, the most common livestock holdings were poultry, followed by goats and cattle.

However, the earthquake resulted in deaths/ loss of livestock of the PAFs, leaving the families with no or lesser number of livestock. Furthermore, while most have tried to rebuild their livestock rearing, 75 PAFs (58% of total) report a reduction in the total number of livestock heads owned, while 4 PAFs (3% of total) reported to have same or increased livestock holdings. This is despite training and support being provided to PAFs by NGOs/ INGOs in poultry farming and boar farming as part of relief work post-earthquake.

Some of the reasons for the PAFs not restoring (OR not able to restore) their livestock holdings are as follows:

- Lack of monetary resources for purchasing and maintaining the livestock;
- Lack of space in IDP camps for keeping the livestock heads especially cattle;
- Lack of grazing land, for goats and cattle/bovine especially in Nuabesi, Bogetitar, Satbesi and Battar; and
- Reluctance by PAFs and community to keep larger number of livestock in IDP camps, due to issues such as bad odour and sanitation.

In the present scenario, the livestock holdings comprise of poultry, goats, cattle/bovine, and boars/ pigs. Of the PAFs surveyed, only 2 PAFs reported owning boars. While one household reported owning one boar, the other household reported to owning a pair.

### *Small Enterprises*

It has been understood from the consultations with PAFs from Haku Besi and PhoolBari that a lot have families were having small grocery shops, restaurants, tea shops, etc. in their original villages prior to earthquake.

Some people had also bought land in and around Dhunche and had set up small shops in the newly purchased land or land rented land being used for residence. These shops are reported to have comprised of meat shops, tea shops, grocery shops, etc. In this case, the prior experience of managing an enterprise and savings helped restart business enterprises in the new setting. It has also been observed and understood through consultations that new enterprises are also being set up in Nuabesi and Khalde camp areas, but the people venturing in this area for the first time

require some handholding support in terms of technical knowledge of managing an enterprise in order to run their venture profitably.

### *Migration to other Countries*

It was understood during the survey and the consultations undertaken in May, 2017, that a lot of young population of the community is increasingly getting interested in foreign employment. Consultations suggested that migration to other countries was existent earlier as well, but the number of people opting for and investing in this option is definitely on the rise with more people thinking around these options. Apart from this, many households also reported having family members, who had gone for wage labour to foreign countries for a few years, and had saved money and subsequently returned back to Nepal. The most common country for migration presently is China (Kerung and China-Nepal border) for short term, whereas Malaysia and middle-east countries are considered for long term opportunity (3 years). The most common nature of activity for migrant workers is as masons or labourers.

The primary objective of foreign employment is reported to be the savings from the salaries that can be brought to Nepal and put to productive uses like buying land, construction of house, buying assets like trucks, etc.

### **Trainings Provided by NGOs/Government in Project Area/Rasuwa District**

The influx of NGOs began right after the earthquake and the number was at its peak during that period. There have been developmental efforts in areas of provision of supplies, reconstruction, trainings, etc. during the period between May 2015 and May 2016 in the IDP camps; involving the local community in the project area.

The number of NGOs active in Rasuwa district during the first year was reportedly 200 (some of them directly on the ground while others through the local NGO partners) and it reduced to nearly 20-25 in the first quarter of the second year (2017), which also kept decreasing gradually.

The current activities in Rasuwa District are reported to the National Reconstruction Authority (NRA) in quarterly coordination meetings. During the consultations with NRA Project implementation Officer (PIO) in March, 2017, it was mentioned that currently, nearly 18 NGOs and INGOs involved in various interventions which revolve around livelihood, capacity building, house reconstruction, WASH, child care, education etc.

Some of the key NGOs and their area of interest are discussed subsequently. Most of the INGOs and national level prominent NGOs (like Parivartan Nepal), Bilateral and Multilateral agencies are operating in the Rasuwa district through selected local NGO partners who had a long standing presence and resources in the area.

**Table B.1-22: Key NGOs in Rasuwa According to Area of Interest**

NGO/INGO	Area of Interest
Build Change;	Housing Reconstruction
Lumanti; (with Parivartan Nepal)	Housing Reconstruction and livelihood restoration
Nepal Red Cross;	Housing Reconstruction
Batas Foundation;	Housing Reconstruction
Manekor.	Housing Reconstruction and livelihood restoration
Laccos	Livelihood Restoration

The key NGOs presently active in the IDP camps of Nuabesi and Batar include Manekor, LACCOS and Lumanti. Lumanti has also been undertaking livelihood restoration trainings in the IDP camps, in collaboration with Parivartan Nepal. Consultations with the NGOs suggested that most of these interventions related to livelihood support and training will be over in the period from June to October, 2017 and there is lack of clarity on further fund availability for these kinds of interventions.

In Dhunche area, where the PAFs of Haku Besi and Phool Bari are residing, not much intervention has been undertaken by above mentioned NGOs. The limited number of trainings provided to PAFs has been through Cottage and Small Industries Board.

*Mode of Operation of NGOs and Training Provided in IDP Camps*

Based on the consultations undertaken with the NGOs such as Manekor, Lumanti and LaCCos, it is understood that the NGOs have identified target areas as women’s group, men’s group and youth group. The specific skill training for each of the groups was identified keeping in mind the expectations, capacity and practical feasibility of each activity identified for each group.

Consultations undertaken with NGOs and later corroborated with people in the IDP camps suggested that following types of training were provided as enlisted in Table B.1-23.

**Table B.1-23: Livelihood Support by Main NGOs in Rasuwa District**

Target Group	Manekor	LaCCos	Parivartan Nepal
Men Focused	<ul style="list-style-type: none"> <li>• Tourism Capacity Building</li> <li>• Sherpa Training</li> <li>• Plumbing training</li> <li>• Electrician Training</li> <li>• First aid Veterinary training</li> </ul>	<ul style="list-style-type: none"> <li>• Training for Tomato farming</li> <li>• Driver training</li> <li>• Electrician training</li> <li>• Mobile repair training</li> <li>• Mechanic training</li> </ul>	<ul style="list-style-type: none"> <li>• Plumbing training</li> <li>• Electrician Training</li> </ul>
Women Focused	<ul style="list-style-type: none"> <li>• Machines for Spice grinders</li> <li>• Tailoring training</li> <li>• Sewing Machines</li> </ul>		<ul style="list-style-type: none"> <li>• Daka making training</li> </ul>

Target Group	Manekor	LaCCos	Parivartan Nepal
Men and Women Focused	<ul style="list-style-type: none"> <li>Bakery and Cooking Training</li> <li>Infrastructure support</li> <li>Water Sanitation and Hygiene training</li> <li>Seed capital for enterprises</li> <li>Farming equipment</li> <li>Ground apple cultivation</li> <li>Coffee machines for tourist lodges</li> <li>Boar Farming</li> </ul>	<ul style="list-style-type: none"> <li>Livelihood Promotion Programme</li> <li>Local Governance Community Development Programme</li> <li>Sustainable Action for Food Security and Resilience Programme</li> </ul>	<ul style="list-style-type: none"> <li>Poultry farming training</li> <li>Vegetable farming training</li> <li>Boar farming training</li> <li>Seed capital for poultry and boar farming</li> <li>Soap making training</li> </ul>
Other support	<ul style="list-style-type: none"> <li>Provision of Accommodation and travel for those attending training</li> <li>Drinking Water provision for impacted villages</li> <li>Establishment of user committees</li> <li>Market linkages</li> </ul>	<ul style="list-style-type: none"> <li>Financial Assistance immediately post-earthquake</li> <li>Irrigation and water systems</li> <li>Construction of training centre</li> <li>Market place for vegetables and other produce</li> <li>Water Supply to local schools</li> </ul>	<ul style="list-style-type: none"> <li>Reconstruction Assistance to NRA</li> </ul>
Funding Support	<ul style="list-style-type: none"> <li>UNDP</li> <li>DfID</li> <li>LWF</li> <li>Save the Children</li> </ul>	<ul style="list-style-type: none"> <li>USAID</li> </ul>	NA

