

Feasibility Report

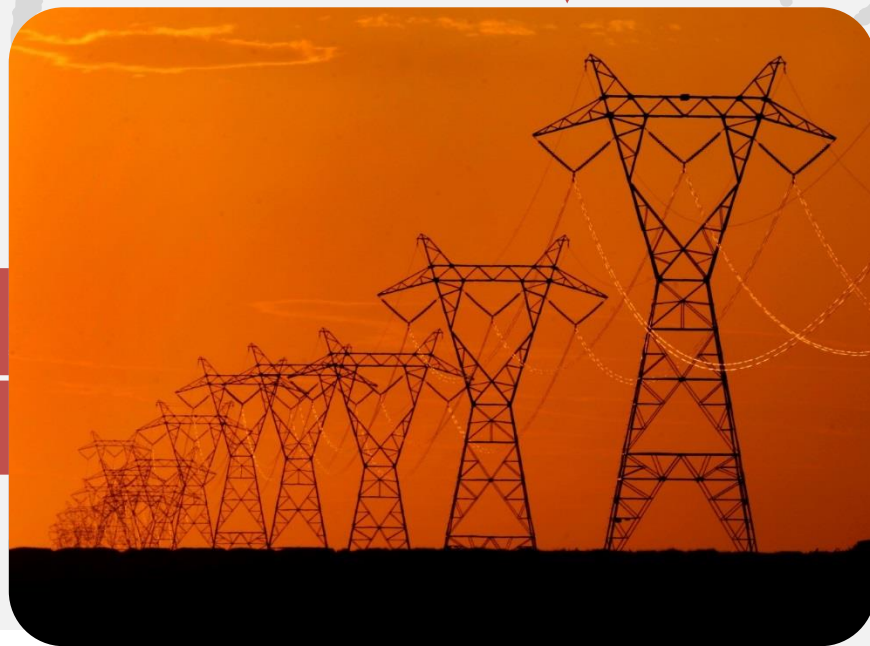
Task 3 – Resettlement Policy Framework

Detailed Feasibility Studies: Transmission Line Projects in Nepal

Volume 3

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Feasibility Study: Nepal Priority Transmission Line Projects

Volume 3 (Report) Resettlement Policy Framework

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Acronyms

APs	Affected Persons
CCV	Community Consensus Valuation
CDC	Compensation Determination Committee
CDO	Chief District Officer or Chief Development Officer
CFUG	Community Forest User Group
DADO	District Agriculture Development Office
DDC	District Development Committee
DTO	District Technical Office
Dfs	Detailed Feasibility Study
EDCF	Economic Development Cooperation Fund of Korea
EIA	Environmental Impact Assessment
FIDIC	International Federation of Consulting Engineers
FPIC	Free, Prior, and Informed Consent
GIS	Geographic Information System or Gas Insulated System
GMR	GMR Power Corporation Ltd. India
GoN	Government of Nepal
GRC	Grievance Redressal Committee
GRM	Grievance Redress Mechanism
HH	Household
IBN	Investment Board of Nepal
IEE	Initial Environmental Examination
IFC	International Finance Corporation
IPs	Indigenous Peoples
IPP	Independent Power Producer, or Indigenous Peoples Plan
IPPF	Indigenous Peoples Plan Framework
KfW	German-owned Development Bank
LAA	Land Acquisition Act
LCF	Local Consultative Forums
LRO	Land Revenue Office
LRP	Livelihood Restoration Plan
M&E	Monitoring and Evaluation
MCA	Millennium Challenge Account
MCC	Millennium Challenge Corporation
MELH	Minimum Economic Landholding
NEA	Nepal Electricity Authority
NFDIN	National Foundation for the Development of Indigenous Nationalities
NGO	Non-Governmental Organization
NRs	Nepali Rupees
OMCN	Office of Millennium Challenge Nepal
PAPs	Project-Affected Persons
PIU	Project Implementation Unit
PRC	Public Response Centre
RAP	Resettlement Action Plan
RCOI	Resettlement Corridor of Impact
ROW	Right of Way
RPF	Resettlement Policy Framework

SDRC	Social Development Resettlement Cell
SS	Substation
USD	United States Dollars
VDC	Village Development Committee
WB	World Bank

Executive Summary

In December 2014, the Millennium Challenge Corporation (MCC) selected Nepal as an eligible country for a Compact program. An analysis was conducted, in collaboration with the Government of Nepal (GoN), to identify the binding constraints to economic growth in Nepal. This exercise resulted in the identification of four major constraints: political instability, poor labor relations, high cost of transport, and unreliable supply of power. MCC and the GoN selected the high cost of transport and unreliable supply of power as opportunities for further exploration. This Resettlement Policy Framework (RPF) is focused on the assessment of Nepal's power sector.

Following extensive consultations with the GoN, the MCC, and various other stakeholders throughout Nepal, seven specific transmission projects were identified for further review by the GoN. These projects include: one new transmission line and associated substations to strengthen the East-West Transmission backbone (NR1), two new transmission lines and associated substations to increase power export/import capabilities between Nepal and India (XB1 and T8), and four transmission lines connecting power from planned generation hydropower sites to demand centers via substations (NR4, T2', T3 and NR3).

This Resettlement Policy Framework (RPF) provides the resettlement policies and procedures that must be followed under the applicable requirements of the GoN and MCC's policies on Involuntary Resettlement, which require compliance with the International Finance Corporation's (IFC's) Performance Standard 5 (PS5), *Land Acquisition and Involuntary Resettlement*. Resettlement is considered involuntary when project affected persons (PAPs) do not have the right to refuse land acquisition or restrictions on land use, resulting in physical displacement (leading to a loss of home or business) and/or economic impacts (leading to a loss of a main source of livelihood).

In general, transmission lines do not require significant land acquisition, but only place a restriction on land use under the lines, and require the removal of all structures, tall trees and other objects or features located under the lines. However, the transmission towers, the associated substations, and other facilities do result in a need to acquire land permanently. The primary involuntary resettlement impacts expected during the current projects include both temporary and permanent impacts, as listed below.

Permanent impacts expected include:

- All structures located within the right of way (ROW) of the transmission lines (land under the transmission lines within the ROW will have a permanent land use restriction/ easement placed on it¹ – no structures can be built or trees, etc., planted; however, agricultural processes, grazing and other similar land uses can continue);

¹ It should be noted that the current practice in Nepal is to provide a one-time flat fee of 10% of the value of the land for transmission line easements. This has been adopted as the minimum standard for the resettlement policy. Securing easements for transmission lines is a

- The ROWs for the seven project lines vary according to the voltage levels of each line:
 - 132 kV line: 18 meter ROW (9 m to either side of centerline)
 - 220 kV line: 30 meter ROW (15 m to either side of centerline)
 - 400 kV line: 46 meter ROW (23 m to either side of centerline)
- Tall trees within the ROW will need to be removed;
- The land under the footprints of the transmission towers – an approximate 400 m² to 625 m² (20m x 20m for each tower base for 220 kV towers, 25m x 25m for 400 kV towers); (see Figure 2 for an example of the ROW under a transmission tower);
- The land for the new substations will require acquisition, as well as the substations that require additional land for expansion;
- Any permanent or expanded/widened road access ways;
- The land needed for living quarters for the staff at the new substations.

Temporary impacts expected include:

- Temporary impacts to land within the ROW due to the installation of the towers and/or the stringing of conductors. Agricultural land, for example, will be temporarily impacted until the completion of the construction;
- Temporary road access ways (associated with substations only; no temporary road access ways were included in the designs for transmission towers because the project was informed that constructing an access road for transmission lines and towers is not a common practice in Nepal; therefore, they were not included in the design).

Overall, there is a total of approximately 600 km² of transmission lines, 8 new substations, and 10 transmission line projects – including 132 kV, 220 kV and 400 kV lines – spread from West to East in the country. During the development of this RPF, the resettlement team worked very closely with the technical team and the environmental team to avoid or minimize the number of impacts, while keeping in mind the technical requirements and avoiding impacts to important environmental areas. The following describes each of the individual projects and the resettlement impacts expected for each. Note: the numbers of structures impacted (as well as the estimates for land) were determined by review

contentious and politicized issue which has held up, or halted, transmission line projects in Nepal. The issue of transmission line easements and compensation is included as item #30 in the GoN's 99-point Action Plan on National Energy Crisis Prevention and Electricity Development Decade, 2016. If recommendations are made by the GoN Ministries working on this issue prior to the start of the MCC project, considerations for adopting these recommendations should be evaluated for the MCC project. If not adopted in time for the MCC Project, alternative options that may be considered by MCC and MCA-Nepal are included in section 6 of this RPF.

² Note that this figure includes the length of NR4, along with the other proposed projects. NR4 is distinct from the other projects outlined in this document in that there is already an existing transmission line, and the NR4 project proposes to add a second circuit to the existing towers. For the purposes of this Resettlement Policy Framework (RPF), however, NR4 is not included in the overall data because resettlement activities are already being conducted by the contractor responsible for the already-existing transmission line.

of 1:6,000 scale GIS maps of the project lines and substations overlaid on Bing and World Map images. Visits were also made to several of the districts and Village Development Committees (VDCs) along the proposed lines to glean further information about the social structures and other important information about the communities that may be impacted by the projects. These impacts are estimates and will require more detailed analysis during the Resettlement Action Plan (RAP) period, as well as more extensive consultations with the impacted communities.

The following table represents a summary of the overall estimated impacts of each proposed transmission project, as well as the accompanying estimated project cost and estimated cost for RAP development and implementation processes. Further details for each project are included below.

Summary of Estimated Impacts and Costs							
Project	Structures Impacted	# of Trans. Towers	Est. Land Parcels-Trans. Lines (Easements)	Est. Land Parcels-SS's & Access Roads (Full Take)	Total Estimated Impacts per Project	RAP Development & Implementation (approx. USD)	Est. Total Project Cost* (approx. USD)
NR1	492	1,012	859 – 1,225	11	2,374 – 2,740	\$6,302,000	\$40,004,000
NR3	264	439	392 – 559	0	1,095 – 1,262	\$2,904,000	\$10,977,000
NR4	-	-	-	-	-	-	-
T2'	32	119	63 – 90	1	214 – 241	\$555,000	\$1,744,000
T3	189	149	76 – 109	2	415 – 448	\$1,030,000	\$6,219,000
T8	58	91	91 – 120	3	242 – 271	\$624,000	\$9,007,000
XB1	26	53	66 – 88	0	145 – 167	\$384,000	\$3,424,000
TOTALS	1,061	1,863	1,547 – 2,191	17	4,485 – 5,129	\$11,799,000	\$71,375,000

*Note: The total cost may increase dependent on the option selected by MCC for the compensation of easements in the ROW of the transmission lines. For example, if the compensation for easements is increased from 10% to 20% (as shown in section 6.0 below), the cost would increase from \$74 million to \$97 million.

NR1

- The NR1 backbone transmission project consists of 5 new substations and approximately 280 km of 400 kV transmission lines, with 1,012 transmission towers, impacting approximately 1,326 total hectares of land. Each of the 5 substations are new and 4 of the 5 substations will require land acquisition. The 1,012 tower footprints will require the acquisition of approximately 21 hectares of land, not including estimated government-owned land for which acquisition will not be an issue;
- The land under the line that was identified as either agricultural or barren land (which may potentially be farmed) that will require an easement arrangement is approximately 770 hectares;

- There are 492 structures that will be impacted under the tower lines, substations, and access roads;
- Lapsipedi Substation will be constructed beside a 220 kV substation designed by the Asian Development Bank (ADB). The two will be connected by underground cables. ADB is in the process of purchasing the land for its 220 kV substation. Some of this land will be available for the MCC 400 kV substation, but an estimated additional 1.63 hectares of land will need to be acquired. All of the land appears to be farmland with no structural impacts expected. The existing road leading to the substation land will need to be upgraded (which may affect about 31 structures). However, it is expected that this will be completed by the ADB. Staff quarters will be on the same site;
- Naubise substation will require the purchase of an area of 8.78 hectares, and will also require the construction of a new access road that is approximately 1.6 km x 7 m width. There are expected to be a minimum of 15 structures impacted due to the substation land, as well as the actual land, and 12 structures impacted due to the new access road to be built;
- New Hetauda has an existing 220 kV Hetauda substation located in Makwanpur District that is under construction by the World Bank. The MCC project will construct a new 400 kV station alongside this existing one. Two 400 kV lines will connect to Naubise from the New Hetauda substation. Several options were considered for the placement of the new substation and the most optimal location (from technical, environmental and resettlement considerations) is located adjacent to the current Hetauda substation. The expected land required is 9.84 hectares, with a new access road approximately .2 km x 5.5 m wide. The substation land is expected to impact 17 structures, with no impacted structures due to the new road access;
- New Damauli's selected site is an L shaped area of approximately 6.63 hectares where the flat land was adequate to install a station. There are no expected impacts to structures due to this placement of the substation or due the planned road, which will be 430 m x 5.5 m. The primary impacts in this area will be agricultural fields;
- New Butwal is a new 400 kV substation that will be connected to a 220 kV station designed by others. It will connect to New Damauli via two 400 kV lines. It will also have two 400 kV lines that will cross into India to provide export/import capacity. It will require the acquisition of approximately 14.5 hectares of land for the substation and a new .13 km x 5.5 m road access. There are not expected to be any impacted structures on the substation land and approximately 6 structural impacts due to the new road.

NR3

NR3 is one of the four transmission lines connecting power from planned hydropower generation sites to demand centers via substations. It has 439 towers covering about 114 km. Both of its two substations, Inaruwa and Ilam, are existing substations with no requirement for land acquisition at the substations.

- The 439 tower footprints will require the acquisition of approximately 1.83 hectares of land;
- The estimated number of structures identified under the transmission line that are expected to be impacted are 264;

- The land under the line that was identified as either agricultural or barren land (which may be farmed potentially) and will require an easement arrangement is approximately 228 hectares.

T2'

T2' includes a new 220 kV substation, Likhu, which will help new hydropower generation plants to bring energy into the national grid. T2' runs between Likhu Hub and New Khimti. New Khimti is an existing substation. The Likhu Hub 220 kV-132 kV substation is planned to be constructed adjacent to a 132 kV substation currently being built by an independent power producer (IPP). The land required for the substation has already been acquired by the IPP, and it is understood that MCC will buy the land from the IPP that will be needed for the T2 220 kV substation. The land that the IPP has acquired can accommodate the new MCC substation. It consists of 119 towers spanning approximately 30 km.

- The 119 tower footprints will require the acquisition of approximately 1.61 hectares of land;
- The number of structures identified under the transmission line that are expected to be impacted is 31;
- The amount of land under the line that was identified as either agricultural or barren land (which may potentially be farmed) that will require an easement arrangement is approximately 36 hectares;
- The land under the substation that will require purchase is 1.34 hectares. It is expected to impact approximately 1 structure. The road is not expected to impact any structures.

T3

T3 includes a new 220 kV substation, Tadekhani, which is to be constructed in Myagdi District. The Tadekhani substation to Kusma substation project is a new development of approximately 35 km, 220 kV double-circuit transmission line through the hilly regions in western Nepal. This line is to connect new hydro generation plants in the surrounding area of the Tadekhani substation to the national grid. It consists of 149 towers connecting the two substations.

- The 149 tower footprints will require the acquisition of approximately 2.24 hectares of land;
- The total identified structures under the transmission line that are expected to be impacted are 189;
- The land under the line that was identified as either agricultural or barren land (which may be farmed potentially) that will require an easement arrangement is approximately 44 hectares;
- The land under the substation that will require purchase is 2.05 hectares. It is expected to impact approximately 9 structures, and an additional 3 under the access road.

T8

T8 is composed of the New Lamki Substation, located in Kailali District in the southwestern region along the lowlands/Terai region, and is a new substation with approximately 30 km of 400 kV double-circuit transmission lines crossing into the Nepal-India border. This line is designed to export 88% of generated power from the Upper Karnali hydro generation plant to India and also will be used for importing power from India during Nepal's dry season. The existing Lamki substation is a large 132 kV substation that sits

on a very large piece of land that has been acquired by NEA. There is no room for expansion on this land, so a new site was selected.

- The 91 tower footprints will require the acquisition of approximately 1.25 hectares of land;
- The total identified structures under the transmission lines that are expected to be impacted are 58;
- The land under the line that was identified as either agricultural or barren land (which may be farmed potentially) that will require an easement arrangement is approximately 114 hectares;
- The land under the substation that will require purchase is 10.37 hectares. It is expected to impact approximately 0 structures under the road or substations.

XB1

XB1 extends from the New Butwal substation (described under NR1 above) to the India border via approximately 18 km of 400 kV lines.

- The 53 tower footprints will require the acquisition of approximately .90 hectares of land;
- The total identified structures under the transmission lines that are expected to be impacted are 26;
- The land under the line that was identified as either agricultural or barren land (which may be farmed potentially) that will require an easement arrangement is approximately 84 hectares.

A gap analysis was conducted during the RPF to identify the gaps between the Nepal land acquisition and resettlement requirements and those of the International Finance Corporation (IFC), in order to define the policies that the project will follow. An Entitlement Matrix was also prepared to define those people along the project who are entitled to compensation and/or additional assistance, the type of impacts, and the actual entitlements/ compensation to be provided.

When resettlement is unavoidable, compensation, as specified in the IFC Performance Standard 5 (PS5) on Land Acquisition and Involuntary Resettlement, is required to ensure that the impacted persons or groups are left in the same, or preferably improved, condition as compared with their pre-project state. For this, such things as land compensation include not only the straight price for the land (real market price), but also compensation for all transaction fees, and no deduction for depreciation. Similarly, for structures, the replacement compensation involves not only the full market value for the structure but, in the case of a displaced home for example, it includes a moving allowance to allow for the transport of goods from the home and rental for 6 months in an equivalent dwelling, as well as other compensations. The various entitlements and compensation to be provided to the project affected persons or groups is included in the Entitlement Matrix.

In order to determine the estimated cost of each individual project, the RPF team gathered data on the prices of both land and structures in several of the impacted districts. Land data were gathered from the Land Revenue Offices (LROs), while structure costs were gathered from the District Technical Offices (DTOs). The LRO prices included government pricing, which is updated on an annual basis. Each of the

districts included different pricing based on the location and type of land (e.g., land with road access is worth more than land with no road access). Each of the prices also included a range. For the purposes of this document, we included the mid-level range for the land pricing in each area. For the structure prices, we hired a valuation expert to assist in identifying the market prices for certain types of houses (usually valued according to their roof types and structural make-ups) by using the values obtained in three representative districts (i.e., lowland/Terai region, mid-land, and mountainous region). We used these prices to assess the total cost of each project. In addition, we included: a 10% transaction fee cost to all land and structure costs; 10% contingency to the structure costs to account for the possibility that the GIS maps available were older and may not fully include all possible structures; allowances for various items such as loss of crops (as identified from another project in Nepal that is being overseen by the Investment Board of Nepal (IBN) and is also following IFC requirements); and a contingency to account for other allowances that will need to be finalized by the Resettlement Action Plan (RAP) team (such as the Livelihood Restoration Plan).

The following table includes the estimated costs for each of the projects (it should be noted that NR4 was not included in this assessment due to the findings that NEA is already in the process of completing this part of the project with a South Korean contracting firm).

Resettlement planning and implementation costs are included by project. The projects will be allocated into contract packages by the technical team and the resettlement planning and implementation will be completed by CP.

Item	Detail	Total estimated cost (USD)
NR1		
1. Land - acquisition	62.20 hectares under towers and substations	\$6,583,000
2. Land - easement	766.46 hectares	\$10,025,000
3. Structures	492	\$4,566,000
4. Transaction costs (10% land acq. and structure costs)	10% of 1 & 3	\$1,073,000
5. Other Allowances	Moving allowance (NRs 94,800 per impacted structure); Food security allowance (NRs 80,136 per vulnerable HH – assume 50% of impacted structures); Transitional allowance (NRs 6,000 per Ha – assume for all SS land); Loss of Crops allowance (NRs 325,600 per Ha – assume for land in #1 above)	\$797,000
6. Contingency for other compensation	25% on 1-5	\$5,761,000
7. Provision for inflation	3% per year to mid-point of resettlement actions (estimated 5 years ~ 17%)	\$4,897,000

Item	Detail	Total estimated cost (USD)
8. RAP development and implementation		\$6,302,000
9. Grand Total		\$40,004,000
NR3		
1. Land - acquisition	1.83 hectares under towers and substations	\$220,000
2. Land - easement	228.26 hectares	\$1,373,000
3. Structures	264	\$3,280,000
4. Transaction costs (10% land acq. and structure costs)	10% of 1 & 3	\$320,000
5. Other Allowances	Moving allowance (NRs 94,800 per impacted structure); Food security allowance (NRs 80,136 per vulnerable HH – assume 50% of impacted structures); Transitional allowance (NRs 6,000 per Ha – assume for all SS land); Loss of Crops allowance (NRs 325,600 per Ha – assume for land in #1 above)	\$327,000
6. Contingency for other compensation	25% on 1-5	\$1,380,000
7. Provision for inflation	3% per year to mid-point of resettlement actions (estimated 5 years ~ 17%)	\$1,173,000
8. RAP development and implementation		\$2,904,000
9. Grand Total		\$10,977,000
T2'		
1. Land - acquisition	2.95 hectares under towers and substations	\$186,000
2. Land - easement	36.55 hectares	\$279,000
3. Structures	32	\$264,000
4. Transaction costs (10% land acq. and structure costs)	10% of 1 & 3	\$43,000
5. Other Allowances	Moving allowance (NRs 94,800 per impacted structure); Food security allowance (NRs 80,136 per vulnerable HH – assume 50% of impacted structures); Transitional allowance (NRs 6,000 per Ha – assume for all SS land); Loss of Crops allowance (NRs 325,600 per Ha – assume for land in #1 above)	\$41,000
6. Contingency for other compensation	25% on 1-5	\$203,000

Item	Detail	Total estimated cost (USD)
7. Provision for inflation	3% per year to mid-point of resettlement actions (estimated 5 years ~ 17%)	\$173,000
8. RAP development and implementation		\$555,000
9. Grand Total		\$1,744,000
T3		
1. Land - acquisition	4.29 hectares under towers and substations	\$691,000
2. Land - easement	44.34 hectares	\$724,000
3. Structures	189	\$1,704,000
4. Transaction costs (10% land acq. and structure costs)	10% of 1 & 3	\$224,000
5. Other Allowances	Moving allowance (NRs 94,800 per impacted structure); Food security allowance (NRs 80,136 per vulnerable HH – assume 50% of impacted structures); Transitional allowance (NRs 6,000 per Ha – assume for all SS land); Loss of Crops allowance (NRs 325,600 per Ha – assume for land in #1 above)	\$235,000
6. Contingency for other compensation	25% on 1-5	\$895,000
7. Provision for inflation	3% per year to mid-point of resettlement actions (estimated 5 years ~ 17%)	\$716,000
8. RAP development and implementation		\$1,030,000
9. Grand Total		\$6,219,000
T8		
1. Land - acquisition	11.62 hectares under towers and substations	\$2,356,000
2. Land - easement	114.24 hectares	\$2,317,000
3. Structures	58	\$685,000
4. Transaction costs (10% land acq. and structure costs)	10% of 1 & 3	\$298,000
5. Other Allowances	Moving allowance (NRs 94,800 per impacted structure); Food security allowance (NRs 80,136 per vulnerable HH – assume 50% of impacted structures); Transitional allowance (NRs 6,000 per Ha – assume for all SS land); Loss of Crops allowance (NRs 325,600 per Ha – assume for land in #1 above)	\$76,000

Item	Detail	Total estimated cost (USD)
6. Contingency for other compensation	25% on 1-5	\$1,433,000
7. Provision for inflation	3% per year to mid-point of resettlement actions (estimated 5 years ~ 17%)	\$1,218,000
8. RAP development and implementation		\$624,000
9. Grand Total		\$9,007,000
XB1		
1. Land - acquisition	0.90 hectares under towers and substations	\$164,000
2. Land - easement	83.75 hectares	\$1,531,000
3. Structures	26	\$307,000
4. Transaction costs (10% land acq. and structure costs)	10% of 1 & 3	\$44,000
5. Other Allowances	Moving allowance (NRs 94,800 per impacted structure); Food security allowance (NRs 80,136 per vulnerable HH – assume 50% of impacted structures); Transitional allowance (NRs 6,000 per Ha – assume for all SS land); Loss of Crops allowance (NRs 325,600 per Ha – assume for land in #1 above)	\$32,000
6. Contingency for other compensation	25% on 1-5	\$520,000
7. Provision for inflation	3% per year to mid-point of resettlement actions (estimated 5 years ~ 17%)	\$442,000
8. RAP development and implementation		\$384,000
9. Grand Total		\$3,424,000
Total for All Projects:		\$71,375,000

1. Description of the Project

1.1 Background

In December 2014, the Millennium Challenge Corporation (MCC) selected Nepal as an eligible country for a Compact program. An analysis was conducted, in collaboration with the Government of Nepal (GoN), to identify the binding constraints to economic growth in Nepal – resulting in the identification of four constraints: political instability, poor labor relations, high cost of transport, and unreliable power supply. MCC and the GoN selected the high cost of transport and unreliable power supply as opportunities for further exploration. This Resettlement Policy Framework (RPF) is focused on the assessment of the Nepal power sector.

Some of the driving forces behind the need for improvements to Nepal’s power sector were documented by MCC:

Nepal suffers from the worst electricity shortages in South Asia. In 2012, the World Economic Forum ranked the quality of Nepal’s electricity supply as 143rd out of 144 countries. A 2011 study identified Nepal as having the most depressed power capacity and load-shedding problem in the region, meeting a little more than half of estimated demand. Electricity generation for the Nepal power grid is mostly from run-of-the-river hydropower, but during the dry winter months, when hydropower generation is low, there is load shedding of up to 18 hours per day and on-grid system losses are currently estimated at 26 percent, the highest rate in the region.

Nepal has among the lowest per-capita use of electricity in the world. The World Bank estimated in 2011 that the annual per-capita electric use in Nepal is only 106 kWh, which is one-sixth of that in India, Nepal’s neighbor to the south, and one thirtieth of the per-capita electricity use in China. Approximately 30 percent of Nepal is without access to electricity, contributing to a lack of economic growth primarily in rural areas. The low availability of electricity creates significant costs for businesses because they are forced to invest in expensive back-up generators that run on high-cost imported fuel or on solar photovoltaic systems and inverters. Access, distribution, mitigation, and benefit-sharing, are inequitable, and existing regulatory frameworks for social safeguards or compensation in infrastructure projects are limited or unclear.

The Constraints Analysis overall concluded that “the availability of electricity in Nepal is a binding constraint to investment and growth in the economy.”

Following extensive consultations between the GoN, MCC, and various other stakeholders throughout Nepal, seven specific transmission projects were identified for further review by the GoN. These projects include: one new transmission line and associated substations (separated into four segments between substations), to strengthen the East-West Transmission backbone (NR1);

two new transmission lines and associated substations to increase power export/import capabilities between Nepal and India (XB1 and T8); and four transmission lines connecting power from planned hydropower generation sites to demand centers via substations (NR4, T2', T3 and NR3).

1.2 Purpose of the Resettlement Policy Framework

The proposed MCC-financed transmission projects in Nepal include works to be undertaken in various parts of Nepal. The acquisition of land for these works will induce some temporary and permanent displacement of people and economic activities.

MCC policy, in line with other major international development assistance agencies, requires that such social and economic impacts be minimized to the extent technically feasible, that impacted persons be justly compensated, and the impacts be managed in accordance with MCC's Environmental Guidelines and the International Finance Corporation's (IFC) Land Acquisition and Involuntary Resettlement Performance Standard 5. The Constitution, laws and regulations of Nepal do not make specific provisions for resettlement, but do have guiding legal documents for land acquisition. In case of any variation or gap between IFC PS5 and GoN provisions, the higher standard shall apply in this RPF, which will incorporate remedial or compensatory measures to that effect. The Resettlement Policy Framework is a publicly disclosed official document. Its central purposes are to:

- Establish the principles, procedures and institutional framework for the detailed feasibility study (DFS) through which project resettlement activities are conducted;
- Ensure the widest possible understanding and authoritative consensus between the various players and stakeholders;
- Lay the foundation for the operational instruments – Resettlement Action Plans (RAPs) and Livelihood Restoration Plans (LRPs, under which resettlement activities will actually take place).

1.3 Definitions and Scope of Involuntary Resettlement

This section defines the key terms and associated scope in the Resettlement Policy Framework.

Acquisition of title to land: see Land Acquisition (below).

Displacement is the preferred term of the IFC and the World Bank to refer to the social and economic effect of land acquisition. This term is used consistently throughout policy documents, guides and manuals. Displacement may be physical, or economic, or both. Policy requires a resettlement response for physically displaced persons, households and communities. Where

economic displacement occurs without any physical displacement, the IFC policy prefers the more straightforward term of Livelihood Restoration to indicate the required response.³

Easement represents a formal right in property ceded by the landowner to another, typically for rights of access or usage. Easement rights may allow for certain actions or prohibit certain actions, such as construction.

Involuntary Resettlement occurs wherever and whenever there is compulsory acquisition of land or de facto change in the use of land that is occupied or used, done by legally constituted authority in the public interest. It involves the physical or economic displacement of impacted persons due to project-related land acquisition. It does not apply to situations of willing seller-willing buyer, where the purely voluntary nature of the transaction is duly recorded and where the buyer does not have the ultimate resort of expropriation, e.g., the seller may freely elect not to sell and is allowed to do so. It also does not apply where people are free to choose not to move. But wherever impacted people have no alternative but displacement, whether physical or economic, that absence of choice triggers the policy on involuntary resettlement. Their willingness to move and accept compensation does not affect the situation: it is their lack of choice that renders the process involuntary from a policy perspective. Given that the term "resettlement" has been extended over time to include the displacement of economic activities, without any physical relocation of people, the term "displacement" is often more acceptable.

Land Acquisition in this document is used in two senses; the first is a strict legal sense (i.e. GoN law), and the second is a broader resettlement policy sense.

At present, project developers are acquiring land to develop various physical infrastructure based on GoN Land Acquisition Act of 1977. However, the Act does not properly address issues such as rehabilitation of people who have to be relocated from the area where projects are being built. As a result, locals launch protests to press their demands for better compensation, which delays project implementation. The GoN is preparing to amend the Land Acquisition Act (LAA) of 1977 to be in line with the Land Acquisition, Resettlement and Rehabilitation Policy introduced in 2015. The change in the law is expected to pave the way for easy acquisition of land for implementation of infrastructure projects.

The policy has tried to address these complex issues so that the country can achieve its development goals without causing erosion in living standard of the people who are displaced or affected by the projects. In this regard, the policy has stressed the need to first assess economic and social impacts of the development project. Based on this, projects will be categorized as high-, medium- and low-risk.

High-risk projects refer to those that displace 50 or more households in the mountainous region, 75 or more households in the hilly region, and 100 or more households in the Terai. Medium-risk projects, on the other hand, are those that force relocation of less than 50 households in the

³By contrast, the World Bank's OP4.12 policy uses the term resettlement to include purely economic displacement, which has sometimes led to some incomprehension among stakeholders as to why a "resettlement" policy would apply in cases where, in their view, nobody was being "resettled".

mountainous region, less than 75 households in the hilly region, and less than 100 households in the Terai. Likewise, low-risk projects refer to those that cause productive property to shrink by up to 10%.

"Upon evaluation of these impacts, a strategy on land acquisition and compensation must be framed for low-risk projects. But in the case of high- and medium-risk projects, a detailed resettlement and rehabilitation plan must be designed," as stated in *The Himalayan Times*.

"Also, families should be entitled to compensation if works like installation of transmission, telephone and underground drinking water pipe lines affect livelihood. And in case the projects affect yields of registered commercial crop, fruit or flower producers, compensation equivalent to five years of revenue must be given in cash."

All expenses related to land acquisition, compensation and implementation of resettlement and rehabilitation plans should be considered as project costs. Also, interest should be paid on the compensation amount depending on the number of days it took to release funds to those affected by the project. The interest calculation begins from the day a formal decision was taken to operate the project, says the policy.

The compensation amount for those affected by the project will be fixed by a four-member compensation committee formed under the Chief District Officer. The committee can form a technical team to determine the compensation amount. This team should derive the compensation amount by working closely with members of families that are likely to be displaced. "Once the compensation amount is fixed by the committee, it cannot be reviewed," says the policy. Those not satisfied with land acquisition, resettlement and rehabilitation processes can lodge complaints to a body formed at the project office and complaint hearing offices at district and regional levels. If the verdict issued by the regional level complaint hearing office is also deemed unsatisfactory, the person can knock on the doors of appellate court", says the policy. Major points include:

- Creation of a scientific standard for land valuation;
- Extension of compensation equivalent to the minimum market value of land;
- Provision for action against those who try to disrupt land acquisition processes;
- Categorization of projects based on economic and social impact assessment;
- Relocation and rehabilitation of people affected by the project.

By contrast, the broad policy sense of IFC PS5, which applies in this project, is that the policy on compulsory land acquisition **includes** all the other senses of acquisition of non-proprietorial rights in land, rights that are (or are capable of being) recorded in the Lands Registry as affecting the title, and that are to be read with the title in cases of transfer. Such amendments to title, by easement, right-of-way or wayleave, restrict the title-holders' activities and rights, and provide rights of access to a third-party interest. The term "land acquisition" in the policy sense also includes any compulsory de facto conversion of land use (e.g., clearance of an area previously used for informal businesses or cultivation). Land acquisition may be temporary or permanent. If it is temporary, policy requires that it be fully restored (or compensated) to its previous state; if permanent, those

affected must be fully compensated before the land acquisition takes effect (with specific exceptions such as for disputed ownership or contested compensation amounts). The policies and guidance on displacement and resettlement exclude purely voluntary transactions involving willing seller-willing buyer where the buyer cannot resort to expropriation measures, should the transaction fail. This inclusive resettlement definition provides the reference point for all that is to be included in the RPF and the RAPs.

PS5 also applies in cases of willing seller-willing buyer where the seller does not ultimately have the power to refuse, and behind the sale lies the recourse to compulsory acquisition. PS5 is inapplicable only where no such recourse is available. For example, in siting sewage settlement ponds, if seller A refuses to sell and alternative seller B agrees, it is a genuine willing seller situation. If there is no siting alternative and seller A's land is required for the development without alternative, then any negotiated sale is considered to be a compulsory acquisition because the utility (or responsible Ministry) would have resorted to the LAA should they have been too prolonged, or no agreement was reached. It would be safe to treat all willing seller-willing buyer arrangements in this project as compulsory, unless clear evidence of realistic alternatives is shown.

Therefore, PS5 applies in this project to all activities involving the outright involuntary acquisition of title, or instruments that provide non-proprietorial rights in land, irrespective of the nature of the instrument through which land use is changed.

Livelihood Restoration Plan. An operational instrument developed (IFC PS5 Para 25 and 26) to remedy the effects of project-induced situations of restrictions in land access or use that only involve economic displacement, with no permanent or temporary physical displacement. This may occur, for example, where common property resources are affected. It may run separately or simultaneously with the RAP and may affect the same or different persons. The term "livelihoods" refers to the full range of activities that individuals, households and communities undertake in order to make a living. The present document reflects the fact that the project envisages both temporary and some permanent physical displacement, but there is also likely to be some purely economic displacement (e.g., restrictions on farming) that would require specific attention to livelihood restoration through this instrument.

Project-Affected Persons (PAPs), Households and Communities. In PS5, these terms refer to persons, households and communities that are, or are likely to be, adversely affected by the project's land acquisition (see above). The term 'displaced persons (households, communities)' may refer to those physically displaced and relocated, or economically displaced. The RPF and subsequent Resettlement Action Plan (RAP) describe specifically how such persons or groups are identified and compensated, according to policy. The term does not cover impacts of the project arising from factors other than land acquisition. The abbreviation 'PAPs', although widely used, is not used in Bank and IFC policy and guidance documents. The term is, however, widely understood and this RPF does use the term PAPs to include:

- Landowners and title holders;

- Individual persons, households and families living in the defined area, with or without legal title; includes rent tenants and tenants on sufferance (tenants residing on land or in a rental accommodation beyond the lease agreement with no legal right to do so);
- Persons using the land in question for economic benefit (e.g. cultivation, trading or business activities), with or without legal title;
- Public or private institutions (church, school, etc.) and business enterprises.