Source: Limited consultations with NGO

The NGOs have undertaken the livelihood trainings in order to train the people in their areas of operation in Rasuwa district on certain skills on basic level, such that it could prove as an entry point of livelihood activities for people, who needed initial thrust to move out of the stalemate developed due to earthquake. The Table B.1-24 provides an understanding of the manner in which Parivartan Nepal provided various trainings for people residing in Nuabesi camp.

**Table B.1-24: Details of Training (Earthquake-Affected Families Residing in Naubise Camp)**

Training	Number of People per Batch	Duration per batch	Support Provided to beneficiaries through Parivartan Nepal
Poultry Farming	No batch size limitation	7 days	<ul style="list-style-type: none"> <li>Accommodation</li> <li>Meals</li> <li>Travel Allowance based on the following:                             <ul style="list-style-type: none"> <li>1 hour of walking: NPR 100</li> <li>Bus travel: ticket refund</li> </ul> </li> </ul>
Vegetable Farming	No batch size limitation	7 days	
Driving	~20	21 days	
Plumbing	~20-25	390 hours/ 65 days	
Masonry	~25	7 days	
Electrician	~20	390 hours/ 65 days	
Daka Making	~20-25	390 hours/ 65 days	

Note: Consultations with PAFs in Nuabesi IDP camp

The NGOs have been very active in areas near Nuabesi, Bogetitar, Satbise and Battar, where one or more people from each PAF have been reported to have attended one or more skill trainings. However, the scenario in Dhunche is remarkably different where skill trainings have not been received by a considerable number of PAFs.

#### *Effectiveness of Training Programmes*

The discussions with the local community on the trainings have helped in understanding their takeaways from the training and the challenges in fully utilising the learning which are enlisted below:

- A lot of households in the IDP camps (except Battar and Satbise) have received one or more livelihood trainings;
- The number and range of trainings by NGOs was larger in Nuabesi and Bogetitar areas, as compared to Dhunche;
- Most of the training is on basic skills, which were scaled up and utilised for their benefits by certain people and could not prove helpful for many others; In certain cases the training was useful for the people who had existing skills in that particular area such as masonry;
- Some of the people trained on masonry skills have reported to be trained on construction earthquake resistant houses, which they think is an essential skill in Nepal;
- The people who got trained as carpenters reported that the training has been essential for building a new skill, but the demand of this skill is not in profusion and hence earnings are irregular.
- People having received masonry, plumbing, and electrician trainings have been able to gain some employment in the nearby areas and to a very limited extent in urban centres; however there is not much opportunity in the District itself. Masonry demand was there as a lot of reconstruction work was being undertaken; and
- Women of some families have engaged in small collective vegetable gardens to meet their daily family requirements. The seeds are provided the NGOs and the entire operation is also presently regulated by NGO representatives. However, the independent functionality and success of these groups will be understood, after the NGO support will be withdrawn.

#### *Key Learnings from Training Outcomes Provided by NGOs Post-Earthquake (2015)*

It has been understood from the consultations and focus group discussions that not everyone has been able to utilise their trainings in livelihood / income generating opportunities. The reasons for this varied across the trainings, depending upon the skill set in question.

It has been understood from the consultations and focus group discussions that not everyone has been able to utilise their trainings in livelihood / income generating opportunities. The reasons for this varied across the trainings, depending upon the skill set in question. The understanding of some of the general reasons identified for the trainings being unsuccessful is as follows:

- Apparent lack of willingness of individuals to pursue regular employment;

- There are certain people who attended training just for the sake of being engaged and to earn money being paid to attend trainings;
- A large part of the community people don't want females to go out and work in case of less wages;
- People have limited understanding and awareness on scope and possibilities of employment and need elongated period of hand holding;
- People tried initially, though stopped once they did not get desired outcome in terms of financial gains.
- In some PAFs, the people are engaged in foreign employment, which fetches comfortable money which is required for sustenance. The family members of such families are less interested in making an effort even after receiving trainings.

The following table provides an understanding of some of the reasons identified for the specific trainings being unsuccessful or not yielding intended results.

**Table B.1-25: Reasons for Skill Training not being Successful**

S. No	Type of Training	Reasons for not being successful
1.	Poultry	While some of the PAFs could gainfully utilise their poultry training after withdrawal of NGO support, a large number of people trained on skills to manage poultry could not take it forward successfully because of the following: <ul style="list-style-type: none"> <li>• Limited space for poultry farm near camps;</li> <li>• Lack of proper understanding of potential diseases and requirement for vaccinations</li> <li>• Availability of resources such as electricity and water supply, which are critical for the proper growth of the chicks;</li> </ul>
2.	Tailoring and Handicrafts	The people were trained with basic skills of tailoring and handicrafts, which equipped them enough to manage household needs. However, the reasons it did not result in income generating activities are: <ul style="list-style-type: none"> <li>• Lack of advanced or specialist skills and the general interest in taking things forward without support;</li> <li>• There was lack of finishing in the goods produced which restricted them being able to adequately sell in the market.</li> <li>• Lack of market linkage provided as part of the training;</li> </ul>
3.	Masonry	There is saturation of skills in market. With majority people trained on masonry skills the supply has outgrown demand in the area;
4.	General Issues	<ul style="list-style-type: none"> <li>• Apparent lack of willingness of individuals to pursue regular employment;</li> <li>• There are certain people who attended training just for the sake of being engaged and to earn money being paid to attend trainings;</li> <li>• A large part of the community people don't want females to go out and work in case of less wages;</li> <li>• People have limited understanding and awareness on scope and possibilities of employment and need elongated period of hand holding;</li> <li>• In some PAFs, the people are engaged in foreign employment, which fetches comfortable money which is required for sustenance.</li> </ul>

*Key Learnings from NBGOs Working with Groups*

The initial assessments undertaken by the NGOs on each target group helped them in identification of behavioural patterns and expectations of each group (enlisted in Table B.1-26).

**Table B.1-26: Characteristics and Expectation of Target Groups**

<b>Target Groups</b>	<b>Characteristics</b>
Women’s Groups	<ul style="list-style-type: none"> <li>• The members of which engage in different activities like handicraft, hotels, business enterprise, poultry, etc.; hence there is not much competition;</li> <li>• Expects clear communication and transparency in terms of support provided, timelines of various activities;</li> <li>• Want clarity in the group selection criteria;</li> <li>• Good field agent is critical for successful intervention with this group.</li> </ul>
Men’s Group (25-40 years)	<ul style="list-style-type: none"> <li>• They are the main breadwinners of the family and hence tend to turn self-centred when opportunity comes, especially in the given scenario, where the source of income are less;</li> <li>• A considerable proportion of this group is illiterate and hence less aware;</li> <li>• The educated and financially comfortable individuals take responsibility for the group at large and emerge as opinion leaders and decision makers for the group;</li> <li>• This group has an inclination towards working as construction labourers /masons as it is considered as a masculine activity;</li> <li>• The illiterate members of this group are apprehensive of working/ attending trainings in groups, especially with literate folks.</li> </ul>
Youth Group (17-25 years)	<ul style="list-style-type: none"> <li>• Energetic and quick learners;</li> <li>• Clear decision making and thought process;</li> <li>• Involvement in the development and welfare of the community;</li> <li>• Open to working in groups</li> <li>• Interested in conducting adult literacy classes for the community</li> </ul>

Note: NWEDC will use this information for preparation of the EST to meet the requirements under PDA.

**1.11.3.3. Planning for Employment and Skill Training**

**Expected Labour Force Requirements over the Project Live Cycle**

The following table presents a mapping of the labour/workforce requirement for the project. This shall include Nepali and Non- Nepali workforce requirements for NWEDC as well as its Major Contractors.

**Table B.1-27: Labour Requirements**

Sr. No.	Category of Manpower	Minimum Educational Qualifications	Technical Skills / Competence Certificate Desired (if any, please specify)	No. of Years of Experience Desired (if any, please specify)	Nos. Required in 2017				Nos. Required in 2018				Nos. Required in 2019				Nos. Required in 2020				Nos. Required in 2021				Nos. Required in 2022			
					1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q
<b>Skilled</b>																												
1.	Driller																											
2.	Blaster																											
3.	Welder																											
4.	Heavy Eq. Operator																											
5.	Plant Operator																											
6.	Foreman																											
7.	Fitter																											
8.	Plumber																											
9.	Carpenter																											
10.	Electrician																											
11.	Technician																											
12.	Supervisor																											
13.	Mason																											
14.	Security Head																											
15.	Others (Please Specify in separate rows)																											
<b>Semi-Skilled</b>																												
16.	Account Helper																											
17.	Stores Helper																											
18.	HR & Admin Helper																											
19.	Cook																											
20.	Asst. Welder																											
21.	Asst. Foreman																											
22.	Wiremen																											
23.	Others (Please Specify in separate rows)																											
<b>Unskilled</b>																												
24.	Office Attendant																											
25.	Survey Helper																											
26.	Quality Helper																											
27.	HSE Helper																											
28.	E&M Helper																											
29.	Geologist Helper																											
30.	Cook Helper																											
31.	Service Boy																											

Sr. No.	Category of Manpower	Minimum Educational Qualifications	Technical Skills / Competence Certificate Desired (if any, please specify)	No. of Years of Experience Desired (if any, please specify)	Nos. Required in 2017				Nos. Required in 2018				Nos. Required in 2019				Nos. Required in 2020				Nos. Required in 2021				Nos. Required in 2022			
					1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q
32.	Cleaning Boy																											
33.	Pantry Helper																											
34.	Helper/Labour																											
35.	Security Guard																											
36.	Others (Please Specify in separate rows)																											

Note:

- Such a mapping exercise shall be undertaken based on discussions with its project team, contractors and sub-contractors to obtain an overview of the required laborers in terms of skill level.
- This will be done for each phase of the Project, and opportunities to include local labor will be identified.

## Expected Opportunities for Employment and Skill Development

On the basis of the workforce requirement, NWEDC will identify the expected opportunities for employment and skill development at local levels.

### *Existing Expectations*

One of the main expectations of the local community is that they receive opportunities for livelihoods and income generation from the project;

- This may be in the form of direct or contractual employment.
- Most of the community reported to looking for employment as security guards and housekeeping staff in the project.
- One of the key expectations is do with the driving training which is locally considered to be a better opportunity for employment in the long run; this can be supported with mechanic training as one of the other options.
- In terms of skill development the community’s expectations primarily pertain to enhancement of the existing skill level, and allowing a larger proportion of the community to develop skills that are useful for income generation.

NWEDC shall further strengthen the understanding of local community’s expectations during the skill mapping exercise.

### *Existing Skill Mapping*

Thus as can be seen from the above discussion, there is an existing skill set in the local community which may be of use for the project. In summary, the following aspects should be kept in mind of the existing skill set in the community:

**Table B.1-28: Skill set Overview Pre & Post Earthquake (April 2015)**

Timeline	Skillset
Skill set in pre-earthquake scenario:	<ul style="list-style-type: none"> <li>• In the pre-earthquake scenario, the local community was primarily dependent upon agriculture and livestock farming for livelihood purposes;</li> <li>• The education and literacy levels in the local community were generally low due to a lack of access to infrastructure;</li> <li>• There were a few of the youth in the local community who were engaged in foreign employment, but these were limited to only a few households;</li> <li>• Business, small enterprise, wage labour was limited to a selected segment in the affected villages.</li> </ul>

Timeline	Skillset
Skill set in post-earthquake scenario	<ul style="list-style-type: none"> <li>• A number of NGOs/INGOs entered in the area in the post-earthquake for providing relief support to the local community</li> <li>• As a result of the trainings provided, the overall skill level in the community improved</li> <li>• However, most of the skill level in the community is still basic and preliminary. This is primarily because the trainings provided by NGOs were basic for a short duration and primarily aimed at allowing the community to stabilize their living conditions post-earthquake and cater to the needs in the local area</li> <li>• The overall literacy level is also understood to be improving as the community has increased access to schools and improved infrastructure</li> <li>• The number of young members of the community seeking foreign employment has also increased</li> </ul>

Consultations indicate that in general, the young population usually don't continue education after SSC level; no one reported university level in the recent survey for LALRP. The priority for the people is to get such skillset which will allow them to find jobs in Nepal and other countries. Certain skills are more in demand in these countries; for Women- housekeeping, packing etc. while for men it is driving, mechanic, electrical etc.

Note: While doing so NWEDC will look at the existing expectations as well as the existing skill levels in the community. This information can be used to assess the workforce requirements that can be met from the local community and district:

- Without any additional training;
- With some additional training.

This will also take into consideration additional employment generation or business opportunity that will be required to support the Project.

Once the skill training requirement for employing the locals is identified, NWEDC will need to identify the agencies (NGOs/ Government agencies/ Technical agencies/ Universities/ Training institutes etc.) which can help in providing training to the locals.

This will be done based on the following (but should not be limited to):

- Review of the information available with the government, in terms of the following:
  - Number of registered agencies, per resource requirement
  - Details of training and certification programmes available with the government
  - Details of training programs by NGOs/INGOs/Universities and other agencies (if available)
- Consultations with stakeholders, including:
  - Government departments
  - NGOs/Agencies working in the field of entrepreneurship development
  - Representative of contractors/ suppliers and vendors, large; medium and small scale

As part of this process, a mapping will also be done of the existing initiatives for skill enhancement by other stakeholders, such as government agencies and other projects in the district. The Company will then be in a position to assess the skills background of the locals and finalise the trainings required, number of labours to be employed and budget needed.

#### *Other Expected Opportunities in the Area for Employment and Skill Development*

The Rasuwa district is expected to have a lot of opportunities for employment and entrepreneurship ventures in the coming years. This is primarily attributed to the development of other hydropower projects being developed in the district as well as the One Border One Road initiative.