Particular attention is paid to impact on livelihoods, and to gender-specific impacts.

The absence of legal title does not exclude a person, household or community from entitlements to assistance or compensation, which are appropriate to the impact.

Resettlement Action Plans (RAPs). A RAP is the operational instrument that guides and controls the specific resettlement and compensation activities in a project or a defined area where there is to be any temporary or permanent physical displacement. It begins with the establishment of the corridor of impact and a subsequent full census and asset inventory process, along with regular meaningful stakeholder engagement, to determine the status and circumstances of the affected persons. At the end of the census and asset inventory, a publicly announced cut-off date is established and well communicated in the project area(s), after which new occupants or encroachers will not be entitled to compensation. It is completed when compensation has been paid and reported or livelihoods restored, and the subsequent circumstances of affected persons and communities have been ascertained and independently audited and found to meet the requirements of PS5.

Right-of-Way (ROW). The right of passage through private property of persons, animals or vehicles, acquired by custom or law. Public right-of-way may range from a footpath to a national highway. The right-of-way across private land may be established through the need to access, construct, inspect and maintain installations.

1.4 Detailed Description of Projects, Establishment of the Resettlement Corridor of Impact (RCOI), and Activities Likely to Result in Involuntary Resettlement

The seven projects (NR1, NR3, NR4, T2', T3, T8, and XB1) selected by the GoN and MCC for further development include transmission lines, as well as several new substations and their associated access roads. The projects are spread across Nepal as shown on the map in Figure 1.

In general, transmission lines do not require significant land acquisition, but only place a restriction on land use under the lines. However, the transmission towers and the associated substations and other facilities do result in a need to acquire land permanently.

For the seven MCC projects, the permanent impacts, or the areas where land will need to be taken/acquisitioned permanently, include:

- All structures located within the ROW of the transmission lines (land under the transmission lines within the ROW will have a permanent land use restriction/ easement placed on it – no structures can be built or trees, etc., planted; however, agricultural processes, grazing and other similar land uses can continue)
 - The ROWs for the seven project lines vary according to the voltage levels of each line, as follows:
 - 132 kV line: 18 meters (9 m to either side of centerline)
 - 220 kV line: 30 meters (15 m to either side of centerline)
 - 400 kV line: 46 meters (23 m to either side of centerline)

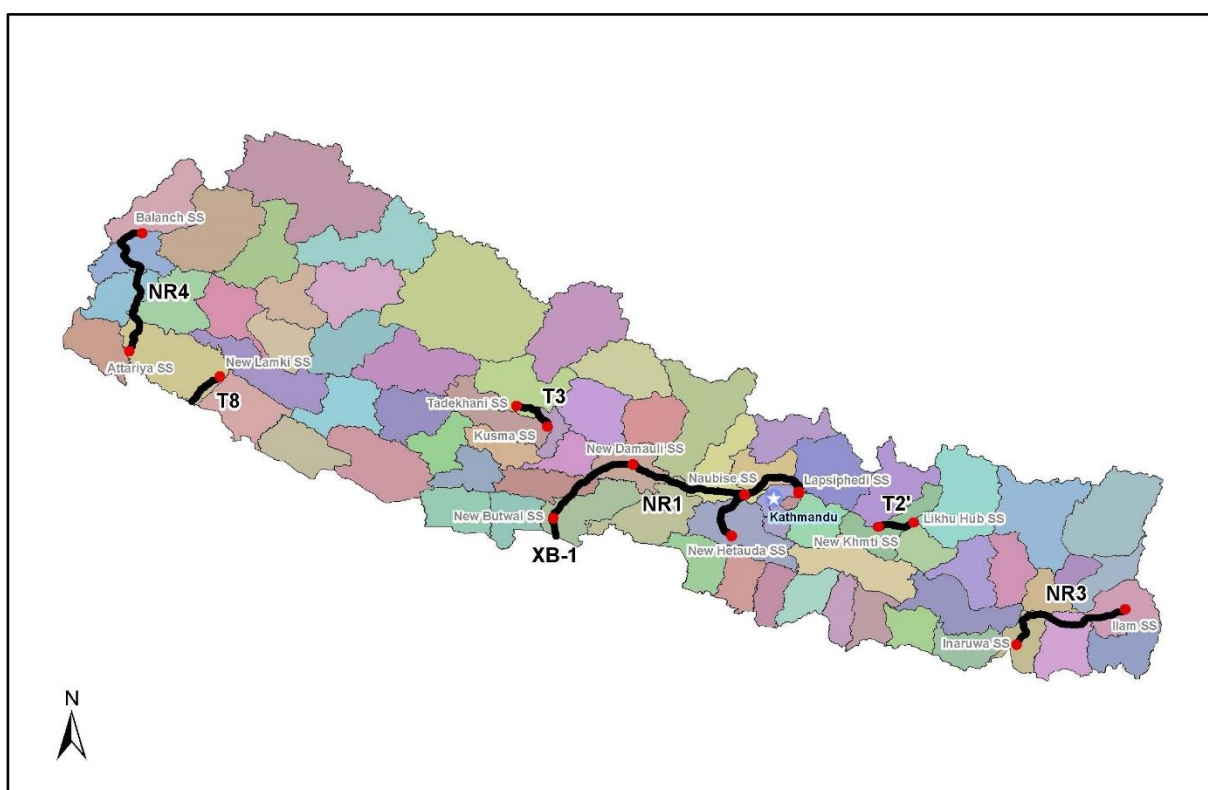


Figure 1. Nepal Map - All Project Areas

- Tall trees within the ROW will need to be removed;
- The land under the footprints of the transmission towers – an approximate 400 m² to 625 m² (20 m x 20 m for each tower base for 220 kV towers, 25m x 25m for 400 kV towers) (see Figure 2 for an example of the ROW under a transmission tower);
- The land for the new substations will require acquisition, as well as the substations that require additional land for expansion;
- Any permanent or expanded/widened road access ways;
- The land needed for living quarters for the staff at the new substations.

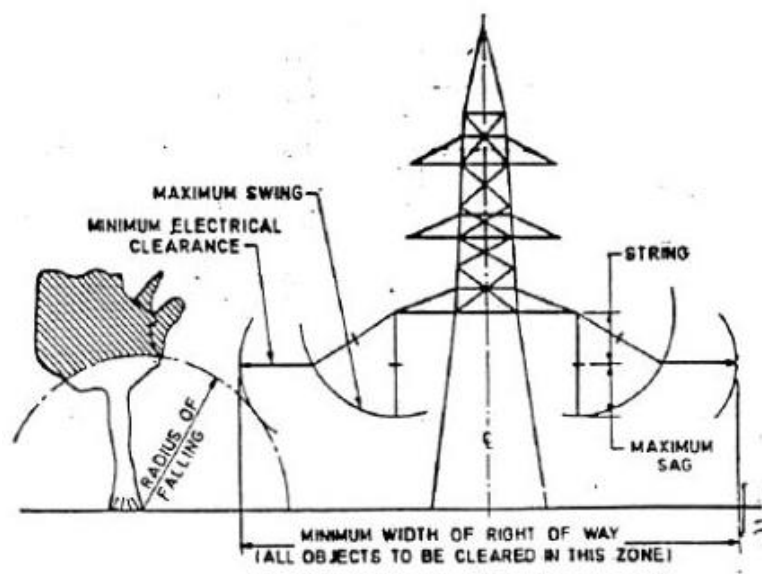


Figure 2. Sample Diagram of Transmission Tower and ROW
(Source: NEA tender bidding document for ICB-TD-TKTL P 072/73-01)

Temporary impacts include:

- Temporary impacts to land within the ROW due to the installation of the towers and/or the stringing of conductors. Agricultural land, for example, will be temporarily impacted until the completion of the construction;
- Temporary road access ways.

In order to gain insight into the expected level of impacts on each project, a preliminary manual review of GIS maps was conducted to review the initially proposed transmission routes and substations, to identify areas where the routes passed through populated areas, or where several structures were impacted. The first tenet of resettlement is to avoid impacts, and then minimize where that is not possible, and this was the primary goal of the resettlement team during the RPF period. Working closely with both the Nepali and international technical experts and environmental experts, and accounting for inputs received from stakeholders, alternative routing of transmission lines or placement of substations was initially reviewed to avoid as many structural impacts as possible, while still ensuring the protection of important environmental areas and considering the feasibility of the technical aspects of the alternate route. Figure 3 shows some of the initial review of the project lines that was conducted using 1:6,000 level maps with a Bing or World Image underlay of the areas (the final GIS-based maps created for this project are included in Annex A).

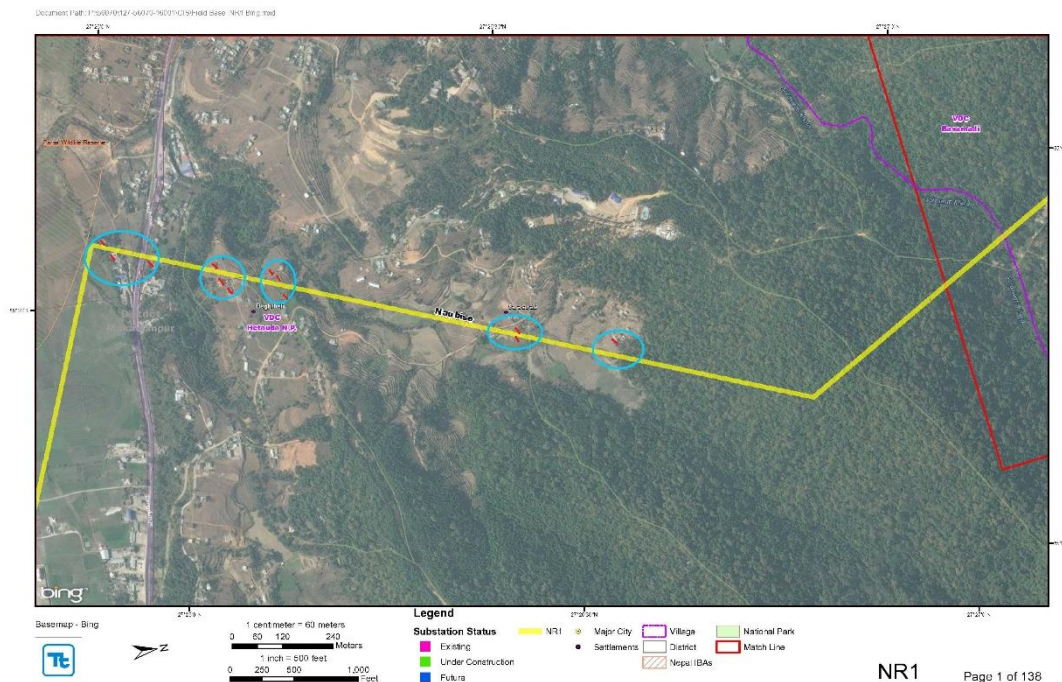


Figure 3. Sample 1:6,000 Scale GIS Map Showing Structural Impacts (circled in blue) along one of the Original Transmission Lines (yellow on diagram) on the NR1 Project

Table 1 provides details of each of the seven sub-projects that make up the transmission line project. There is a total of approximately 600 km of transmission lines, 8 new substations, and 10 transmission line projects – including 132 kV, 220 kV and 400 kV lines – spread from west to east in the country. The table includes the estimated length of the transmission line, the substations associated with the lines, the respective ROW (as mentioned above), as well as some details about the areas where there will be permanent impacts (i.e., the transmission towers, under the substation footprints, and the associated access roads for the substations). The specific type of substation is also included in the table. This has an impact on land acquisition/resettlement in that gas-insulated systems (GIS) are more compact and require a smaller land requirement/ footprint (thereby causing less impact). In areas where there was limited room for the substation, or in very high elevation areas, the designers chose to use GIS as the design for the substation. Lastly, the notes column includes more details about each project.

For some of the projects, other donor-funded projects are already underway and will offset or complement the work that MCC will need to do. For example, for NR1, there is a need to add the 400 kV Lapsipedi substation near the 220 kV substation planned by the Asian Development Bank (ADB). However, the ADB is now in the process of purchasing a large plot of land for the 220 kV station. MCC will need to purchase the additional land needed for the 400 kV system (and will continue to move forward with the large piece of land being purchased for the 220 kV system). In some projects, the substation already exists, therefore only the transmission lines will be designed.

During field visits, it was learned that one project, NR4, which has one transmission line already strung on one side of the existing towers, is already underway by NEA through a Korean contractor. Because NR4 is being handled by other contractors, there has been no reporting on the resettlement

impacts of this project in this RPF. Another similar situation exists along T2'. During field research, it was discovered that an independent power producer (IPP) has already purchased the land for a 132 kV substation in the same area and there is enough land available to add the new 220 kV substation. More detailed descriptions for these, and the other projects, are included in the following sections.

NR1

As detailed in Table 1, NR1 consists of 5 new substations – each of which is described in detail below – and approximately 280 km of transmission lines, with 1,012 transmission towers impacting approximately 1,326 total hectares of land. The following is a description of the substations in NR1.

Lapsipedi Substation

This is a new 400 kV GIS substation to be constructed beside a 220 kV GIS substation designed by the ADB. The proposed location is Kathmandu District. The two substations will be connected through 220 kV underground cables. As mentioned above, ADB is in the process of purchasing the land for their 220 kV substation. Additional land will be needed for the new 400 kV substation to be designed for the MCC project.

The station layout location is included in Figure 4. The station footprint was optimized to approximately 100 m x 170 m in order to use the flat land to a maximum and to reduce the amount of civil work required for construction.

The existing access road to the site from Sankhu- Bhotechaur road is a narrow mud road that cannot handle heavy truck loads. Therefore, the existing road from the village to the site (approximately 2.1 km) will be upgraded and expanded to 7 m wide asphalt roads to carry heavy loads towards the station. This road will be upgraded by the ADB.

A new access road into the substation will be built from this upgraded road, which will also be able to handle heavy truck loads. The staff quarters will be on the site and connected to a water supply system that will also consist of a water treatment system. The wastewater from the staff quarters will be collected and treated in a septic tank and bed system. A perimeter fence will be installed on top of the retaining wall to restrict the access into the site.

Table 1. MCC Transmission (Trans.) Line Projects and Components that will Result in Resettlement Impacts

Project	Description	Length of Transmission line	Substation(s)	Type of Substation*	ROW (of trans. lines)	# of Towers	Total area under towers (Ha)	Area of Substation (ha)	Access Road (length x width)	Notes
NR1	400 kV East-West Trans. Backbone	279.3 km (TOTAL)	Lapsiphedi	GIS	46 m	1,012	24.73	1.63	2100 m x 7 m	<p>New substation. ADB planned 220kV substation project and acquiring land in same area & will upgrade road. Requires additional land for MCC 400 kV substation.</p> <p>New Substation requires land acquisition.</p> <p>New substation. WB 220kV substation, already built and land purchased. Additional land needed for 400 kV substation.</p> <p>New Substation requires land acquisition.</p> <p>New substation. NEA is completing under ADB loan, land is being procured for 220kV – land is big enough to accommodate new 400 kV – no land acquisition required.</p>
		Lapsiphedi to Naubise	Naubise	AIS				8.78	1575 m x 7 m	
		Naubise to New Hetauda	New Hetauda	GIS				9.84	190 m x 5.5 m	
		Naubise to New Damauli	New Damauli	GIS				6.63	430 m x 5.5 m	
		New Damauli to New Butwal	New Butwal	AIS				14.48	130 m x 5.5 m	

Table 1. MCC Transmission (Trans.) Line Projects and Components that will Result in Resettlement Impacts

Project	Description	Length of Transmission line	Substation(s)	Type of Substation*	ROW (of trans. lines)	# of Towers	Total area under towers (Ha)	Area of Substation (ha)	Access Road (length x width)	Notes
NR3	132 kV Network Reinforcement Trans. Line	114 km	Inaruwa Ilam	AIS AIS	18 m	439	2.14	N/A N/A	N/A N/A	Existing Substation – no land acquisition required. Two line bays for 132 kV to be added – enough space available. Existing Substation – no land acquisition required. Two line bays for 132 kV to be added – enough space available.
NR4	Existing 132 kV Network Trans. Line – requires second line on existing tower	130 km	Balanch Attariya	AIS AIS	18 m	N/A	N/A	N/A N/A	N/A N/A	Existing Substation – no land acquisition required. Existing Substation – no land acquisition required. Project is underway through NEA, via a South Korean Contractor. There is one transmission line strung on half of the line, and the other side is underway (including land acquisition and resettlement activities).

Table 1. MCC Transmission (Trans.) Line Projects and Components that will Result in Resettlement Impacts

Project	Description	Length of Transmission line	Substation(s)	Type of Substation*	ROW (of trans. lines)	# of Towers	Total area under towers (Ha)	Area of Substation (ha)	Access Road (length x width)	Notes
T2'	220 kV Trans. line connecting to hydro	28.8 km	New Khimti Likhu	AIS GIS	30 m	119	2.3	N/A N/A	N/A N/A	New Substation – to be constructed by others, has room for 220 kV lines from MCC project – no land acquisition required . New Substation required. Land for SS and access road has been purchased by IPP, and MCC will reimburse the IPP.
T3	132 kV Trans. line connecting to hydro	34.7 km	Kusma Tadekhani	AIS GIS	18 m	149	2.77	N/A 2.05	N/A 385 m x 7 m	Existing Substation – no land acquisition required. New Substation requires land acquisition.
T8	400 kV Trans. line connecting hydro to Nepal/ India border	30.3 km	New Lamki	AIS	46 m	91	1.58	10.37	70 m x 5.5 m	New Substation requires land acquisition.

Table 1. MCC Transmission (Trans.) Line Projects and Components that will Result in Resettlement Impacts

Project	Description	Length of Transmission line	Substation(s)	Type of Substation*	ROW (of trans. lines)	# of Towers	Total area under towers (Ha)	Area of Substation (ha)	Access Road (length x width)	Notes
XB1	400 kV Trans. line from NR1 to Nepal/ India border	18.4 km	New Butwal (same as above in NR1)	(same as above in NR1)	46 m	53	.9	N/A	N/A	(Same as New Butwal – above, in NR1)

Note: GIS = Gas Insulated Substation – a high voltage substation in which the major structures are in a sealed gas environment; this type of substations requires less land due to the compact nature of the design, however it is more expensive. AIS = air insulated substation which uses air insulation as a seal.