Note: As part of this Section, NWEDC will undertake a broad level mapping of the potential employment and skill development opportunities outside the project in the area.

- This may be done through consultations with the government departments and other projects being set up.
- This mapping will in turn allow for the project to identify other opportunities for employment of local community.
- This will also allow for specific skill sets to be identified which may be in demand in the near future for training purposes.

NGOs with previous experience of working with communities on livelihood restoration in the district and elsewhere in Nepal will serve a good resource to identify opportunities outside Project area.

#### **NWEDC and Major Contractors: Measures to Recruit and Train Workers**

In keeping with the requirement of manpower thus identified, a detailed plan shall be formulated for each year/phase of the project, to allow maximum locals to be engaged.

The company will develop a plan to be followed for recruitment of the locals during the development of the project. The plan will be at two levels, the macro level (for the entire project lifecycle) and the micro level (an annual plan). The various recruitment methods which will be considered include:

- Direct recruitment of locals;
- Recruitment through local agencies;
- Recruitment with NGOs and other welfare groups.

The process will include the following steps:

- Development of a selection criteria;
- Short-listing of agency/NGO for recruitment;
- Method of approaching the local community;
- Contract terms and conditions, if any;

As far as practicable, the Company shall attempt to transfer the skills of skilled and semi-skilled foreign personnel to Nepalese counterparts during the course of Project implementation. However, the transfer of skill set would depend on the existing skill levels.

## **Development of Employable Skills and Human Resources**

### *Vocational and Livelihood Training to Locals*

The Company will also look into the feasibility of providing livelihood training to the locals to improve the economic conditions of the area. These may include the following types of training or support:

- Vocational training to the locals;
- Assistance to farmers;
- Forest conservation activities;
- Training to women in the area;
- Provision of apprenticeship programs; and
- Improvement of education facilities in the area.

Each of these trainings will be accompanied with a market linkage training, to allow for maximum benefit to be accrued from the training.

The provision of such livelihood trainings will focus on possible training opportunity in:

- The area- specific farm (agriculture, animal husbandry);
- Small orchards and other farm based allied activities) and non-farm linked training;
- Productivity improvement (knowledge transfer); and
- self-employment program

Women consultations suggest that women are interested in such activities and have experience. Consultations with local NGOs like Manekar suggest that in past similar experiments have not succeeded such as agarbatti (incense sticks) making as cost of production was too high and not competitive. Some areas are quite remote and market access is a problem. In another case of improved potato farming intervention, over production and lack of access to market and storage facilities resulted in farmers not making enough profit which further dampened the spirit of the farmers. The Project access road may change this- and provide market connectivity. Too much training for stuff like Shama weaving may overcrowd the market for women who have already been trained. Therefore, new trainings need to be identified based on these learnings.

Any such interventions will need to identify proper market linkage, and will require specific NGOs/ Institutions with past experience. Self-development activities could be piggery, poultry etc. however learning from the intervention made by NGOs post-earthquake will be important to understand the reason for success/ failure of such interventions. Risk appetite of the people especially after the earthquake should be an important consideration.

The One Border One Road initiative market linkage is likely to expose them to other market opportunities which may exist.

Note: Some of the key aspects which will be kept in mind while preparing the plan are as follows:

- For business and entrepreneurship training, preferably individuals or households with a high risk appetite will be identified;
- While formulating a plan for each training, care will be taken to not saturate the market with a particular skill such as Shama making. For this purpose, multiple trainings should be identified, with the total number of individuals trained in each limited to a number which is agreed with the GoN.
- Some training which will be considered include those pertaining to the tourism sector, such as housekeeping and running restaurants, running inns and home stays, Tamang trails etc.
- While identifying any training, focus/ priority will be given to those trainings which will allow for jobs to be found within the country and then in foreign countries.

#### *Training in Course of Employment*

Depending on the project phase and activities, the Company will provide the following types of trainings to the local labourers:

- Induction training;
- General H&S training;
- Vocational training to workers and locals;
- Specific on-the-job training;
- Firefighting and mock drill training; and
- Operation and maintenance training.

The company will appoint staff responsible for the implementation of the trainings to the identified locals. Additionally, training materials, schedule and budget will also be developed for each of the training sessions.

The company and GoN will jointly decide the frequency of the trainings and any other additional requirements.

#### *Training Schedule*

Training schedule will be developed by NWEDC which will include details regarding the type of training, batch per training, frequency, and staff to be trained.

#### **1.11.3.4. Implementation**

This section will provide an understanding of the overall implementation mechanism for the ESTP thus formulated, in keeping with the specific plans put in place.

Note: NWEDC shall formulate this implementation mechanism based on the specific requirements of the plan, the resources available and the requirements of the GoN.

### **Organisational Structure**

The NWEDC and GON, as per section 11.3.2 (of the project development agreement) jointly prepare the ESTP to be implemented within 12 months from the Agreement Date in accordance with Schedule 12 of the PDA.

The implementation of the ESTP thus formulated shall be undertaken by the ESMC of the project.

NWEDC will put in place a team with clear cut roles and responsibilities for the implementation of the detailed plan. This section (and sub sections) will provide an understanding the team and the manner in which they will be involved in the implementation. Some key things to be kept in mind and questions which will be answered as part of this section are as follows:

- NWEDC's role and
- Role of HR Personnel
- Role of CSR Personnel
- Possible implementation partner
- GoN's role
- The role of third parties (if any)
- Roles and responsibilities for each stakeholder

### **Implementing Partners**

For the purpose of implementing specific trainings identified, NWEDC shall associate with external third party experts, who have experience in the field and the geographical area. Cottage & Small Industries Training department is one of the key departments which has customised training calendar for different skills. It not only conducts training on its own, but also helps NGOs to conduct training, identify resource person, has dedicated infrastructure for conducting training. There are some specific vocational training institutes in Kathmandu which provide vocational training. NWEDC is already in talks with some of them.

For this purpose, NWEDC will also undertake consultations with the CDO and NRA, for an understanding of the organizations active in the area.

As part of this section, NWEDC will identify NGOs/INGOs and government department/agencies who shall be involved in the implementation of the plan thus formulated. Some of the key agencies identified include Manekor, Parivartan Nepal, Cottage Industries department, veterinary department, horticulture department etc. Company will build on such networks and allow for opportunities to be created for knowledge transfer.

### **Interlinkage with other Plans**

The ESTP thus formulated are part of a larger social impact management framework for the project and shall be implemented in coordination with the other management plans such as the following (but not limited to):

- LBSP
- Stakeholder Engagement Plan
- Livelihood Restoration Plan
- Grievance Redressal Mechanism
- Labour influx management plan

Note: This section will provide a brief description about the effectiveness of the institution/implementation agency for planning, management, monitoring and delivery of the plan.

This will also include suggestions for workable linkages with other programs/projects (government-run; multi/bi-lateral agency sponsored).

### **Schedule for Implementation**

This section provides an understanding of the schedule of implementation of the plan thus formulated.

NWEDC will put in place a schedule for implementation of the ESTP, in discussion with GoN. This schedule will provide an itemized timeline for each step of the implementation process

#### ***1.11.3.5. Engagement Strategy***

An essential component of the implementation of the ESTP is the engagement with the local community and other external stakeholders.

This section will provide the Engagement strategy for the ESTP. The strategy will be specifically to explain the key needs and sensitivities viz communities, government stakeholders and the EST plan.