Figure 4. Available Land for Lapsiphedi Station – Latitude 27°44'42.44\"N Longitude 85°30'33.03\"E.

During field visits to the proposed site (see Figure 5), the land appeared to be all farm land. No structural impacts are expected on the proposed substation property.



Figure 5. Field Visit to Lapsiphedi Proposed Site.

Special Considerations for Lapsiphedi Substation (Associated Facility)

Because the MCC Project will share space with the upcoming ADB project, the RAP team should work closely with the ADB team to collaborate on the processes that will be followed and the compensations (including allowances, social assistance, and livelihood restoration plans) that will be provided to impacted persons to ensure that the requirements of IFC PS5 are met. If the MCC project, starts after the ADB project is already underway, the RAP team should review the resettlement work done by their team. This is particularly important in terms of the compensation packages offered to the project affected persons in the area. It is expected that ADB will carefully implement their safeguard policies, which align very closely with IFC PS5 requirements, however, there may be differences between compensation packages that will be offered which may cause disputes between those compensated by ADB and those compensated by MCC (especially if the differences are large). As much as possible, the MCC project should try to follow their own finalized Entitlement Matrix, which describes all compensations offered for the various impacts, while at the same time taking into consideration the ADB offerings to ensure fair and equitable treatment of all impacted persons in the same vicinity. In addition, if the MCC project starts a significant time period after the PAPs have been compensated by ADB, considerations must be put into place to address the effects of inflation and therefore the compensation packages must be adjusted to account for this change.

Naubise Substation

Moving east to west, from Lapsiphedi along NR1 – the next substation is Naubise, located in the District of Dhading. Two 400 kV transmission lines will connect Lapsiphedi to the Naubise substation. Naubise is a new 400 kV to 220 kV station. An initial site was chosen for the new Naubise station which has an approximate size of 207 m x 530 m. Through the use of an optimized combination of strain bus and rigid bus connection, it is possible to fit an AIS station within the given land. However, following more in-depth civil analysis, the initial location was deemed unusable due to the difficult slopes in the area.

A new location was identified that will require land acquisition and impact approximately 15 structures (as determined through aerial analysis). The 400 kV lines for this setup will enter from the north and the 220 kV lines will enter from the south. Figure 6 shows a map of the selected location, where several of the structures are visible under the station footprint. Although not shown on the drawing, Naubise will also require a new access road, which is designed to be approximately 1575 m in length by 7 m wide (impacting 11,025 sq. m of land). In addition, it will impact another estimated 12 structures (again, as determined through the use of aerial maps).



Figure 6. Naubise Substation Proposed Location

Hetauda Substation

There is an existing 220 kV Hetauda substation located in the Makwanpur District that is under construction by the World Bank. The MCC project will construct a new 400 kV station to be built alongside the existing one. Two 400 kV lines will connect to Naubise from the New Hetauda substation. Three different locations were reviewed when determining the best placement of the new station in relation to the 220 kV station. Figure 7 shows the initial site location selected – this space was determined to be inadequate because there was not sufficient space available (note: although not shown, the existing Hetauda substation is just to the east of this first layout).



Figure 7. Initial Proposed Placement of New Hetauda Substation.

The second site option explored is shown in Figure 8. The solution consisted of using the farmlands to the north west of the station to build the 400 kV station and to join the 400 kV and 220 kV stations through a transmission line. During discussions between the technical team and the resettlement team, it was determined that this was not the optimal solution either because the new station placement would impact more people – including all of the structures located between the new placement of the 2 substations (where the lines would need to be connected). The most optimal location, from both the technical and resettlement points of view, is shown in Figure 9. This option considers the land immediately adjacent to the existing Hetauda substation, in order to reduce the footprint of the overall stations. The red area represents the area initially available for the new 400 kV station, the green area the area already purchased for the 220 kV station and the yellow area represents land that is deemed as usable. It is possible to achieve a station layout that fits within the allowed red and yellow area while being properly coordinated to the 220 kV station. However, the planned location for the station will require relocation of the residents living to the west between the road and the station. Furthermore, the road that is running east to west and is located just north of the station fence will have to be relocated further north. There are also living quarters and an office building that are already constructed. These will have to be demolished and relocated. It is also expected that the Hetauda station will require a road that is approximately 190 m long and 5.5 m in width. No structures will be impacted due to the road, however the substation is expected to impact about 17 structures.

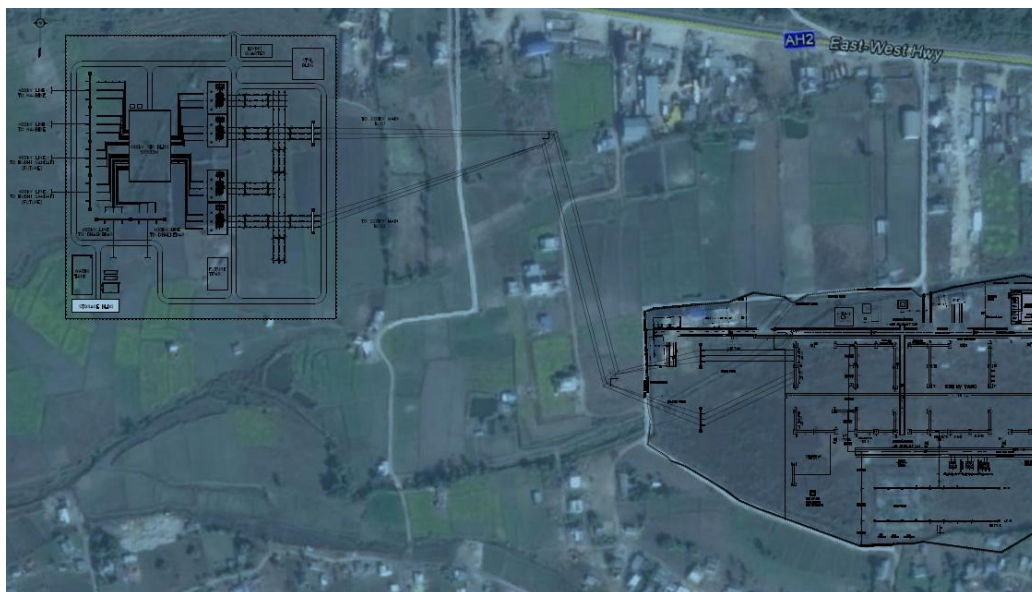


Figure 8. One Option Explored for the New Hetauda Substation



Figure 9. Recommended Location for New Hetauda Substation

Special Considerations for Hetauda Substation (Associated Facility)

The same details that are included under Lapsipedi substation, above, apply to Hetauda. The World Bank follows Operational Policy 4.12 (OP 4.12) which, again, is nearly identical to IFC PS5. It is expected that this project will also offer very similar compensation packages as what would be offered under the IFC PS5 requirements. Although one difference is that the Hetauda Substation is already built. It would be good for the RAP team to meet with the WB resettlement expert to understand what was offered to the previous PAPs who were impacted by the substation

construction. It may have been built a long time ago, therefore the compensations may no longer be relevant, and the current PAPs would simply be compensated as described in the finalized Entitlement Matrix for the MCC project.

New Damauli

The proposed New Damauli new 400 kV substation is located in Tanahu District. The site (Figure 10) selected for New Damauli contained an L shaped area of 66,250 m² where the flat land was adequate to install a station. No impacts to structures are expected due to this placement of the substation, or due to the planned road which will be 430 m x 5.5 m. The primary impacts in this area will be on agricultural fields.



Figure 10. Planned Location for New Damauli Substation - Latitude 27°58'4.80"N Longitude 84°27'37.11"E

New Butwal

The location of the New Butwal substation is in Nawalparasi District. This is a new 400 kV substation that will be connected to a 220 kV substation designed by others. It will connect to New Damauli via two 400 kV lines. It will also have two 400 kV lines which will cross into India to provide export/import capacity.

The land for the 220 kV substation has already been purchased by the ADB, although no details were provided about the plans for it to be built by others. The location that was selected for the 400 kV MCC station placed it next to the location of the 220 kV station. The approximate size expected for the 220 kV substation would require an approximate footprint of 120 m x 180 m (based on other 220 kV AIS stations that have been designed as part of the project). No structures are expected to be

impacted by the substation layout; however, approximately 6 structures will be affected by the currently designed access road – which is approximately 130 m x 5.5 m and will come in from the East-West highway. Figure 11 and 12 show the expected location for the New Butwal Station (by using part of the purchased land as well as the expanded land). The satellite imagery of the site also revealed that a drainage stream runs through the middle of the station. This stream will need to be relocated during the civil work.

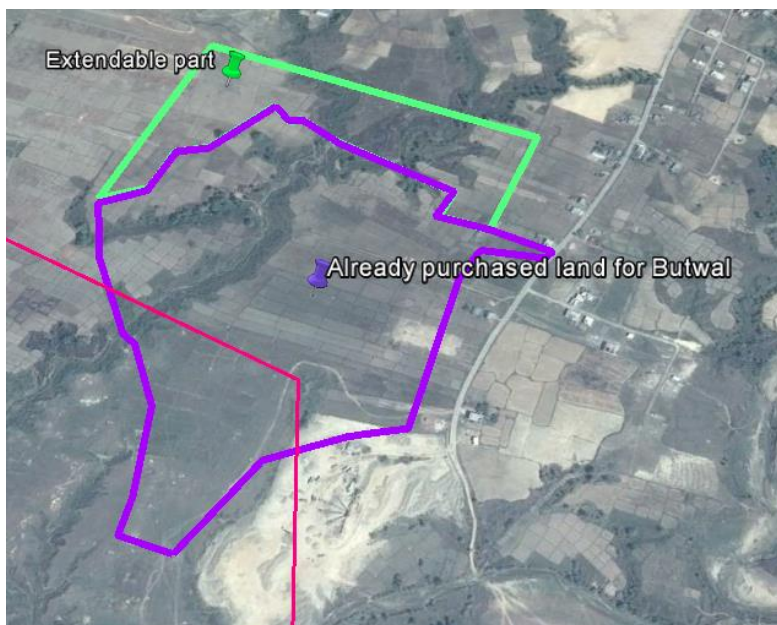


Figure 11. Available Land for New Butwal Substation – Latitude 27°34'35.25"N Longitude 83°41'25.62"E

Special Considerations for New Butwal Substation (Associated Facility)

The same situation applies to the New Butwal station as what is described for the Lapsipedi substation above.



Figure 12. Overlay of New Butwal 400 kV Station Design on ADB Purchased Land

1.4.1 T2'

Likhu Hub

Likhu Hub is a new 220 kV substation double-circuit transmission line located in the very hilly region of the Solukhumbu District. The line has been designed to run from Likhu Hub substation to New Khimti substation. This project will help new hydro generation plants to bring energy into the national grid. As per our assessment and investigation, there are five registered Likhu hydro projects in the surrounding area. All of these plants need to connect to the national grid. Therefore, it is decided that these projects will connect to Likhu substation and will step up the voltage and connect to the New Khimti substation.

The Likhu Hub 220 kV-132 kV substation is planned to be constructed adjacent to a 132kV substation currently being built by an Independent Power Producer (IPP). The land required for the substation has already been acquired by the IPP. The land that they have acquired can accommodate the MCC new substation. MCC will compensate the IPP for the land (and this cost has been included in the pricing document included in Annex C). The area available does not allow for construction of the living quarters and all related buildings. The land available to the North of the IPP's 132 kV substation will have to be used. The staff quarters will be constructed to the north of the existing 132 kV station and needs to be connected by a walkway to the new station. These new staff quarters will be connected to a water supply system that also consists of a water treatment system. The wastewater from the staff quarters will be collected and treated in a septic tank and bed system. A perimeter fence will be installed on top of the retaining wall to the west and south and on top of a compound wall to the east and north in to restrict access into the site. It is understood that the MCC

will purchase the land from the IPP. It will be important to ensure that the IPP understands the requirement to follow IFC PS5.

Special Considerations for Likhu Hub (Associated Facility)

This situation differs from the issues mentioned in the previous sections. In this situation, the IPP has purchased the land required for the substation that will be built by MCC. During this RPF phase, the IPP was informed that it will be important for them to follow IFC PS5 requirements, if any additional land is needed. However, if the sale of the land is a “willing seller – willing buyer” agreement, then IFC PS5 does not come into effect. The only concern will be that no coercion takes place during the land transactions. However, if there are landowners who choose not to take the offer for their property, and the land is still required for the project such that they cannot truly refuse this option, IFC PS5 will come into effect and must be followed by the IPP. The RAP team should work closely with the IPP to understand their process and may even want to ensure some of the RAP team members, or possibly an independent observer, accompany the IPP teams if any addition land negotiation needs to take place in order to witness that no coercion takes place.

1.4.2 T3

Tadekhani

Tadekhani is a new 220 kV substation to be constructed in Myagdi District. The T3 Tadekhani substation to Kusma substation project is a new development of approximately 35 km, 220 kV double-circuit transmission line through hilly regions in western Nepal. This line is to connect new hydro generation plants in the surrounding area of the Tadekhani substation to the national grid.

Tadekhani substation’s location is different from that originally suggested in the due diligence report, as it must be located at or close to the geographic center of the hydro power generation projects. This double circuit 220 kV line is so routed to pass near Rahughat substation (or Beni Hub). The transmission line route from Tadekhani substation goes south-east towards Kusma substation through hilly terrain. There is also a 132 kV substation portion that is being developed by others. The available flat land is located south of an inhabited area and the design was optimized using a GIS type of substation to only require approximately 95 m by 216 m in order to fit within the land that is available. According to the available information, the land will need to be acquired. A new access road into the station will be built from the existing mud road to the north of the Myagdi River and this road will be finished with a sub base, base, asphalt layers to handle to heavy truck loads. In addition to the new access road a new bridge will be constructed to cross the Myagdi River, this bridge will have a span of 60 m and the road will be 6 m wide. The existing road from Beni to Tadekhani substation is a mud road of 4 m wide which passes through several river bends where landslides have been observed. This 20 km road will be upgraded to a 6 m wide asphalt road and the potential landslide locations will be strengthened to prevent landslides. The substation footprint is expected to impact 9 structures and the road access planned (385 m x 7 m) is expected to impact about 3 structures. Figure 13 shows the planned substation location. The land appears to be primarily agricultural land.

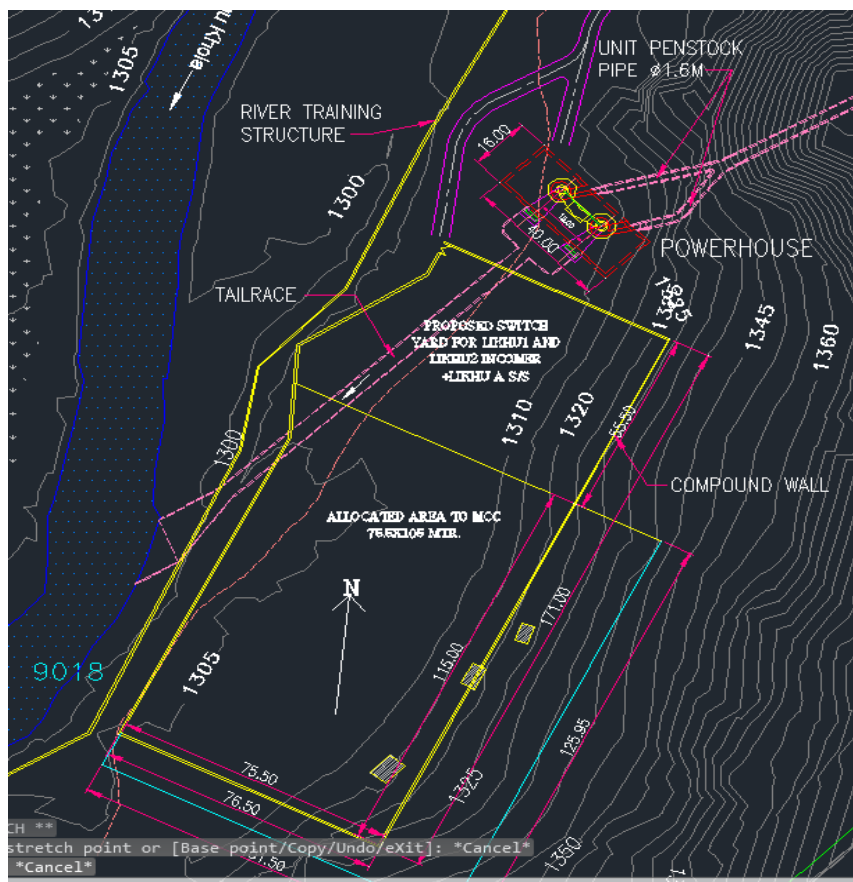


Figure 13. Station Layout of Likhu Hub Substation

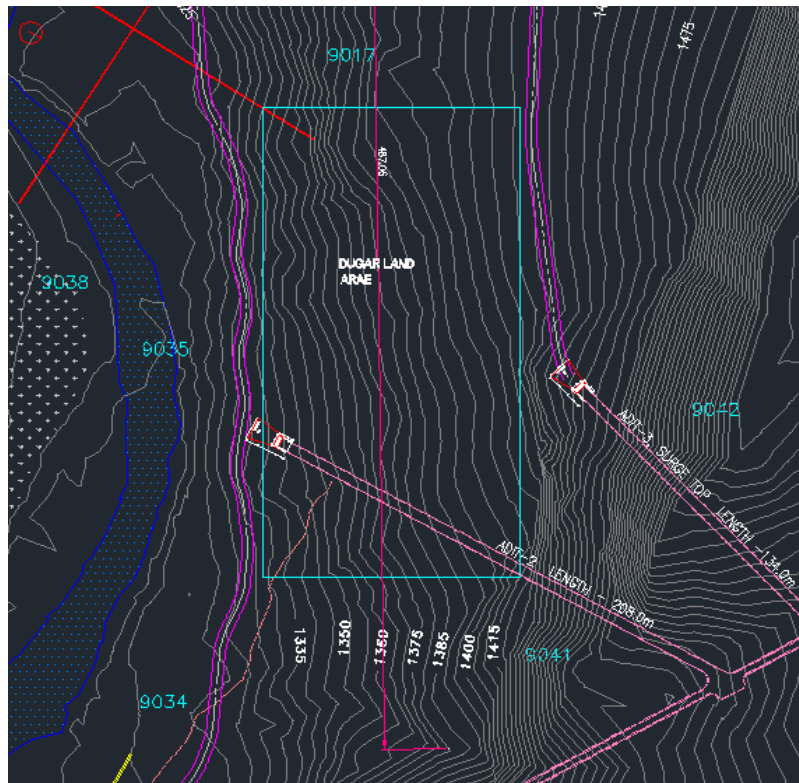


Figure 14. Available Land for Living Quarters at Likhu Hub



Figure 15. Available Land for Tadekhani Substation - Latitude 28°23'40.4"N Longitude 83°25'04.9"E

1.4.3 T8

New Lamki

The New Lamki Substation is located in Kailali District in the southwestern region along the lowlands/Terai region and is a new substation with approximately 30 km of 400 kV double-circuit transmission lines crossing into the Nepal-India border. This line is designed to export 88% of generated power from the Upper Karnali hydro generation plant to India and also will be used for importing power from India during Nepal's dry season. The route from New Lamki substation goes south-west towards the border. This route was designed by GMR, a consultancy firm from India, and after review by the technical, environmental and technical team, it was found to be an acceptable route (after very slight modifications to avoid structures where possible).

The existing Lamki substation is a large 132 kV substation that sits on a very large piece of land that has been acquired by NEA. Currently, construction work is going on in the substation to change its busbar design from single to double. The control building is just large enough for the existing 132 kV facility; there is no room for extension. Substation operators do not have the skills required to operate a transmission station and cannot appreciate even the functions of the existing panels. This substation's land could easily accommodate a new 400 kV substation. However, since this station is surrounded by houses and other structures, taking a double-circuit 400 kV line in and out will precipitate resettlement and thus was deemed not feasible. Therefore, another location for the new Lamki 400 kV substation was selected. This location is far from populated land and is close-lined for loop-in loop-out connection as GMR line passes just nearby this location. The site location is shown in Figure 16.



Figure 16. Site Location for New Lamki Substation

2. Legal/Regulatory Framework and Gap Analysis

2.1 Government of Nepal Laws, Policies, and Regulations

Constitution of Nepal, 2072 (2015)

Article 25 (1) states that every citizen shall, subject to law, have the right to acquire, own, sell, dispose, acquire business profits from, and otherwise deal with property. Clause (2) states that the State shall not, except for public interest, requisition, acquire, or otherwise create any encumbrance on property of a person. Clause (3) states that in requisition of private land for public interest, it shall be done on the basis of compensation by making necessary law. Clause (5) states that nothing shall prevent the State from using the property of any person, which has been requisitioned for public interest in accordance with clause (3) for any other public interest instead of such public interest. Article 40 (5) on the Rights of Dalits asserts that the State shall provide land to landless Dalits by making law and (6) the State shall make provision of housing to homeless Dalits by making necessary law. Article 42 (4) regarding social justice for socially backward women, Dalit, indigenous people/nationalities, youths, farmers, and others states that every farmer shall have the right to access to lands for agro activities, etc., in accordance with law.

Land Acquisition, Resettlement and Rehabilitation Policy for Infrastructure Development Projects (LARRPIDP), 2071 (2015)⁴

In order to address the increase of development projects in Nepal and “a lack of a comprehensive and updated policy on land acquisition, resettlement and rehabilitation” this policy was developed and approved by the Government of Nepal. The objective is to provide adequate compensation, resettlement and/or rehabilitation to affected families and communities, so as to restore their social and economic conditions to pre-project status or better conditions. The policy aims to facilitate the smooth implementation of the project through reducing its adverse impacts by bringing out uniformity in compensation, resettlement and rehabilitation measures. It is meant to provide a guideline in establishing coordination among various agencies on land acquisition issues and in implementation of the projects.

Some of the specific aspects of the policy include the following:

- The first objective is to avoid displacement or to minimize displacement. If displacement occurs, the objective is to minimize adverse impacts by “providing compensation and opportunities of economic and social benefits to the affected individuals, families and the community.”

⁴ In accordance with information on the Government of Nepal website (<http://ibn.gov.np/new-policy-can-resolve-most-of-the-problems-in-land-acquisition>) the government approved this Policy. The Prime Minister directed the Ministry of Land Reform and Management to undertake the necessary steps to amend the Land Acquisition Act to be more in line with the policy. The Ministry of Land Reform and Management, together with the National Planning Commission, has initiated the process of formulating a new LAA more in-line with the Policy. Several others are involved in implementing the policy, including the Ministry of Energy and the Nepal Electricity Authority.

- Describe a permanent Resettlement & Rehabilitation Unit in the concerned Ministry; a permanent Resettlement & Rehabilitation Unit at the department of the concerned Ministry and at other implementing agencies; and a project-level Resettlement & Rehabilitation Unit in projects that need to carry out resettlement and rehabilitation activities.
- Emphasize that the project implementers conduct meaningful consultation with project affected persons including vulnerable groups – people living below the poverty line, landless, senior citizens, women, children, indigenous persons, disabled, helpless and non-titleholders.
- Recommends the adoption of a scientific method to value assets and land; describes the process to be followed, reviewing: current registration price in the Land Revenue Office; comparative reference point/ index-based on composition, structure and size of required area of land; type of road; geographical location and the strategic, business and commercial importance of the land; and the type of land classification.
- Emphasizes that a grievance handling mechanism is in place to address complaints/ grievances; specifies a 3-tier grievance handling mechanism – at the project level, district level, and regional level – with the last option being filing with the Appellate court.
- Resettlement report will be submitted to the Ministry/ Executing Agency for approval by having it review from the Resettlement & Rehabilitation Unit of the Department.
- Requires to accomplish compensation payment, resettlement and rehabilitation efforts to the project affected person/households including non-title holders.
- Specifies that compensation of physical infrastructure shall be provided in replacement cost.
- Describes that loss/damage to trees and plants will be compensated based on the standard provided by District Forest Office of concerned district; loss of crops, fruit and fodder will be paid based on standards from the Department of Agriculture; if the loss/damage is inflicted on legally registered commercial farm, orchards or horticulture farms, compensation shall be paid in the amount equal to loss of income for 5 years.
- Describes that if the project damages irrigation facilities, drinking water, sanitation, pasture land, cultural or religious places, schools, community buildings, markets, transportation facilities pathways and other service provisions – arrangements must be made to allow uninterrupted service during the project and the facilities must be restored to previous status before completion of project.
- Local NGOs and social mobilizers may be utilized to distribute compensation at the project site itself if needed.
- If deadline passes and compensation has not been claimed, compensation may be supplied to the successor of the family if proof is provided and if the VDC chairperson or mayor or municipality certifies the reasons for their absence; For “absent landowners” and local authorities certify this, the project will deposit their entitled compensation amount into a bank account under “compensation fund.” If unclaimed after 5 years, public notice in the national newspaper must be placed by the project over a one month period – at least three times to call affected families to stake claim. If not claimed, compensation fund is reverted to the State.
- Discusses additional benefits to be supplied to impacted persons/ families – including (based on the nature of the impact): living arrangements, transportation allowances assistance to transport goods, business transfer allowance, house rentals, etc. Additional allowances may be provided to families in disadvantaged groups (Dalits, *Janajati*, single women, disabled,

senior citizens, etc.). Livelihood restoration measures will be put in place for those who lose their livelihoods, and project affected persons shall have preference in employment during the project.

Land Acquisition Act, 2034 (1977 and its subsequent amendment in 1993)

The Land Acquisition Act is the core legal document to guide tasks related to land acquisition and resettlement activities in Nepal. An important note in regards to the LAA is that the Land Acquisition, Resettlement and Rehabilitation Policy for Infrastructure Development Projects (detailed above) has been endorsed by the Cabinet. The National Planning Commission and others have been initiating the process of reformulating the current LAA to be more in line with the approved policy.

The LAA specifies procedures of land acquisition and compensation. The Act empowers the government to acquire any land, on the payment of compensation, for public purposes or for the operation of any development project initiated by government institutions. There is a provision of the Compensation Determination Committee (CDC), chaired by Chief District Officer, to determine compensation rates for affected properties. The Act also includes a provision for the acquisition of land through negotiations. It states in Clause 27 "notwithstanding anything contained elsewhere in this Act, the Government may acquire any land for any purpose through negotiations with the concerned land owner. It shall not be necessary to comply with the procedure laid down in this act when acquiring land through negotiations."

Table 2. Key Steps Prescribed in Land Acquisition Act, 1977

- i. Government can acquire land for any public purpose (Clauses 3 & 4).
- ii. Land Acquisition Officer (LAO), or the Project Chief (Manager) in the case of a project, shall be responsible to publish a copy of a notifications of land acquisition in the concerned VDC and Municipality Office. Three (3) days after notification - survey/ mapping of land and soil sample collections and demarcation of land can proceed (Clauses 5 & 6).
- iii. The LAO shall determine the amount of compensation for any damaged property (house, wall, trees, etc.) while conducting initial survey works (Clause 7).
- iv. Within 15 days after the preliminary actions LAO has to confirm the required land, compensation determination, and submit other details of the required property to the Chief District Officer (CDO) (Clause 8).
- v. The CDO to publish public notification with details of the affected property after receiving the report of preliminary activities. Upon notification, the concerned person must submit application to claim compensation within 15 days (Clauses 9 & 10).
- vi. Any grievances by landowner (or tenant who has built brick house on land) regarding land and property acquisition could be reported to the Ministry of Home Affairs within 7 days of public notification to CDO. Ministry of Home Affairs is to decide on the grievances within 15 days as a capacity of district court (Clause 11). If decision has been made on grievance, local officer can take possession of the land and had over to institution it is acquired for. If there is a house on land being occupied it cannot be taken possession of unless the owner is paid 50% of compensation for it (Clause 12).

Table 2. Key Steps Prescribed in Land Acquisition Act, 1977	
vii.	Compensation for the acquired land / property to be decided by a compensation fixation committee comprising of Chief District Officer, Land Revenue Officer, Project Manager, and representatives of the District Development Committee. The compensation to be paid in cash and separate compensation rates could be fixed for the partially affected land or completely affected land (Clause 13). There is also a provision (Clause 14) of the LAA to compensate land for land, provided government land is available in the area.
viii.	Compensation is determined taking into account GoN guidelines and losses suffered by person required to shift residence or business. The price of land, value of crops, houses, walls, sheds, losses suffered due to shifting residence or business are all considered (Clause 16).
ix.	Official tenant, with tenancy holding, will receive 50% of the amount of compensation payable for land and full compensation for any house built on the land (Clause 20).
x.	Unpaid Government tax could be deducted from the compensation amount (Clause 21).
xi.	Within 15 days of taking possession of land, the local officer shall write to the office possessing records of land and effect the transfer (Clause 23).
xii.	If any land acquired if found to be unnecessary for the purpose it was required, it shall be returned to expropriated landowner (upon refund of compensation by landowner) (Clause 34).
xiii.	Preliminary hearing of grievances/cases related to the Act shall be done by CDO. Appeal to such hearing could be made to the appeal court within 35 days (Clause 40).

Action Plan on National Energy Crisis Prevention and Electricity Development Decade, 2016

The Action Plan was put into force by the Government of Nepal and is a 99-point plan that contains various aspects aimed at improving the energy crisis in Nepal as well as the processes that are followed in the electricity sector. One very important point (Point #30) in the 99-point plan relates to the acquisition of land in the ROW of transmission lines. It specifically includes a recommendation to change the provision from providing 10% of the fixed value of land under the transmission lines (as a type of land use/ easement) to instead providing an annual rent by preparing a procedure to facilitate this. The responsible agency for this is the GoN Council of Ministers with support from the MoF, MoE, MoFALD, NEA and the related VDC/Municipality.

Land Reform Act (or the Land Act), 2021 (1964)

This act establishes the rights of tillers and tenants over the land. The Act specifies the ceiling for land ownership in areas throughout Nepal. As per the act, a landowner may not be compensated for more land than he is entitled to under the law. If land is confiscated/ acquired pursuant to this act, it can be sold or disposed of to a local person of the VDC or municipality – with priority given to the freed bonded labor, down-trodden (Dalit), indigenous and nationalities (Janajati), out of the landless people. The act additionally specifies the compensation entitlements of registered tenants on land sold by the owner or acquired for the development purposes. The Act's most recent amendment in 2001 established a rule that when a sale acquires land under tenancy, the tenant and the landlord will each be entitled to 50% of the total compensation amount.

Land Revenue Act, 2034 (1978)

The Land Revenue Act addresses changes of ownership of land. Article 8 Act states that registration, change in ownership, termination of ownership rights and maintenance of land records are done by the Land Revenue Office (LRO). Similarly Article 16 says that if land revenue is not paid by the concerned owner for a long period of time, the revenue can be collected through auction of the parcel of the land for which revenue has been due.

Malpot Ayn or Land Revenue (land administration and revenue) Act, 2034 (1977)

This is one of the main acts to carry out land administration, including maintenance and updating records, collection of land revenue, and settlement of the disputes after the completion of surveys and the handing over the records to the LRO by the survey parties. It gives the LRO authority for land registration, ownership transfer and deed transfer. It also authorizes the LRO to transfer ownership and deeds of individual land, if any person applied for the ownership transfer of his/her land with the mutual understanding that was transferred for public use.

Local Self Governance Act, 2055 (1999)

Chapter 5, Article 33, and Article 101 provide judicial power to the VDC to settle cases damaged crops, labor wages, etc., and describe other judicial procedures to be followed with the Land Revenue Office and others. Chapter 7 discusses the various taxes that are levied by the VDCs, including house and land tax, land revenue or land tax, Haat (weekly bazaar) market shop tax, vehicle tax, rent/tenancy tax, business tax, natural resources utilization taxes, and others. Articles 47 and 115 relate to coordination with governmental and non-governmental institutions. Article 112 also specifies that each municipality must collect municipal-level objective data and prepare a resource map reflecting the situation of the municipal area.

Electricity Regulation 2050 (1993)

Articles 12 and 13 of the regulation state that the Environmental Impact Assessment (EIA) report should address the environmental issues through measures required to mitigate the significant adverse impacts including socio-economic impacts, use of local labor, resources and equipment. These articles also specify that impacts on local land holders due to project implementation, and estimates of displaced population and resettlement and rehabilitation measures must be elaborated and clearly explained. This regulation has also made provision for the formation of Compensation Fixation Committee for compensation of the right of way (ROW) of the transmission line.

Public Roads Act, 2031 (1974)

This act empowers the government to acquire any land on a temporary basis for storage facilities, construction camps and so on during the construction and upgrading of roads. Any buildings and other structures such as houses, sheds, schools and temples are to be avoided wherever possible. The government is required to pay compensation for any damages caused to buildings, standing crops and trees. Compensation rates are negotiated between the government and the landowner.

Guthi Corporation Act, 2033 (1976, amended 2010)

This act establishes the Guthi Corporation as an autonomous and corporate body. *Guthi* means "a social organization endowed by any philanthropist with religious or philanthropic motives through the relinquishment of title to his movable or immovable property or any other income-yielding

property or funds" for the performance of religious functions, or construction and maintenance of temples, wells, ponds, libraries, hospitals, etc. Articles 16 and 17 empower the corporation for the management and operation of *Guthi* lands and properties and have stipulated the roles and responsibilities of the corporation; Article 18 prohibits the corporation from registering barren lands; Article 27 establishes tenancy rights on *Guthi* land; Article 30 contains provisions for tenancy rights to be sold and purchased; Article 32, 33, and 34 contains provisions for revenue and or rent on the *Guthi* land that will be collected by the corporation; and Article 42 contains provisions for reimbursement of land as far as possible, if such lands are acquired by the government.

Environment Protection Rules, 2054 (1997)

This set of rules is primarily focused on the environmental aspects of a project, including: Chapter 2 stipulates requirements for undertaking an IEE/EIA study; and various other chapters address specific environmental requirements. However, Chapter 8 stipulates procedures and provisions for compensation to any affected persons. There is no separate provision for the completion of the RAP preparation work in the Initial Environmental Examination (IEE) or the Environmental Impact Assessment (EIA). However, land/property loss and compensation-related issues must be covered under the socioeconomic impacts section of the Initial Environmental Examination and the Environmental Impact Assessment. Therefore, the RAP preparation informs the IEE/EIA, however the RAP can be prepared independently.

Reconstruction Related Act, 2072 (2015)

This is the most recent act promulgated after the earthquake of April 2015 for the reconstruction of earthquake-affected structures. The Notice 2, Part 3 and Part 5 of this act's regulation explains the land acquisition and compensation determination process and procedures, named under, 'the working procedures on land acquisition required for reconstruction of earthquake affected structures, 2072'. The major clauses of these working procedures related to land acquisition are highlighted under:

- Clause 3-4: The land required for a reconstruction project can be acquired from anywhere for the project and reserves right to enter such land.
- Clause 5 (1): The project head should include the details of the land to be acquired and send them for approval to National Reconstruction Authority Secretary.
- Clause 5 (3): Upon National Reconstruction Authority approval, the project head should publish the details of the land plots to be acquired in national or local level newspapers requesting land owners to register complaints within 15 days if they do not agree.
- Clause 5 (4-10): Specifies processes for keeping such land plots on hold and resolving disagreements with land owners if any.
- Clause 6 (1): The project head will write to land registration office for transferring the ownership of the land plots acquired according to Clause 5 (3) and Clause 5 (7) in the name of the GoN.
- Clause 8 (2): Formation of Compensation Determination Committee (CDC).
- Clause 10 (1-2): CDC should determine the compensation rate on the basis of market rate, vulnerability of those losing their land, and so on, which should be stated in the decision minutes.