Although this will be in line with the overall stakeholder engagement activities of LALRP /ESIA and other plans formulated, it will describe how to position EST actions and address a larger audience (3 VDCs and beyond). The engagement strategy will include the following:

- Aim, objectives of ESTP;
- Coverage, potential beneficiaries and thematic areas;

- Phased approach, timelines and outcomes;
- Grievance management (as per EIA/ESIA/LALRP); &
- Feedback, documentation, communication, multi-media.

#### ***1.11.3.6. Monitoring and Review Mechanism***

The Employment and Skills Training Plan will serve as a macro plan that will be constantly reviewed and updated on annual basis, throughout the project lifecycle. Micro plans will be developed, that will comply with the major principles identified, and are ready for implementation during the project activities.

- Schedule with milestones and tracking of delays;
- Responsibilities of NWEDC, GoN, implementation partners and any third party involvement for monitoring purposes;
- Provision for internal and external monitoring;
- Frequency of monitoring and review;
- The KPIs for internal and external monitoring;
- Process of reviewing and updating the ESTP based on the findings of the monitoring reports;
- Overlaps and integration with project and other reporting timelines (LALRP etc.); &
- Systems and institutional linkages for feedback and mid-course correction.

#### ***1.11.3.7. Budget***

NWEDC will ensure that adequate budget is allotted for the implementation of the ESTP.

This section will provide an itemized budget for each step in the implementation of the ESTP.

#### ***1.11.3.8. Reporting and Documentation***

As per the agreement, NWEDC shall submit annual reports, GON describing in detail the activities undertaken under the Plan, the amounts spent on such activities and impact evaluation of such activities.

Other documents which will be maintained during the plan implemented will include, but not be limited to, the following:

- Meeting minutes during the supply and demand mapping consultations;
- Training records;
- Records of human resources involved in the project and the number of locals employed;
- The number of locals supported with other employment opportunities and trainings; and
- Any complaints or grievances obtained.

Person in charge for maintaining documents will be appointed by the Project team.

As part of the detailed plan, a reporting mechanism will be put in place, in consultation with the GoN, which will provide an understanding of the following:

- Requirement for internal and external reporting;
- Frequency of reporting;
- Format- report, presentation, verbal discussion etc.

Person in charge for maintaining documents will be appointed by the Project team.

#### **1.11.4. Industrial Benefit Sharing Plan**

This section will present the Industrial Benefit Sharing Plan (IBSP) developed for the project. This plan will be focused only on the procurement of materials and goods from the locals and shall not specify requirements for any skills and employment training to be imparted. Requirements of the same are detailed in the Skills and Employment Development Plan.

As per PDA, (Section 11.9) - Use of Nepali resources; training and development:

The Company shall, and shall procure that its Contractors and Representative shall, in connection with the conduct of the Project:

- 11.9.1 *maximise the use of Nepali resources and give first consideration and full and fair opportunity to technically and commercially qualified Nepalese citizens and firms provided that in each case, the use of such Nepali resources meet the quality, quantity and availability requirements of the Company and provided further that use of such resources does not have a material and adverse impact on the costs and the timelines for the Project;*
- 11.9.2 *ensure that its Nepal Industrial Benefits Plan provides for an outreach programme under which the Company engages with Nepali suppliers for Project-related opportunities;*
- 11.9.3 *comply with the Laws of Nepal including the Labour Act, 2048 and Labour Regulation, 2050;*
- 11.9.5 *conduct employee training programmes from time to time, including training in each of the skills used in the Project, including management training;*
- 11.9.6 *comply with the Nepal Employment and Skills Training Plan, Nepal Industrial Benefits Plan and Local Benefit Sharing Plan and ensure that appropriate programmes are designed to assist suitable Nepali citizens, entities, and firms to meet the Project's requirements for goods and services;*
- 11.9.7 *shall (to the extent applicable) submit reports every six (6) months to GON for the first three (3) years of the Construction Period and every twelve (12) months thereafter, describing in detail (A) its employee training programmes, (B) the implementation of such training programmes, (C) the progress made towards meeting the objectives set forth in this Section 11.9 (Use of Nepali resources; training and development) the Nepal Employment and Skills Training Plan, Nepal Industrial Benefits Plan and Local Benefit Sharing Plan.*

#### ***1.11.4.1. Objective of the IBSP***

The IBSP has been formulated in keeping with the requirements of the PDA signed on 29th December 2016. The plan has been developed by NWEDC and GoN & GoN nominated agencies. The plan, to be implemented jointly by GoN and the Company has the following objectives:

- Ensure full and fair opportunity of access for Nepal-based suppliers of goods and services to participate in the development of the Project;
- Help in promoting a vibrant, growing, competitive supplier base within Nepal that over the time shall meet higher value-added requirements for goods and services for the Project;
- Encourage initiatives for joint venture and quality improvement measures that shall enhance the ability of Nepal-based suppliers to compete domestically and internationally; and
- Promote safe and healthy working conditions among suppliers of goods and services to the Company and the Project.

The objectives of the Plan will be discussed with GoN and any changes in the objectives will be made accordingly.

#### ***1.11.4.2. Resource Requirements for the Project***

Since there are immediate service requirements and early construction, preliminary Nepal Industrial Benefits Plans shall consider the availability of engineering, legal, planning, consulting and construction services, while the detailed design phase shall enable more precision on the specific requirements for goods and services and their timing that would enable Nepal-based suppliers to be accommodated.

NWEDC will undertake a mapping of the requirement of resource through the project lifecycle, in terms of the specific resource required and any quality and size specifications (Itemisation and quantification of goods and services required over the Hydro Property life cycle).

The following table provides an example of the output which will be presented. This will be done for each phase of the Project, and opportunities to include local population will be identified.

This information should be broadly shared with potential suppliers well in advance to enable them to compete on a full and fair basis. This information could be just shared capturing the basic/ broad requirement. Detailed information will be shared at later stages when specifics are available.

**Table B.1-29: Resource Requirements**

Sr. No.	Category of Resource	Quality Specifications	Nos. Required in 2017				Nos. Required in 2018				Nos. Required in 2019				Nos. Required in 2020				Nos. Required in 2021				Nos. Required in 2022				
			1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	
1.	Water																										
2.	Fossil Fuel																										
3.	Cement																										
4.	Gravel																										
5.	Office Stationery																										
6.	Housekeeping supplies																										
7.	Furniture																										
8.	Computers																										
9.	Printers																										
10.	Four Wheelers																										
11.	Bulbs																										
12.	Tube lights																										
13.	Construction equipment																										
14.	Labour and Manpower																										
15.	Others....																										
16.	Others....																										
17.	Others....																										
18.	Others....																										
19.	Others....																										
20.	Others....																										
21.	Others....																										
22.	Others....																										
23.	Others....																										
24.	Others....																										

Note: The above table provides certain examples of the resources which will be considered and mapped. NWEDC will undertake a detailed mapping exercise, based on discussions with various departments involved in the construction and post-construction activities. This mapping will be undertaken for various stages of the project including:

- Pre-construction and design;
- Early construction;
- Construction;
- Commissioning, (if any specific resource is required);
- Operations; and
- Decommissioning.

#### ***1.11.4.3. Vendor Strategy and Procurement Principles***

This section will put in place the key principles and policy points which shall guide the process of industrial benefit sharing for the entire life cycle of the project.