- Clause 10 (3): CDC should make the compensation decisions known to the public as soon as possible by notifying landowners, publishing decisions national or local newspapers, notifying the VDC or municipality board of the details of compensation paid, the date and compensation was received, and where and when to complain about the compensation amount.
- Clause 11 (1): Dissatisfied individuals can complain within 15 days of the notice's publication.
- Clause 11 (2-4): Describes the process for resolving complains received as per Clause 11 (1).
- Clause 12 (1): Compensation should be given for any standing crops, trees or plants on the land plots while entering in lands as per Clause 4.
- Clause 13 (1-4): The period to receive compensation is 3 months from the date of notice publication as per Clause 10(3). If not, the project head shall register the amount in the office and the public notified that the compensation should be received within 6 months. If the recipients still do not claim the amount, such amount will be no longer payable and registered in reserve funds.
- Clause 16: If any public land needs to be acquired but is occupied by any individual, the government can compensate that individual with other public land, if such land is available.
- Clause 17: If the remaining land area becomes unusable after land acquisition, it shall be acquired by the project if the landowner complains within 35 days of notice publication as per Clause 10(3).

Key Project Specific Policy in Transmission Line Projects in Nepal

Table 3 indicates some of the key project-specific policies that have been followed/adopted for various transmission line projects in Nepal.

Table 3. Key Project-Specific Policies Applied in Transmission Line (& Hydro) Projects in Nepal	
Pre-1993 Transmission Line Projects - Nepal	<p>Compensation in cash to the affected persons ((APs) owners and tenants) only for house structures under ROW and land occupied by tower structures as per Land Acquisition Act 1977.</p> <p>No compensation to other land restricted for land use under ROW.</p> <p>No resettlement provisions.</p> <p>No provisions for rehabilitation and livelihood assistance to APs.</p> <p>No provisions for compensation for trees and standing crops.</p> <p>No provision of compensation and rehabilitation/livelihood assistance to APs other than legal titleholders.</p>

Table 3. Key Project-Specific Policies Applied in Transmission Line (& Hydro) Projects in Nepal

Kathmandu Valley High Voltage Reinforcement Project (1993-1997), financed under World Bank loan assistance	<p>Inclusion of representatives of the APs and village development committees in the Compensation Fixation Committee</p> <p>100% cash compensation to legal APs for the land occupied by the permanent structures. Land is registered to NEA.</p> <p>10% cash compensation for legal APs for land use restriction on ROW. The land ownership remains with APs.</p> <p>100% cash compensation to legal APs for house structures under ROW and 90% cash compensation to the land occupied by house structure. Land is restricted for structure and tree plantation. Land ownership remains with APs.</p> <p>100% cash compensation to planted trees, fruit trees, crops based on District Forest Officer's evaluation.</p> <p>Cash compensation for land is based on market price.</p> <p>Cash compensation for house structure is based on district evaluation norms; depreciation was accounted.</p> <p>The structure owner was entitled to salvage materials.</p> <p>Additional 10% of structure cost was compensated in cash to APs to transport salvaged materials.</p>
Khimti-Bhaktapur-Balaju 132 kV Transmission Line Project (1995-1999), financed under the Finnish grant and Nordic Development Fund loan.	<p>All provisions similar to Kathmandu Valley Reinforcement Project (1993-1997) with following instructions:</p> <p>100% cash compensation for utility facilities such as water supply, power supply, telephone, toilets, bio-gas plant and cowsheds to legal APs of house structure on ROW.</p>
Lalpur-Gaddahcauki 132 kV Transmission Line Project (1997-1999), under NEA & HMGN finance.	<p>All provisions similar to Khimti-Bhaktapur-Balaju 132 kV Transmission Line Project (1995-1999) with following additions.</p> <p>Rental costs in cash to legal APs of the house structures on ROW for a period of 6 months.</p>
Chilime-Trishuli-Devighat 66 kV Transmission Line Project (1997-1999) under NEA & HMGN finance	All provisions similar to Khimti-Bhaktapur-Balaju 1323 kV Transmission Line Project (1995-1999).
Lower Marsyangdi-Middle Marsyangdi 132 kV T/L Project (Proposed for construction under NEA & KfW financing.	All provisions similar to Khimti-Bhaktapur-Balaju 132 kV Transmission Line Project (1995-1999).

Table 3. Key Project-Specific Policies Applied in Transmission Line (& Hydro) Projects in Nepal

NEA. Resettlement Action Plan. Khimti-Dhalkebar 220 kV Transmission Line Project. 2014.	Severely Project Affected Families (SPAfs) (families losing >25% of land or losing their houses). Those losing >25% of land receive 6 months (75 working days for agric.) of minimum wage rate (NRs 200). Those losing their homes will receive additional R&R assistance (transportation cost (NRs 5000), house rent (NRs 2000), hardship allowance (NRs 4000), house construction allowance (NRs 4000) = NRs 15,000 per family). Livelihood Restoration provided of skill training (NRs 3000 per HH) and Agric. inputs (NRs 1500 per HH). 4-tier GRM put into place – including 2 Liaison officers. Project was held up due to community's concern about health impacts from Transmission lines.
NEA & Tanahu Hydropower Limited. Resettlement and Indig. Peoples Plan (Draft). 2012.	758 impacted HHs (primarily Janajati). Very extensive list of compensation packages. Set up a long-term (7-year) leasehold situation with leaseholders for spoil disposal site – with annual payments and promise to restore land after 7 years; Total of 19 ha, and cost for 7 years = US \$1,407,476. In order to facilitate grievances, etc., Local Consultative Forums (LCFs) were established at each affected VDC and serve as tier 1.
Adapted from: NEA. 2004. Resettlement Plan. Thankot-Chapagaon-Bhaktapur 132 kV Transmission Line Project for the Rural Electrification, Distribution and Transmission Project in Nepal.	

2.2 International Finance Corporation Performance Standard 5 (IFC PS5)

MCC adopted the International Finance Corporation's Performance Standards on Environmental and Social Sustainability in 2012. The key policy instrument adopted for Resettlement and Land Acquisition, IFC PS5, was initially developed by the IFC to assist the private sector. It was approved in 2006 and revised in 2012. The overarching Environmental and Social Management framework is in IFC PS1.

Involuntary resettlement and restrictions on land use arising from the project's land acquisition may produce adverse impacts on communities and individuals. Even though State authority may be used to acquire land, clients are encouraged to use negotiated settlements that meet PS5 requirements, in order to avoid expropriation and eliminate the need to use government authority to enforce relocation.

The policy aims to avoid or minimize displacement, to avoid forced eviction, and to avoid and minimize adverse social and economic impacts. The applicability of IFC PS5 is determined during project identification, and the actions are managed through the client's environmental and Social Management System. Purely voluntary transactions (willing seller-willing buyer of vacant or owner-occupied land) do not trigger IFC PS5. Livelihood impacts not caused by land acquisition are covered by IFC PS1, reflected in IFC PS5 paragraphs 25 and 26 (where a project results in both physical and economic displacement) and are incorporated into the RAP or, in the absence of any physical displacement, implemented through a Livelihood Restoration Plan (LRP).

Project design should minimize physical or economic displacement. Lost assets will be compensated at replacement costs, and livelihoods of displaced persons will be, at a minimum, restored, and improved if possible. Full consultation, transparency and community engagement in monitoring and evaluation are required.

Where inevitable, involuntary resettlement shall be done through the implementation of an approved Resettlement Action Plan (RAP), which is monitored and evaluated and will also have the function of excluding opportunistic settlers after the announced cut-off date. Implementation is complete when all of the impacts have been addressed, and all compensation provided for. (Guidance is explicit on audit standards and exceptional cases.) Assets are to be compensated at full replacement cost. Where there is economic but no physical displacement, a Livelihood Restoration Plan is similarly prepared and implemented. The taking of land and construction activities may only commence after compensation is made (with provisions for exceptional individual cases).

Displaced persons may have: (i) formal legal rights; (ii) informal but recognized claims; or (iii) no recognizable claim other than presence or use prior to the cutoff date. All are entitled to benefits under the RAP/LRP. Very explicit requirements are laid down as to the standards of compensation, consultation and choice. Physically displaced people must be given security of tenure (i.e., freedom from threat of further eviction). This means that informal settlers with no land title, while they may not be given individual title to land, must be allowed to resettle in a site where they have legal protection from further eviction. A range of provisions ensures that all livelihood and transactional losses are covered.

Where only livelihoods are impacted, without physical displacement, the same principles apply in a Livelihood Restoration Plan; with consultation, participation, choice, and a requirement for outcomes that all those affected have been given full opportunity to restore their livelihoods. Where a country's legal provisions require that government manage resettlement, the client will collaborate and participate to the extent permitted so as to achieve the specified outcomes. Where government compensation or remedial measures fall short of IFC PS5 standards, the client prepares and implements a Supplemental Resettlement Plan to complement entitlements and bridge the gap. In the case of economic displacement only, the client takes complementary remedial measures under an Environmental and Social Management Plan.

The IFC revised 2012 Guidance Note 5 amplifies and explains these provisions further.

MCC's guidance, originally written for World Bank Operational Policy (OP) 4.12, may be read so as to apply to IFC PS5 and will be updated accordingly. It is intended particularly to assist the MCA entity in carrying out its resettlement functions, and in elaborating the specific expectations of MCC. The following provisions are noteworthy:

- The MCA entity is responsible for ensuring that all resettlement activities are done as required. However, it may be legally required to involve other government entities with the requisite mandate in whom the necessary rights over land for the purposes of this project would be vested. MCA would engage other partner bodies such as NGOs and contracted consultants.

- MCC approves each RAP and certifies satisfactory completion. Additional detail is provided with respect to monitoring of compensation, and exceptional cases.

Additional new detail is provided on certain other issues, such as forms of compensation, and ways to address gender equity.

2.3 Gap Analysis

Table 4 includes a comparison between the requirements of IFC PS5 and the laws and policies in place for land acquisition and resettlement under the Government of Nepal. If a gap exists between the two, the recommended policy is included and should be applied to the transmission line project.

It should be noted, because the Land Acquisition Act (LAA) is the core legal document guiding resettlement and land acquisition in Nepal at this time, the gap analysis is primarily focused on the differences between the LAA and the IFC Performance Standards. The recently passed *Land Acquisition, Resettlement and Rehabilitation Policy for Infrastructure Development Projects*, however, sets policy that closes many of the gaps between the LAA and international requirements. As mentioned above, the Government of Nepal website indicates that the Prime Minister has directed the Ministry of Land Reform and Management to undertake the necessary steps to amend the LAA to be more in line with the new policy. The Ministry of Land Reform and Management, together with the National Planning Commission, has initiated the process of formulating a new LAA more in-line with the Policy. At the time of this writing, however, the LAA has not been amended.

Table 4. Gap Analysis

Key Issues	IFC Policy (IFC PS1 & IFC PS5)	Nepal Laws/ Policies	Gap	Transmission Line Project Policy
Avoidance or minimization of resettlement	Avoid or minimize physical or economic displacement/resettlement; where unavoidable, mitigate adverse impacts on persons, households and communities through measures to restore assets and livelihoods.	<p>Land Acquisition Act 1977 (LAA)</p> <p>2. Definitions: In this Act, unless the subject or the context otherwise requires, "Public Purposes" means undertaken in the interest of or for the benefit or use of the general public, or functions to be undertaken by Government of Nepal and the term also included the following:</p> <p>(1) Project approved by Government of Nepal.</p> <p>(2) Project undertaken by local bodies in different levels.</p> <p>3. Power of Government of Nepal to Acquire Lands for Public Purpose: Government of Nepal may, if it so deems necessary, acquire any land at any place for any public purpose, subject to compensation under this Act.</p> <p>4. Power to Acquire Land for Institution:</p> <p>(1) In case institution requests Government of Nepal for the acquisition of land for any of the following purposes, subject to payment of compensation and all other expenses under this Act, Government of Nepal may decide to have the land acquired for such institution:-</p> <p>(a) To construct residential quarters for the staff, workers or laborers of the institution, or otherwise provide for their welfare, or undertake any function in the interest of the general public.</p> <p>(b) To operate a project connected with an institution fully owned by Government of Nepal, or to construct a go down for the storage of any commodities or material connected with or manufactured by any such institution.</p>	<p>Gap: The LAA allows land acquisition for "public purposes." It does not specify avoiding or minimizing resettlement.</p>	<p>The Project will avoid and minimize impacts wherever possible. The Resettlement Team should work closely with the Technical Design Team to avoid or minimize resettlement through the use of engineering design adjustments and other means. The design adjustments must also take into account environmental and social aspects of the project, as well as balancing financial costs and benefits – paying particular attention to the impacts on the poor and vulnerable members of communities.</p>

Table 4. Gap Analysis

Key Issues	IFC Policy (IFC PS1 & IFC PS5)	Nepal Laws/ Policies	Gap	Transmission Line Project Policy
		<p>(2) Proceeding regarding the acquisition of land under this Act shall not be initiated unless the institution requesting for land acquisition has executed a deed...in respect to the following matters (a & b not included in following):</p> <p>(c) If any other construction purpose, the estimated time for construction and mode of for use.</p> <p>(3) Notwithstanding anything contained pursuant to Sub-section (1), Government of Nepal shall not acquire the land except practical purpose of agricultural for research, if the institution requires the land for agriculture.</p> <p>28. Power to Acquire Land for Diplomatic Missions and International Agencies: (1) lands may be acquired under this Act for the use of diplomatic missions, including consulates, and of international agencies.</p>		
Mitigate the impacts of resettlement – by minimizing adverse social and economic impacts.	Provide compensation for loss of land and other assets at replacement cost ⁵ and ensures that resettlement activities are implemented with appropriate disclosure of	<p>LAA</p> <p>16. Criteria to be Considered While Determining Compensation:</p> <p>(1) The Compensation Fixation Committee shall take the following criteria into consideration while determining compensation for lands to be acquired for Government of Nepal, Local Bodies, and institutions fully owned by Government of Nepal.</p> <p>(a) The guidelines issued by Government of Nepal from time to time in respect to the fixation of compensation and,</p>	Gap: The LAA does consider mitigation measures – primarily focused on owners and tenants. It does not specify replacement cost. IFC considers impacts on	The Project should ensure that cash compensation, and additional assistance, criteria follow the requirements of IFC PS5 to provide replacement cost for land and assets and that impacted persons, including both female and male members of households, being

⁵ Note: Per IFC – replacement cost is defined as the market value of the assets plus transaction costs. Depreciation of structures and assets should not be taken into account. Market value is defined as the value required to allow Affected Communities and persons to replace lost assets with assets of similar value. The valuation method for determining replacement cost should be documented and included in applicable resettlement or livelihood restoration plans.

Table 4. Gap Analysis

Key Issues	IFC Policy (IFC PS1 & IFC PS5)	Nepal Laws/ Policies	Gap	Transmission Line Project Policy
	information, consultation and the informed participation of those affected.	<p>(b) The losses suffered by the concerned person as a result of his having been required to shift the residence or the place of his/her business by reason of acquisition of the land.</p> <p>(2) While determining the amount of compensation for land to be acquired for institutions other than Local Bodies, and institutions fully owned by Government of Nepal, the compensation Fixation committee shall take the following criteria into consideration:</p> <p>a) The price of land at the time of the publication of a notice of land acquisition;</p> <p>b) The Value of the crops, houses, walls, sheds, etc., if any, acquired along with the land,</p> <p>(c) The losses which the concerned person will suffer as a result of shifting his/her residence, or the place of his/her business, by reason of the acquisition of his/her land.</p> <p>(20) In case the land to be acquired under the Act is a tenancy holding, 50% of the amount of compensation payable for the land shall be obtained by the tenant. Provided that a house constructed by the tenant with the consent of the landowner is also acquired</p>	landowners, customary land owners, non-titleholders, tenants, and others. It also specifies replacement cost for land and assets.	displaced due to the project are provided compensation and given sufficient time to salvage and move from RCOI prior to construction.

Table 4. Gap Analysis

Key Issues	IFC Policy (IFC PS1 & IFC PS5)	Nepal Laws/ Policies	Gap	Transmission Line Project Policy
Eligibility	All people and impacts with the exception of willing seller-willing buyer where there is no recourse to eminent domain; Includes: those with formal legal rights to the land/assets; those with no legal rights but with a claim to land recognized under national or customary law; or those with no recognizable legal right to land or assets.	The laws provides no protection for informal settlers, and others; but practice is approaching international standards through the passage of the LARRPID Policy of 2015. Current laws do not provide full protection or compensation for informal settlers (those without legal title) and others.	Significant Gap	RPF and RAP shall follow IFC policy and provide for those with legal rights, customary rights, and no recognizable legal right to land. This will be limited to those within the Resettlement Corridor of Impact (RCOI) as of the declared cut-off date, regardless of tenure status, to restore assets and incomes. Additional support, not just financial, will be provided to those who are vulnerable or have additional needs.

Table 4. Gap Analysis

Key Issues	IFC Policy (IFC PS1 & IFC PS5)	Nepal Laws/ Policies	Gap	Transmission Line Project Policy
Stakeholder Consultations	Disclosure of relevant information; meaningful consultations with affected persons communities, and other stakeholders; consultations must be on-going and inclusive ⁶ ;	<p>Local Self-Governance Act, 1999</p> <p>Section 8 (2) (c) – Six persons including one woman nominated by the Village Council from amongst those social workers, socially and economically backward tribes and ethnic communities, down trodden and indigenous people living within the village development area, belonging to the class whose representation on the Village Council does not exist and who are in possession of the required qualifications to become the Member of the Village Council....</p> <p>Section 12 (2) The Village Development Committee shall consist of the Chairman, Vice chairman and Members as follows: (c) Two Members including one woman nominated by the Village Development Committee from amongst the Members of the Village Council as referred to in clause (c) of sub section (2) of Section 8.</p>	<p>Gap: The Local Self Governance Act requires that each Village Development Committee (VDC) include one female member and six persons from among the poor, ethnic and indigenous communities. No requirement for regular/ on-going consultations with affected persons and other stakeholders.</p>	<p>The Project should ensure the participation in regular/ on-going consultations (throughout life of project) of vulnerable groups, including not only those specified in the Act (women, the poor, ethnic and indigenous communities), but also the landless, elderly, children, those with no legal rights to land, and others. Representatives from these groups should be targeted to sit on and participate in the Village Development Committee. This should include a minimum of one women nominated from the potentially affected families, and one person from each of the potentially impacted vulnerable groups in the area.</p>

⁶ Note: In IFC PS1, “inclusive” specifically refers to men, women, the elderly, youth, displaced persons, vulnerable and disadvantaged persons or groups.

Table 4. Gap Analysis

Key Issues	IFC Policy (IFC PS1 & IFC PS5)	Nepal Laws/ Policies	Gap	Transmission Line Project Policy
Impact on Informal Settlers	Included and offered secure housing; entitled to compensation for loss of assets (e.g. dwellings), land improvements and relocation help;	No legal protection or requirement in current laws.	Significant Gap	Informal settlers entitled to resettlement assistance for structure and other assets and land improvement Relocation help will also be provided; RAP should address the difficult issue of appropriate land acquisition for resettlement sites if land for land is requested by affected persons and security against future eviction.

Table 4. Gap Analysis

Key Issues	IFC Policy (IFC PS1 & IFC PS5)	Nepal Laws/ Policies	Gap	Transmission Line Project Policy
Livelihood Support/ Transitional Assistance	Provided targeted assistance such as credit facilities, training or job opportunities;	<p>LAA</p> <p>14. <u>Allotment of Other Lands in Exchange</u>: In case any person whose land is wholly acquired under this Act wants to obtain compensation in the form of land elsewhere, Government of Nepal may, in exchange for such land, allot him/her any waste land, or land belonging to itself, or any other land which it is going to allot or sell in accordance with prevailing Nepal law, if available.</p> <p>15. <u>Compensation for Guthi lands</u>: In the case of Guthi lands acquired under this Act, compensation shall be paid in accordance with the provisions of the Guthi Corporation Act, 1976.</p> <p>Guthi Corporation Act 1976</p> <p>42. Reimbursement for land acquired by the Government of Nepal: If the Government of Nepal acquires any Guthi land, it may reimburse a land instead of the amount of compensation of that acquired land. Provided that, in cases where a Guthi Raitana Numbari land is acquired, the Government of Nepal shall pay compensation to the Corporation in consideration for the land revenue leviable on that land.</p> <p>National Environmental Impact Assessment Guidelines, 1993 EIA Guidelines Chapter VIII. Impact Mitigation Measures (2)(b) Adoption of Compensatory Measures (2) rehabilitation of displaced settlements (3) compensation to affected persons</p>	<p>Gap: The legal frameworks for resettlement provide for rehabilitation of displaced settlements and compensation to affected persons through land-based resettlement strategies. However land-based livelihood is not used as a criterion for application of such land-based resettlement strategies wherever possible.</p>	Provision of rehabilitation assistance through training and other appropriate livelihood support as required;

Grievance Redress Mechanism	Project will establish a grievance mechanism to receive and facilitate resolution of Affected Communities' concerns and grievances about the client's environmental and social performance. The grievance mechanism should be scaled to the risks and adverse impacts of the project and have Affected Communities as its primary user. It should seek to resolve concerns promptly, using an understandable and transparent consultative process that is culturally appropriate and readily accessible, and at no cost and without retribution to	<p>LAA</p> <p>7. Compensation for Losses: (1) Compensation shall be paid for losses resulting from clearing of crops and trees, and of demolition of walls, etc., or for damage, if any, suffered as a result of the removal or digging of earth, stone, ditches, or boring.</p> <p>(3) In case the concerned person is not satisfied with the amount of compensation determined under Sub-Section (2), he/she may file a complaint with the chief District Officer on which he/she receives information thereof, and in such cases the decision of the Chief District Officer shall be final.</p> <p>11. Right of Landowner to File complaint: (1) Within a time-limit of seven days from the date of the publication of a notice under Section 9, plus the time required for the journey involved, the concerned landowner may file a complaint with the Ministry of Home Affairs, the Government of Nepal through the local officer, explaining the reasons, if any, why his/her land should not be acquired. If the tenant has built any brick-house on the land with the consent of the landowner, such tenant may also file a complaint under this Sub-Section with respect to such house and the land occupied by it.</p> <p>18. List of Persons Entitled to Compensation and Complaints against it: (1) On the basis of the applications received within the time-limit prescribed in the notification issued under Section 9, the local officer shall prepare a list of persons entitled to compensation, and issue a notice accordingly for the information of the concerned persons.</p> <p>(2) A person who is not satisfied with the list contained in the notification issued under Sub-Section (2) may file a complaint with the Ministry of Home Affairs, the Government of Nepal within fifteen days after the publication of such notification.</p> <p>25. Special Powers to Acquire Land in Special Circumstance: (1) In case it becomes urgently necessary for Government of Nepal to acquire any land to maintain transport or communication</p>	No Gap	Although no gap, the Project Policy should ensure more localized Grievance Redress committees are established as the first Tier of the GRM process. The localized Grievance Redress committees will consist of an established Local Consultative Forum (LCF), headed by the VDC or municipality head. One or two specialized Community Liaison Officers (CLOs), one man and one woman – preferably from project affected families, should be hired by the project, as well as Community Liaison Assistants (CLAs) from the local community as needed. They should represent the diversity and language requirements of the community.
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Table 4. Gap Analysis

Key Issues	IFC Policy (IFC PS1 & IFC PS5)	Nepal Laws/ Policies	Gap	Transmission Line Project Policy
	the party that originated the issue or concern. The client will inform the Affected Communities about the mechanism should not impede access to judicial or administrative mechanism in the course of the stakeholder engagement process.	<p>facilities, or to ensure safety of life and property against extensive damage, or to protect any other public property in the event of sudden diversion of the course of any river, or any natural disaster, or any other extraordinary circumstances, it may, notwithstanding anything contained elsewhere in this Act, order the local officer to initiate Action for the acquisition of such land after making a decision to that effect.</p> <p>(7) Any person who is not satisfied with the amount of compensation may file a complaint with the Ministry of Home Affairs, the Government of Nepal within fifteen days from the date of the issue of the notice of fixation of compensation, and, in such cases, the decision of the Ministry of Home Affairs, the Government of Nepal shall be final.</p>		

3. Principles and Objectives Governing the Resettlement Process

3.1 Objectives

The Resettlement Policy Framework (RPF) establishes the objectives and guiding principles for the project. It also seeks to define a preliminary organizational arrangement, the probable impacts and losses, and the resettlement corridor of impact (RCOI), recommended entitlements, legal applications, and various other related aspects of the project.

Both the IFC Performance Standards and the Nepal legal requirements apply. Where there are differences between the Nepal legal requirements for land acquisition and resettlement and the IFC Performance Standards, the more stringent of the two applies, as included in the Entitlement Matrix below.

The primary objectives of the project, in regards to resettlement, include:

- To first avoid resettlement where possible, and when avoidance is not possible, minimize displacement by exploring alternative project designs;
- To avoid forced eviction;
- To anticipate and avoid, or where avoidance is not possible, minimize, adverse social and economic impacts from land acquisition or restrictions on land use by 1) providing compensation for loss of assets at replacement cost and 2) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected;
- To improve or restore the livelihoods and standards of living of displaced persons;
- To improve living conditions among physically displaced persons through the provision of adequate housing with security of tenure at resettlement sites.

3.2 Principles

The guiding principles for the project are driven by IFC Performance Standards and Nepalese legal requirements, which are also in accordance with the UN High Commission for Refugees (UNHCR) “Basic Principles and Guidelines on Development-Based Evictions and Displacement” which include, but are not limited to:

- States should ensure protection against forced evictions, as well as the right to adequate housing and secure tenure without discrimination of any kind on the basis of race, sex, religion ... ethnic or social origin, legal or social status, age, disability, property, etc.
- Men and women should be ensured equal rights to protection from forced eviction and enjoyment of housing, and security of tenure.

- All persons, groups and communities have the right to resettlement, including alternative land of better or equal quality and housing that satisfies the need for accessibility, affordability, habitability ... suitable location, and access to essential services such as health and education.
- States should formulate and conduct their international policies and activities in compliance with their human rights obligations, including through both the pursuit and provision of international development assistance.
- Priority in housing and land allocation should be ensured to disadvantaged groups such as the elderly, children, and persons with disabilities.
- States should give priority to exploring strategies to minimize displacement.
- Impact assessments must take into account the differential impacts of evictions on women, children, the elderly, and marginalized sectors of society.
- All potentially affected groups and persons, including women, indigenous peoples and persons with disabilities ... have the right to relevant information, full consultation and participation throughout the entire process, and to propose alternatives that authorities should duly consider.
- All resettlement measures, such as construction of homes, provision of water, sanitation, allocation of land and sites [...] must be completed before those who are to be evicted are moved from their original areas of dwelling.
- Resettlement must ensure that the human rights of women, children, indigenous peoples and other vulnerable groups are equally protected, including their right to property ownership and access to resources.
- The responsible parties proposing and/or carrying out the resettlement shall be required by law to pay for any associated costs, including all resettlement costs.
- All those evicted, irrespective of whether they hold title to property, should be entitled to compensation for the loss, salvage and transport of their affected properties.
- Women and men must be co-beneficiaries of all compensation packages. Single women and widows should be entitled to their own compensation.
- To the extent not covered by assistance for relocation, the assessment of economic damage should take into consideration losses and costs for land plots, house structures ... alternative housing, lost wages and incomes ... resettlement and transportation costs ... where the home and land also provide a source of livelihood, impact and loss assessment must account for the value of business losses, equipment/inventory, livestock, land, trees/crops, and lost/decreased wages/income.

The principles should be carried through the project work, in terms of resettlement and land acquisition. The following sections describe the information gathered to-date on the transmission line projects and the potential impacts, stakeholder engagement and input, and the recommendations of the eligibility of impacted persons/groups and the associated entitlements, as well as next steps involved in the Resettlement Action Plan stage.

4. Resettlement Screening/Scoping, and Assessment of Resettlement Impacts

4.1 Approach

4.1.1 Summary and Methodology

Table 5 summarizes the minimum anticipated resettlement impacts. These include an estimated 1,061 structures and 1,357 hectares of land (agricultural and non-agricultural, and forest, including both for acquisition and easement), based on the preliminary project alignments and the anticipated RCOI for the projects. Also shown are the estimated land acquisition and resettlement costs associated with the impacts. Actual impacts and costs will be known once the corridors are confirmed, the line routes are finalized, and the RAPs are completed.

At the feasibility study phase of compact development, it is as of yet unclear what specific types of structures will potentially be impacted by the final transmission line routes. However, it is assumed that impacts to structures will include some residential homes, livestock and/or equipment sheds, small scale commercial shops or markets, storage areas, walls, irrigation structures, or other types of structures. To estimate the costs, however, it was assumed the structures were houses.

Table 5. Summary of Estimated Project Resettlement and Land Impacts and Costs							
Project	Districts impacted	VDCs impacted	Structures (Trans. Line & Substation)	Total Land Acquisition (Ha)	Total Land Easement (Ha)	RAP Development & Implementation (USD)	Total Cost (USD)
NR1	9	56	492	62.20	766.46	\$6,302,000	\$40,004,000
NR3	3	25	264	1.83	228.26	\$2,904,000	\$10,977,000
T2'	3	11	32	2.95	36.55	\$555,000	\$1,744,000
T3	2	12	189	4.29	44.34	\$1,030,000	\$6,219,000
T8	1	7	58	11.62	114.24	\$624,000	\$9,007,000
XB1	1	7	26	.9	83.75	\$384,000	\$3,424,000
TOTAL	18**	118	1,061	83.79	1,273.6	\$11,799,000	\$71,375,000
<p>*Note: NR4 is not included in counts – project is in process by NEA and Contractor; “Total land acquisition” includes land under transmission towers and substations to be acquired; “Total land easement” includes land under transmission lines that was identified as agricultural or barren land that may be farmed in future, less estimated government-owned land; “total costs” does not include RAP and implementation costs.</p> <p>** NR1 and XB1 both pass through Nawalparasi District; therefore, it is only counted once.</p>							

The process of resettlement screening/scoping and assessing resettlement impacts encompasses a wide spectrum of stakeholder engagement activities and research. In order to develop an estimate of impacts to structures and land, as well as an accurate representation of the socioeconomic conditions that will directly affect the compensation methodology, the Resettlement Team

undertook a multi-faceted approach of desktop studies, aerial map analyses, and direct stakeholder engagement in the field:

- Review of aerial mapping to estimate impacts;
- Identify districts impacted;
- Conduct stakeholder engagement/ data collection for 20% +/- sample in affected districts;
- Focus on greatest impact areas;
- Refine route selection criteria based on resettlement objectives;
- Revise routing to minimize resettlement (note that available mapping is typically 1-10 years old);
- Estimate total minimum resettlement impacts based on preliminary corridors and available mapping.

Beginning with the initial transmission routes proposed by NEA, the Resettlement Team conducted a first-round aerial map review of each line in order to obtain a preliminary number of impacts to both structures and agricultural land. This exercise also yielded indicative data as to the districts of Nepal that the proposed lines transected, as well as an indication of which districts possessed a higher concentration of potential impacts than others. This information was then used to inform the Resettlement Team on where field visits and initial stakeholder engagement activities at the district level should be focused. More specific socioeconomic data on these districts can be found below, according to the associated projects in each of the following subsections.

NR1 and NR3 contain a higher number of impacts and therefore were focused on during this first round of field work and stakeholder engagement activities. These activities comprised a combination of face-to-face meetings with district-level government officials, site visits to proposed substation locations, and identification of populated areas that may be impacted by the projects. The data collected through this work were then used to further inform the next steps of adjusting the transmission routes to avoid impacts where possible, through the multi-criteria route selection analysis.

Through this multi-criteria analysis, the Resettlement Team was able to minimize impacts to structures and agriculture to the extent possible, given technical and environmental considerations. Where residual impacts remained, the team conducted a second, more targeted analysis of aerial maps to obtain specific numbers of impacts within each district, as well as within each affected VDC. This information, in turn, allowed the team to hone in on particular VDCs that contained a higher number of impacts, and which were subsequently visited during a second round of VDC-level stakeholder meetings. Information sought during these engagements included more targeted data about demographics, active organizations that might potentially be partners in livelihood restoration programs, and local preferences on the importance of different VDC characteristics, among others. In light of the fact that a total of 118 VDCs within 19 districts will potentially be affected by the proposed transmission projects (excluding NR4), it was necessary to focus on a representative sample of affected VDCs. Therefore, a total of 20 VDCs within 10 districts were visited across several of the proposed projects. These VDCs are summarized in Table 6 (and the full details of each meeting are included in Annex B).

Table 6. Summary of Districts and VDCs Consulted During Resettlement Field Visits

Project	District(s)	VDC(s)			
NR1	Dhading	Thakre	Gajuri		
	Nuwakot	Chauthe	Kakani		
	Makwanpur	Basamadi Municipality	Hetauda		
	Tanahu	Pokharibhanjyang	Byas Municipality	Bandipur	
NR3	Ilam	Bajho	Bhogteni		
	Morang	Tandi	Singiya		
	Sunsari	Dumraha			
T3	Baglung	Baglung Municipality			
	Myagdi	Ratnechaur			
T8	Kailali	Tikapur Municipality	Narayanpur	Dhansinghapur	Durgauli

The Team utilized local Nepali staff at these meetings with local leaders and authorities; this helped to expedite the flow of information, build rapport with stakeholders, and ensure an easily navigable communication channel by, for example, avoiding the need for Nepali to English translation. In addition to the information gathered through conversation, attendees of these meetings also voluntarily filled out separate questionnaires that were designed to highlight certain characteristics of each VDC that local communities might hold in higher regard, and therefore should be taken into account when routing the transmission lines. Examples of the types of characteristics highlighted included, but were not limited to, the following:

- Whether there are community and/or sacred forests in the VDC;
- Where any temples, religious sites, government schools, or other important structures are located;
- Demographics, including major occupations, general ethnicity populations, male-to female ratios, male- vs. female-headed households, etc.;
- The general state of infrastructure in the VDC, and whether communities utilize collective structures or services, such as water taps, irrigation, storage warehouses, etc.;
- If there are community forest user groups (CFUGs) in the area, and if so, where;
- What types of NGOs or other social organizations exist within the VDC, and what issues do they work on;
- Trends in land use, land ownership, and land transactions, including average prices per hectare of various cropland and non-cropland, if known;
- If there are plans in the works for future development projects in the VDC and district.

4.1.2 Consideration of Indigenous Peoples

In order to more easily identify certain districts and VDCs containing higher populations of Indigenous Peoples (IPs), the following table shows the 59 indigenous groups of Nepal that have been legally recognized under the National Foundation for the Development of Indigenous Nationalities (NFDIN) Act of 2002. In the subsequent ethnicity tables that accompany each of the following socioeconomic sections, those indigenous groups that are found within each VDC are

accompanied by an “(IP)” to identify them as such. This will be important information to inform the potential application of IFC Performance Standard 7 (PS7) on Indigenous Peoples, and its stipulations relating to free, prior, and informed consent (FPIC). According to census data, many of the potentially impacted districts and VDCs contain significant numbers of people who identify with one of the below indigenous nationalities. Although indigenous people in Nepal tend to be more integrated with the rest of the population – as opposed to living in more homogenous communities where the majority of residents hail from one particular indigenous group – it will be important for the RAP consultant to maintain awareness of whether a particular group is being disproportionately impacted by the project, and undertake measures to mitigate that disproportionality, if possible.

Table 7. Legally Recognized Indigenous Nationalities under the NFDIN Act of 2002

<u>Advanced</u>	<u>Disadvantaged</u>	<u>Marginalized</u>	<u>Highly Marginalized</u>	<u>Endangered</u>
Newar	Gurung	Sunuwar	Majhi	Kusunda
Thakali	Magar	Tharu	Siyar	Bankariya
	Rai	Tamang	Lhomi Singsha	Raute
	Limbu	Bhujel	Thudam	Surel
	Chairotan	Kumal	Dhanuk	Hayu
	Tangbe’	Rajbanshi	Chepeng	Raji
	Tingaonle Thakali	Gangai	Satar/Santhai	Kissan
	Bahragaonle Thakali	Dhimal	Thami	Lepcha
	Marphali Thakali	Bhote	Urao Jhagad	Meche
	Sherpa	Darai	Bote	Kusbadiya
	Yakkha	Tajpuriya	Danuwar	
	Chhantyal	Pahari	Baram	
	Jirel	Topkegola		
	Byashi	Dolpo		
	Hyalmo	Free		
		Mugal		
		Larke		
		Lhopa		
		Dura		
		Walung		

Source: Census Report 2011, Nepal Central Bureau of Statistics.