Some of the key principles include the following (but shall not be limited to):

- The procurement process shall ensure full and fair opportunity of access for Nepal-based suppliers of goods and services to participate in the development of the Project;
- The procurement process shall be undertaken in a manner so as to encourage initiatives for joint venture and quality improvement measures that shall enhance the ability of Nepal-based suppliers to compete domestically and internationally; and
- While procuring locally, promote safe and healthy working conditions among suppliers of goods and services to the Company and the Project.

Note: NWEDC shall identify all the principles which shall govern the IBP.

#### ***1.11.4.4. Procurement Plan***

Based on the principles identified, NWEDC will put in place a procurement plan for the project. The procurement plan will be aimed at allowing for the utilization of the existing resources while also enabling the development of new skills and capacities. The key steps in the procurement plan are discussed below.

#### **Mapping of Nepal-Based Suppliers**

While there should be some existing information on the suppliers through some government directory or exchange. This mapping shall include the movable and immovable goods resource requirements. The workforce required for the project shall be covered in the ESTP formulated for the project.

This mapping shall provide an understanding of the following:

- The present organizations which have the existing capacity of serving as contractors and suppliers for the project, in terms of manpower, quality control, availability of raw material, resources to meet the timelines, legal compliances etc.;
- The present organizations which may not have the existing capacity, but can be given trainings and hand holding support to allow them to serve as contractors and suppliers for the project;
- The smaller organizations who can serve as subcontractors to the main contractors for the project.

### **Registration Process**

As part of the procurement plan, NWEDC will formulate a registration process for the project. This registration process may be in the form of hard copy forms to be filled out or an online registration process.

The basic information which would be required for registration purposes, such as (but not limited to):

- Registered Name
- Know Your Customers (KYC) Documents
- Resource/ Material(s) to be supplied
- Certifications and registrations required for the material identified;
- Past experiences;
- Contact Information
- Present capacity;

A vendor or supplier may register for multiple products as well.

Note: In case an online registration process is identified, handholding support may be considered for those who are not adequately trained in computers. Alternatively, the project may consider simultaneously providing an offline registration option for such vendors. The information should be provided through mass mediums like local TV channels, local popular newspapers etc.

### **Timely Disclosure of Information**

Early interaction with Nepal-based suppliers, both existing and potential, is strongly encouraged by GON. All Project phases shall be addressed in procurement plans to afford opportunities for Nepal-based suppliers for goods and services.

NWEDC understands that timely information sharing, enough time to respond and ease of access to communication will be some of the key measures that NWEDC to help enhance local supplier prospects of business success.

NWEDC may consider having an online portal system for early notification for vendor opportunities (it should be matched with newspaper notifications too).

- A critical component of the procurement plan will be the timely disclosure of information pertaining to available opportunities.
- As part of this disclosure, the project will provide information pertaining to the timing, quantity and quality of resource requirements for the project. This would then allow for the vendors to bid for the project.
- The disclosure process to be followed is to be in keeping with the principles identified in the Stakeholder Engagement Plan for the project.

Note: This could be supplemented by NWEDC interaction (in the form of workshop) with key domestic suppliers to help them understand the timing, quantity and quality requirements for goods and services.

### **Vendor Selection Process**

Once the registration process is complete, a short list of qualified vendors will be formulated and maintained in a project database. These vendors and suppliers will then be provided with opportunities for providing services for the project.

Note: As part of this section, NWEDC will identify certain basic parameters for the selection of vendors.

Opportunity will also be provided after giving the disqualified vendors an opportunity to improve with clear feedback on opportunity for improvement.

### **Vendor Proposal Selection**

Based on the information disclosure, the short listed vendors will be identified to submit proposals for each resource requirement. These proposals will then be accessed in terms of the project's quality, cost and EHS requirements.

NWEDC will also take extra efforts for proper structuring of procurement packages at a scale to encourage domestic supplier participation, where possible; this is to ensure that local vendors do not lose out on the opportunity because of the sheer scale of the contract package.

For this purpose, the project may consider develop a marking system with each criterion carrying certain weightage.

- If such a system is developed, the local firms will be given an additional bonus score, to promote local industrial skill development.
- The vendor with the highest score overall will be invited for final negotiations or for providing services.
- The procurement packages formulated will also allow for the local vendors to participate.
- The disqualified vendors at this stage will also be given clear feedback on the gaps or the reason for non-selection to ensure better performance during next bidding process. This

mechanism will be aimed at providing constructive feedback to the vendors and assist in improving their performance.

### **Capacity Building and Support Activities**

It is understood, that initially it is possible that few local vendors and suppliers may qualify, due to lack of present capacity. Efforts will be made to support GON initiatives for domestic supplier development activities to enhance upgrading of capabilities and product and services quality and competitiveness.

- In keeping with this, NWEDC will undertake capacity building activities with local vendors. The primary purpose of this capacity building will be to allow for the improvement of local supplier's prospects of business success.
- Efforts will be made at every stage to ensure that local vendors and supplier's capacity are built up.
- NWEDC will also put in efforts at encouraging joint ventures between local and foreign suppliers to enhance knowhow transfer;

The target group for these capacity building activities shall be:

- Small and medium size vendors, who wish to increase their productivity;
- Vendors who at the outset do not qualify, but wish to improve their performance and capacity;

Some of the key areas of focus for capacity building have been identified below. NWEDC will, in consultation with GoN, finalize and put in place a plan for the same.

- Workshop/ Induction Training;
- Job-specific On-site training;
- Cluster Development;
- HSE Training;
- Joint Ventures;
- Bank Linkages;

#### ***1.11.4.5. Implementation***

##### **Organisation Structure**

The NWEDC and GON, as per section 11.3.2 (of the project development agreement) jointly prepare the IBP to be implemented within 12 months from the Agreement Date in accordance with this Schedule

NWEDC will put in place a team with clear cut roles and responsibilities for the implementation of the detailed plan. This section (and sub sections) will provide an understanding the team and

the manner in which they will be involved in the implementation. Some key things to be kept in mind and questions which will be answered as part of this section are as follows:

1. NWEDC's role
2. GoN's role
3. Industrial Benefits Officer
4. Local communication officer

The roles and responsibilities for each stakeholder will be clearly specified.

#### *Industrial Benefits Officer*

As a part of the PDA requirements, NWEDC will appoint an Industrial benefits officer, who shall work with domestic suppliers on opportunities to meet mutual needs.

#### **Interlinkage with other Plans**

The benefit sharing plans thus formulated are part of a larger social impact management framework for the project and shall be implemented in coordination with the other management plans such as the following (but not limited to):

- LBSP
- ESTP
- Stakeholder Engagement Plan
- Livelihood Restoration Plan
- Grievance Redressal Mechanism
- Labour influx management plan

Note: This section will provide a brief description about the effectiveness of the institution/implementation agency for planning, management, monitoring and delivery of the plan.

This will also include suggestions for workable linkages with other programs/projects (government-run; multi/bi-lateral agency sponsored).

#### **Schedule for Implementation**

This section provides an understanding of the schedule of implementation of the plan thus formulated.

NWEDC will put in place a schedule for implementation of the IBP, in discussion with GoN. This schedule will provide an itemized timeline for each step of the implementation process.

#### **1.11.4.6. Engagement Strategy**

An essential component of the implementation of the benefit sharing plan is the engagement with the local community and other external stakeholders.

This section will provide the Engagement strategy for the IBP. The strategy will be specifically to explain the key needs and sensitivities viz local vendors, government, stakeholders, and the IBP.

Although this will be in line with the overall stakeholder engagement activities of LALRP /ESIA and other plans formulated, it will describe how to position IBP actions and address a larger audience (district and beyond). The engagement strategy will include the following:

- Aim, objectives of IBP;
- Coverage, potential beneficiaries and thematic areas;
- Phased approach, timelines and outcomes;
- Grievance management (as per EIA/ESIA/LALRP); &
- Feedback, documentation, communication, multi-media.

#### ***1.11.4.7. Monitoring and Review Mechanism***

The IBP will serve as a macro plan that will be constantly reviewed and updated on annual basis, throughout the project lifecycle. Micro plans will be developed, that will comply with the major principles identified, and are ready for implementation during the project activities

NWEDC will identify a monitoring mechanism in terms of the following:

- Schedule with milestones and tracking of delays;
- Provision for internal and external monitoring;
- Frequency of monitoring and review;
- The KPIs for internal and external monitoring;
- Process of reviewing and updating the IBSP based on the findings of the monitoring reports;
- Responsibilities of NWEDC, GoN, and any third party involvement for monitoring purposes
- Systems and institutional linkages for feedback and mid-course correction

#### ***1.11.4.8. Budget***

NWEDC will ensure that adequate budget is allotted for the implementation of the IBP.

This section will provide an itemized budget for each step in the implementation of the IBP.

#### ***1.11.4.9. Reporting and Documentation***

As per the PDA, NWEDC shall submit annual reports to GON describing in detail the activities undertaken under the Plan, the amounts spent on such activities and impact evaluation of such activities. Some of the key aspects which may be included in the reports shall include (but not be limited to):

- The measures put in place to promote local enterprises;
- The number of local vendors registered with the project;

- The resources procured locally;
- The training and capacity building activities undertaken; and
- The way forward

As part of the detailed plan, a reporting mechanism will be put in place, in consultation with the GoN, which will provide an understanding of the following:

1. Requirement for internal and external reporting,
2. the frequency of reporting,
3. chain of reporting, and
4. the format- report, presentation, verbal discussion etc.

Other documents which will be maintained during the plan implemented will include, (but not be limited to), the following:

- Meeting minutes during the supply and demand mapping consultations;
- Training records;
- Records of human resources involved in the project and the number of locals vendors engaged in the project;
- Purchase register used;
- The number of locals supported with other capacity building and trainings; and
- Any complaints or grievances obtained.

Person in charge for maintaining documents will be appointed by the Project team.

## 1.12. PROJECT ENVIRONMENTAL AND SOCIAL MONITORING AND REPORTING PLAN

The following table describes the monitoring and reporting requirements for the Project as discussed through the ESIA and the ESMMP.

**Table B.1-30: Monitoring and Reporting Requirements**

Resource/Area	Monitoring Requirement/ Indicator	Frequency	Reporting Requirement	Entity Responsible
<b>Construction Phase</b>				
Air	Dust accumulation: Inspect for and record dust accumulation on roof and vegetation in the surrounding area	Monthly	Monitor, record, and report exceedances	EPC Contractor
Air	Air quality inside the tunnel: PM <sub>10</sub> , CO, SO <sub>x</sub> , and NO <sub>x</sub>	Monthly	Report concentrations in excess of parameters in ESIA	EPC Contractor

Resource/Area	Monitoring Requirement/ Indicator	Frequency	Reporting Requirement	Entity Responsible
Air	Install an online real-time gas monitoring system, including analysis equipment, to detect elevated concentrations of hazardous gases (coal gas)	Continuous	Monitor, record, and report the situation of hazardous gas to make sure that the emission has not exceeded the established standards	EPC Contractor
Air	Monitor air quality (TSP/PM <sub>10</sub> ) at Hakubesi-Fulbari, Gogane, and Mailun Villages.	3 times a year	Record and compare with ambient standards in the ESIA.	EPC Contractor
Noise	Noise Level Meter installed at Hakubesi-Fulbari, Gogane, and Mailun Villages.	3 times a year	Record and monitor noise levels.	EPC Contractor
Noise	Maintain noise levels associated with all machinery and equipment at or below 90 decibels.	3 times a year	Record and monitor noise levels.	EPC Contractor
Noise	Construction site noise shall be monitored with portable detecting devices	Continuous	Monitor the noise level at the sensitive receptors	EPC Contractor
Water	Sample three locations for DO, pH, BOD, turbidity, total suspended solids, and hardness: upstream of weir, between weir and power house, and downstream of power house	3 times a year	Record and compare with Standards for Effluents Discharged in the ESIA.	EPC Contractor
Water	DO, pH, BOD, turbidity, total suspended solids, and hardness. Sample immediate points after treatment units of tunnel discharge, discharge from aggregate, crushing plant and batching plant, settling ponds, and sanitary discharge.	Monthly	Report concentrations in excess of parameters listed in the ESIA: Standards for Effluents Discharged into Inland Water from Construction Sites and Camps	EPC Contractor

Resource/Area	Monitoring Requirement/ Indicator	Frequency	Reporting Requirement	Entity Responsible
Water	Water quality from runoff from any fresh bitumen surfaces	As needed	monitored and remedial actions taken where required	EPC Contractor
Water	Water quantity in Community Springs/Water Sources	Before, during and after construction	Monitor water yield to detect impacts and provide alternate water supplies to villages/communities if water supply is affected	EPC Contractor
Water/Soil	Pollution Prevention: open defecation and garbage/solid waste disposal	Daily	Visual monitoring of nearby villages and headwork and powerhouse areas.	EPC Contractor
Water/Soil	Hazardous materials/Waste use as well as the storage, handling, and disposal procedures	Continuously	Records must be kept on site.	EPC Contractor
Water/Soil	Tunnel excavation material disposal (source and final disposal location) shall be monitored and documented	Continuously	Records must be kept on site.	EPC Contractor
Soil	Landslide and slope stability – access roads and tunnel	6 times a year	Record and monitor number of incidence of landslides, slope failure and debris flow.	EPC Contractor
Soil	Erosion of soils and deposition in downslopes of the access roads, tunnels, spoil disposal areas, and quarries	6 times a year	Monitor via frequent mapping and site observations	EPC Contractor
Flora	Forest cover – visually monitor number of trees felled within 1 km of dam, access road and switchyard as well as baseline plots	Bi-annually	Record visual observations	Owner's Environmental and Social Management Cell
Fauna	Monitor and record information on raiding season (flora raiding by wild herbivores), frequency and sites	Bi-annually	Conduct community consultations and maintain records	Owner's Environmental and Social Management Cell

Resource/Area	Monitoring Requirement/ Indicator	Frequency	Reporting Requirement	Entity Responsible
Fauna	Aquatic Ecology - monitored as part of a Biodiversity Evaluation and Monitoring Program (BEMP) to be developed by a fish expert with metrics to demonstrate No Net Loss of aquatic biodiversity as required by IFC's PS6.	Bi-annually	Conduct Fish sampling and interview local fishermen, maintain records.	Owner's Environmental and Social Management Cell
Health and Safety	Sample water supply reservoir and end tap of the Camps.	Monthly	Report concentrations in excess of parameters listed in the ESIA: Drinking Water Quality Standards for Construction Camps and Construction Sites	EPC Contractor
Health and Safety	Monitor structural stability of tunnels	During the construction phase	Record visual observations	EPC Contractor
Health and Safety	Maintain records and reports concerning health, safety and welfare of persons, and damage to property, as the Environmental Supervision Team may reasonably require	Monthly	Records must be kept on site.	EPC Contractor
Health and Safety	Training program numbers	During the construction phase	Keep records of attention and issues covered and provide such records when required by the Environmental and Social Management Cell or the Safety and Environmental Officer	EPC Contractor
Health and Safety	Visually monitor number of houses, construction material, development of cracks and house owner	In response to complaints	Document structured through write ups, maps, and photographs.	EPC Contractor

Resource/Area	Monitoring Requirement/ Indicator	Frequency	Reporting Requirement	Entity Responsible
	information in Hakubesi-Fulbari			
Health and Safety	Visually inspect workers camps for adequate water, wastewater, and solid waste facilities	Weekly	Record visual observations	EPC Contractor
Health and Safety	Compliance to code of conduct and Review of Records required to be maintained by law	Monthly	Maintain records	Environmental and Social Management Cell Representatives
Social	Review records of Grievance Redressal Mechanism and community engagement activities, Compliance to code of conduct, and records of weekly and monthly monitoring	Annually	Document any deviations from requirements in the Labour Influx Management Plan, submit annual reports to the GON	External Monitoring by Third Party
Social	Perception of environmental enhancement programs in Hakubesi-Fulbari, Gogane, and Mailun and VDC Offices in Dhunche and Ramche	Bi-annually	Interviews, observation and structured questionnaire survey of selected groups.	Environmental and Social Management Cell
Social	Monitoring compliance with the Employment and Skills Training Plan, the Industrial Benefit Sharing Plan	Annually	Submit annual reports to the GON	Owner
Socio-economics	Economic and social status of affected communities (Hakubesi-Fulbari, Gogane, and Mailun)	Once a year	Interviews, observation and structured questionnaire survey of selected groups.	
Socio-economics	Inflation of prices - commodities in Hakubesi-Fulbari, Gogane, and Mailun (cereals, cash crops, kerosene, meat, sugar, salt, spices, soap. Milk, ghee, etc.)	Monthly	Record keeping of prices.	Environmental and Social Management Cell
Socio-economics	Trade and business development – number	Three times a year	Direct enumeration and record keeping.	Environmental and Social

Resource/Area	Monitoring Requirement/ Indicator	Frequency	Reporting Requirement	Entity Responsible
	of hotels, tea stalls, and restaurants.			Management Cell
Operation Phase				
Soil	Landslide and slope stability – access roads and tunnel	Bi-annually for the first 5 years or operation	Record and monitor number of incidence of landslides, slope failure and debris flow.	Owner
Soil	Erosion of soils and deposition in downslopes of the access roads, tunnels, spoil disposal areas, and quarries	Bi-annually for the first 5 years or operation	Monitor via frequent mapping and site observations	Owner
Water	Sample three locations for DO, pH, BOD, turbidity, total suspended solids, and hardness: upstream of weir, between weir and power house, and downstream of power house	Yearly for 30 years	Record and compare with Standards for Effluents Discharged in the ESIA.	O&M Contractor
Water	Aquatic habitat loss/degradation (creation of flow reduced segments)	Monitor monthly for 5 years	Engage in coordinated monitoring efforts and explore joint mitigation options with other hydropower sponsors	Owner
Water	Monitor water quality of drainage from spoil disposal areas and quarry sites	Quarterly for 5 years	Record and compare with Standards for Effluents Discharged in the ESIA.	Owner
Water	EFlows releases and river condition: gauging station located at Eflows Site 1 and another at Eflows Site 2	Continuous	Communicate the results of the independent monitoring of EFlows releases and river condition to stakeholders	O&M Contractor and Owner
Drinking Water	Sample water supply reservoir and end tap of the Camps.	Yearly	Report concentrations in excess of parameters listed in the ESIA: Drinking Water Quality Standards	O&M Contractor

Resource/Area	Monitoring Requirement/ Indicator	Frequency	Reporting Requirement	Entity Responsible
Noise	Noise level in the powerhouse area	Once after operation	Measure noise level using noise level meter	O&M Contractor
Flora	Forest cover – visually monitor number of trees felled within 1 km of dam, access road and switchyard as well as baseline plots. Survival of planted tree species and maintenance of floral diversity within offset site	Bi-annually for the first 5 years of operation	Record visual observations	Owner
Fauna	Monitor and record information on raiding season (flora raiding by wild herbivores), frequency and sites	Bi-annually for the first 5 years of operation	Conduct community consultations and maintain records	Owner
Fauna	Aquatic Ecology - monitored as part of a Biodiversity Evaluation and Monitoring Program (BEMP) to be developed by a fish expert with metrics to demonstrate No Net Loss of aquatic biodiversity as required by IFC's PS6.	in January, March, June, and September at the three EFlow monitoring sites	Conduct Fish sampling and interview fishermen, maintain records.	Owner
Fauna	Aquatic Ecology – monitor to ensure fish are able to successfully migrate upstream and downstream through the diversion tunnels	During upstream and downstream migration periods	Visual monitoring of successful passage through tunnel and presence of fish congregating at entrance to tunnel	Owner and EPC Contractor
Fauna	Terrestrial biodiversity will be monitored at the project site and in LNP as part of a Biodiversity Evaluation and Monitoring Program (BEMP) to be developed to demonstrate>NNL per IFC's PS6.	Bi-annually for the first 5 years of operation		To be implemented by LNP or NGOs with support of Owner.

Resource/Area	Monitoring Requirement/ Indicator	Frequency	Reporting Requirement	Entity Responsible
Fauna	Monitor bird carcasses electrocuted and record any threatened or migratory species observed as described in the BEMP	Monthly	Record and monitor number	O&M Contractor
Health and Safety	Dam safety reviews should be carried out by an internationally recognised, independent dam safety engineer who was not involved in the design of the Project.	Periodic (approximately every 5 years)	Reporting of results upon reviewing previous inspections, instrumentation reports, and annual inspection reports, along with a comprehensive site inspection.	Owner through independent dam safety engineer
Socio-economics	Economic and social status of affected communities (Hakubesi-Fulbari, Gogane, and Mailun)	Once after 2 years of operation	Interviews, observation and structured questionnaire survey of selected groups.	Owner
Socio-economics	Inflation of prices - commodities in Hakubesi-Fulbari, Gogane, and Mailun (cereals, cash crops, kerosene, meat, sugar, salt, spices, soap. Milk, ghee, etc.)	Three times a year for the first 2 years of operation	Record keeping of prices.	Owner
Socio-economics	Trade and business development – number of hotels, tea stalls, and restaurants.	Three times a year	Direct enumeration and record keeping.	Owner
Social	Perception of environmental enhancement programs in Hakubesi-Fulbari, Gogane, and Mailun and VDC Offices in Dhunche and Ramche	Bi-annually	Interviews, observation and structured questionnaire survey of selected groups.	Owner

## **ATTACHMENT 1**

# **LAND ACQUISITION AND LIVELIHOOD RESTORATION PLAN**