Section GN7 of the IFC PS7 Guidance Notes (2012 version) highlights that, “The Performance Standard applies to groups or communities of Indigenous Peoples who maintain a collective attachment to distinct habitats or ancestral territories, and the natural resources therein”. More specifically, this includes “groups of Indigenous Peoples who reside in mixed settlements, such that the Affected Indigenous Peoples only form one part of the more broadly defined community”. To this end, particular attention will need to be paid by the RAP Consultant to ensure meaningful, inclusive participation of any affected IPs in all appropriate stakeholder meetings and decision making processes if IFC PS7 is triggered.

Because of the likelihood of encountering mixed indigenous and non-indigenous communities in Nepal, adherence to IFC PS7 can be a far more complex exercise, especially as it relates to the potential application of FPIC. The combination of the mixed nature of communities and the

enhanced considerations that FPIC requires over the standard practices of informed consultation and participation for mainstream communities, has the potential to cause divisions within affected communities, or between PAPs. This could result in project delays. To this end, IFC PS7 generally recommends a single engagement process that takes into account the higher standard of consultation (as circumstantiated by the nature of the particular project). Should it be deemed necessary to develop a free-standing Indigenous Peoples Plan (IPP) as outlined in IFC PS7, a framework detailing the methodology of developing such a document can be found under Annex E. This decision will be made during the ESIA process, and development of the document will be the responsibility of the social & environmental assessment consultant.

4.1.3 Consideration of Dalits and Other Vulnerable Groups

Similarly to Indigenous Peoples, individuals affected by the project who fall into the Dalit category should be given particular consideration. Dalits comprise the lowest category of the caste system, and historically have been marginalized in a number of sectors of Nepali society, including social, economic, occupational, political, and spiritual marginalization. Several ethnic groups mentioned in the ethnicity tables in the following sections are considered Dalits; they are marked with an asterisk (*) to identify them as such in those subsequent tables. The following table shows the ethnic groups found in Nepal that are considered to fall under Dalit status:

Table 8. Ethnic Groups in Nepal Considered to Fall under Dalit Status		
Hill & Mountain Dalits	Terai Dalits	Newar Dalits
Kami	Bantar	Chyame
Damai/Dholi	Chamar/Harijan	Kasai
Sarki	Chidhimar	Kuche
Badi	Santal/Saltar	Kusule
Gaine	Dom	Pode
Sunar	Dushadha/Paswan	
Chunar	Dhobi	
	Halkhor	
	Jhangar	
	Khatwe	
	Lohar	
	Musahar	
	Tatma	

Source: Census Report 2011, Nepal Central Bureau of Statistics.

Dalits in Nepal represent approximately 13% to 15% of the national population. Dalit status is distinct from indigenous status in the sense that although it is based largely on identification with certain ethnic groups, the caste system itself is inherently based on a social structure that traditionally assigns certain occupations to different ethnic groups. For example: the Kami people traditionally are blacksmiths and manufacturers of agricultural tools, Damai people provide tailoring services, and Sarki people provide leather goods and informal services.

Although initiatives exist in Nepal that focus on Dalit empowerment, they must contend with very deeply and historically entrenched perspectives on caste and ethnicity within the social hierarchy. The RAP Consultant will need to manage these issues with sensitivity, and closely monitor those vulnerable affected households to ensure that they do not slip deeper into poverty than they may

already be. An example issue to be aware of is whether low caste PAPs who are eligible for compensation for agricultural land, encounter difficulty in the purchasing process of replacement land from a higher caste landowner because they may be unwilling to sell to a lower caste. In a case such as this, the project may need to purchase replacement land on behalf of the PAP. Should this type of issue arise, the RAP Consultant should work directly with the PAP and the landowner to assess the situation on a case-by-case basis, and come to an appropriate solution.

The following sections provide more specific details as to the socioeconomic characteristics of the affected districts along each of the proposed transmission lines. They include identification of the particular districts and VDCs that the proposed lines intersect; demographic information at both the district and VDC level, including numbers of households, average household sizes, literacy rates, local economic and occupational trends, etc.; identification and quantification of some of the common ethnic groups found within each VDC, including which of those groups are legally recognized as indigenous and which groups are considered Dalits; and other pertinent data.

4.2 NR1

4.2.1 Socioeconomic and General Characteristics of NR1

NR1 is a proposed 400 kV transmission line that stretches 280 kilometers across the Central and Western Development regions of Nepal. Beginning east of Kathmandu at the proposed Lapsipedi Substation site, the line circumvents the capital to the north and west, and then runs south to the proposed New Hetauda Substation site, near Hetauda Municipality. Additionally, a separate section of the transmission line intersects the route to New Hetauda directly west of Kathmandu, at the proposed Naubise Substation site in Dhading District. The line then travels approximately 90 kilometers west to the proposed New Damauli Substation site, and finally traverses the Pahadi (hills) region of Nepal as it continues southwest to the proposed New Butwal Substation site, approximately 80 km from New Damauli. The NR1 project constitutes what can be known as the “trunk line” transmission project, as it is the longest and most significant line being proposed under this MCC Compact. Figure 19 shows the proposed route of NR1, along with substation sites and impacted districts.

In consideration of the fact that NR1 is very long and therefore impacts the highest number of districts and VDCs, a succinct, cohesive socioeconomic analysis of the resettlement impacts along the line is difficult. Therefore, for the purpose of logic and organization, the socioeconomic analysis for NR1 is broken out into several sections, according to the portion of the line that runs between substations. In other words, there are 4 separate pieces of this transmission project – Lapsipedi to Naubise; Naubise to New Hetauda; Naubise to New Damauli; and New Damauli to New Butwal.

Lapsipedi to Naubise

The section of the NR1 project that runs between Lapsipedi and Naubise impacts a total of 3 districts: Kathmandu, Sindupalchok, and Nuwakot. Within these districts, a total of 14 VDCs are transected by the proposed line. Further, Nuwakot District contains the majority of impacts along this line, as 9 of the 14 impacted VDCs are located within its borders. 3 VDCs are located in Sindupalchok, and the remaining 2 are located in Kathmandu. The specific VDCs, along with total

populations and households, are identified in Table 9. Total Population, Number of Households, and Average Household Size of NR1 Project-Affected VDCs between Lapsipedi and Naubise Substations

Table 9. Total Population, Number of Households, and Average Household Size of NR1 Project-Affected VDCs between Lapsipedi and Naubise Substations									
Kathmandu District									
Lapsipedi					Nanglebhare				
Total Population	5,629				4,520				
Total No. of HH's	1,209				935				
Average HH Size	4.66				4.83				
Sindupalchok District									
Bhotechaur			Haibung			Thakani			
Total Population	4,752		2,482			3,439			
Total No. of HH's	1,074		576			718			
Average HH Size	4.42		4.31			4.79			
Nuwakot District									
	Bhad-ratar	Chauthe	Kakani	Likhu	Maha-kali	Okhar-pauwa	Talakhu	Thana-pati	Thansing
Total Population	3,238	3,535	7,320	2,642	3,524	7,901	2,976	2,831	6,126
Total No. of HH's	705	697	1,390	557	788	1,510	688	626	1,388
Average HH Size	4.59	5.07	5.27	4.42	4.47	5.23	4.33	4.52	4.41

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Table 10. Female-Headed Households and Female Ownership of Fixed Assets by District			
	Kathmandu	Sindupalchok	Nuwakot
% Female-Headed Households	27.8%	24.0%	21.3%
Female ownership of House Only	N/A	N/A	N/A
Female ownership of Land Only	38,247	3,911	4,368
Female ownership of Both House & Land	59,119	3,611	4,087

Female ownership of Neither House Nor Land	334,699	58,643	50,039
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Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Literacy rates among the project-affected VDCs reflect the average literacy rates of the wider areas of the districts. In Nuwakot and Sindupalchok, average literacy rates hover around 60%. Literacy rates within Kathmandu are a notable exception, because district-level statistics are offset by the fact that literacy rates in the capital city are much higher than in more rural areas. However, the project-affected VDCs in Kathmandu show a literacy rate of about 70%, while the overall district rate is approximately 87%. Across all districts, however, the tendency that more men than women are able to read and write is consistent, with a discrepancy of about 12 to 15%.

The picture of ethnic groups throughout the project-affected VDCs is fairly similar, with a high number of individuals identifying with either the Tamang, Chhetri, or Brahmin Hill ethnic groups. Other ethnicities that fell into the top-five most common groups found in each district include Gurung, Kami, Newar, Magar, Damai/Dholi, Rai, Sanyasi, Sarki, and Sherpa. Specific numbers of individuals for each ethnic group can be found in Table 11, according to VDC.

Table 11. Common Ethnic Groups and Populations within Project-Affected VDCs					
VDC	Ethnic Groups/Castes				
Kathmandu District					
Lapsipedi	Tamang (3,775) (IP)	Brahmin Hill (710)	Chhetri (396)	Newar (222) (IP)	Gurung (140) (IP)
Nanglebhare	Tamang (1,903) (IP)	Brahmin Hill (1846)	Chhetri (423)	Newar (142) (IP)	*Kami (86)
Sindupalchok District					
Bhotechaur	Brahmin Hill (2,455)	Tamang (1,453) (IP)	Chhetri (559)	*Damai/Dholi (132)	*Kami (116)
Haibung	Tamang (1,596) (IP)	Gurung (431) (IP)	Chhetri (135)	Brahmin Hill (96)	*Kami (73)
Thakani	Tamang (2,570) (IP)	Chhetri (507)	Brahmin Hill (142)	Newar (88) (IP)	Sherpa (70) (IP)
Nuwakot District					
Bhadratar	Tamang (832) (IP)	Chhetri (797)	Brahmin Hill (637)	Sanyasi (369)	Magar (141) (IP)
Chauthe	Tamang (1,441) (IP)	Brahmin Hill (1,411)	Chhetri (302)	Rai (192) (IP)	Newar (58) (IP)
Kakani	Tamang (6,055) (IP)	Gurung (339) (IP)	Brahmin Hill (260)	Newar (259) (IP)	Chhetri (151)
Likhu	Tamang (1,563) (IP)	Chhetri (328)	Gurung (158) (IP)	Brahmin Hill (146)	*Kami (97)
Mahakali	Tamang (1,626) (IP)	Chhetri (836)	Brahmin Hill (364)	Newar (165) (IP)	Magar (160) (IP)

Table 11. Common Ethnic Groups and Populations within Project-Affected VDCs					
VDC	Ethnic Groups/Castes				
Okharpauwa	Tamang (2,962) (IP)	Newar (2,478) (IP)	Brahmin Hill (1,270)	Chhetri (330)	*Kami (131)
Talakhu	Tamang (2,090) (IP)	Chhetri (535)	Newar (105) (IP)	Gurung (95) (IP)	*Damai/Dholi (50)
Thanapati	Tamang (1,125) (IP)	Brahmin Hill (728)	Chhetri (507)	Newar (229) (IP)	*Sarki (134)
Thansing	Newar (1,683) (IP)	Brahmin Hill (1,544)	Chhetri (1,152)	Tamang (660) (IP)	*Sarki (407)

**Indicates an ethnic group considered as Dalit*

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Nuwakot and Sindupalchok districts are similar in terms of the delivery of basic services (i.e., drinking water, sanitation, and electricity) to households. At a district level, census data shows that roughly 80 to 88% of households in both districts rely on piped water as their main source of drinking water, and roughly 57 to 63% of households have a toilet in their home. Additionally, 83 to 88% of households in both districts utilize grid electricity as their main source of energy for lighting.

Since district-level data for Kathmandu are so heavily offset by the exponentially larger population in the capital city, citing these data here would not accurately reflect realities on the ground in Lapsipedi and Nanglebhare VDCs. However, these VDCs are nonetheless important areas to gather socioeconomic information from, as they will potentially be closely impacted by the Lapsipedi substation site.

Local economies and primary sources of income within the project-affected VDCs are very dependent on agriculture, farming, and livestock; many households also rely on agriculture and agricultural products for subsistence, as well as for their livelihoods. During a scoping visit to the proposed Lapsipedi substation site, it was clear that the land was being used primarily for subsistence farming.



Figure 17. Proposed Lapsipedi Substation Site

Likewise, Nuwakot and Sindupalchok also rely heavily on agriculture, particularly in the project-affected VDCs. Rice, maize, wheat, and potato account for a sizeable percentage of the area's overall annual harvests, as well as a variety of vegetables such as tomato, spinach, peas, and other root vegetables. Farmers also overwhelmingly own the land that they work on, as opposed to renting the land from the land titleholder. Only about 1,300 tenant farmers exist in Nuwakot and Sindupalchok, out of an estimated 130,000 total land owners. Kathmandu district, however, contains almost 31,000 tenant farmers out of an estimated 92,000 total landowners.

Naubise to New Hetauda

This section of the NR1 project runs from the proposed Naubise substation site, south to the New Hetauda substation, located in Hetauda Municipality. The entirety of this section of the project is located in Makwanpur district, Narayani Zone, and impacts a total of six VDCs, the locations of which range from the high hills in the central part of the country to the flatlands of the Terai in the southern part, where Hetauda is located. Table 12 provides population and household data for each affected VDC.

Table 12. Total Population, Number of Households, and Average Household Size of NR1 Project-Affected VDCs between Naubise and New Hetauda Substations						
Makwanpur						
	Agara	Basamadi	Gogane	Hetauda Municip.	Kalikatar	Sarikhet Palase
Total Population	7,836	17,130	5,345	84,671	4,723	8,391
Total No. of HH's	1,572	3,557	983	19,851	796	1,518
Average HH Size	4.98	4.82	5.44	4.27	5.93	5.53

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Table 13. Female-Headed Households and Female Ownership of Fixed Assets by District	
	Makwanpur
% Female-Headed Households	22.6%
Female ownership of House Only	N/A
Female ownership of Land Only	6,412
Female ownership of Both House & Land	10,285
Female ownership of Neither House Nor Land	69,029

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

The project-affected VDCs, as well as Makwanpur district as a whole, contain a high percentage of individuals who identify with the Tamang, Brahmin Hill, or Chhetri ethnic groups. At the district level, almost 50% of the entire population of Makwanpur identifies as Tamang, 14% as Brahmin Hill, and 11% as Chhetri. Other ethnic groups that exist in smaller percentages in Makwanpur include Newar, Magar, Chepang, Kami, Rai, Gurung, and Thakuri. Table 14 identifies the top-five most common ethnic groups found within the project-affected VDCs.

Table 14. Common Ethnic Groups and Populations within Project-Affected VDCs					
VDC	Ethnic Groups/Castes				
Agara	Tamang (5,063) (IP)	Chhetri (1,677)	Brahmin Hill (267)	Thakuri (243)	Magar (181) (IP)
Basamadi	Tamang (9,452) (IP)	Brahmin Hill (2,609)	Chhetri (1,850)	*Kami (892)	Magar (601) (IP)
Gogane	Tamang (3,975) (IP)	Chhetri (550)	Magar (293) (IP)	*Kami (174)	Gurung (166) (IP)
Hetauda Municip.	Brahmin Hill (28,853)	Chhetri (14,377)	Tamang (12,015) (IP)	Newar (10,740) (IP)	Magar (3,624) (IP)
Kalikatar	Tamang (2,446) (IP)	Chepeng (1,509) (IP)	Chhetri (313)	*Kami (169)	Magar (80) (IP)
Sarikhhet Palase	Tamang (5,471) (IP)	Chepeng (1,516) (IP)	Magar (438)	Thakuri (316)	Chhetri (217)

**Indicates an ethnic group considered as Dalit*

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Literacy rates among the project-affected VDCs demonstrate that the more urban areas of the district (i.e., Hetauda Municipality and Basamadi VDC) have an expectedly higher percentage of individuals over the age of 5 who are able to read and write – 84% and 68%, respectively. The other VDCs are more representative of the 63% district-level literacy rate, with percentages that range between 55% and 60%. This is in line with the indication that was given to the Resettlement Team during stakeholder engagement activities that educational institutions are relatively centralized, and many Nepalis travel to Hetauda from rural areas for educational opportunities that are otherwise not as readily available. According to local government representatives that were met with, Hetauda Municipality contains around 23 government schools, 35 private schools, and 13 colleges.

As with much of Nepal, agriculture is a major source of income, livelihood, and subsistence throughout Makwanpur. Not only are rice, fruits, and vegetables grown for export to other districts, but a significant percentage of it is sent directly to Kathmandu to meet increasing demand. Overall, roughly 83% of individuals are employed, with 53% of individuals employed in the agriculture sector. Aside from the aforementioned crops, potato, wheat, and maize also contribute significantly to the economy. Particularly in the southern parts of the district, where mountain streams converge into larger rivers, fishing is also a notable means of income generation for many people. Separately, many Makwanpur-based Nepalis travel to India to seek out employment opportunities as well, due to the district's relative proximity to the Nepal-India border.

Another notable aspect of the district economy is the availability and exploitation of minerals. Copper, gold, iron, lead, silver, tin, zinc, and bismuth are among the more common minerals sought, while granite, limestone, slate, and marble are mined for construction materials.

Irrigation infrastructure is allegedly poor throughout the district, particularly around Hetauda, according to local representatives that were met with during stakeholder engagement activities. Although agriculture is a major driver of the economy, most crops are rain-fed. However, transport of those crops and of other goods is easy, due to the fact that feeder and trunk road infrastructure development has been a focus of district government for the past decade (again, according to stakeholder meetings held in Hetauda).

Infrastructure as it relates to individual households and their ability to access basic services, is fair and falls in line with certain trends about the wider infrastructure environment of the country. While piped water or a well is relied on as the main source of drinking water for almost 90% of the district population, 40% of homes do not have a working toilet. Connections to the electricity grid are present in 75% of households, while an additional 18% utilize kerosene for lighting.

Naubise to New Damauli

The section of the NR1 project between the proposed substations Naubise and New Damauli is an east-west stretch of transmission line that runs approximately 90 km across the Central and Western Development Regions of Nepal. As can be seen in Figure 19, the project crosses 9 VDCs along the southern end of Dhading District, cuts through a single VDC in the district of Chitwan, and finally transects 7 more VDCs in the district of Tanahu, before entering the proposed New Damauli substation. As the transmission line leaves New Damauli substation on its way to the proposed New Butwal substation farther to the south, it crosses through 7 more VDCs within Tanahu. For the purposes of continuity, however, the socioeconomic characteristics of Tanahu District will be addressed in this section; the additional 7 impacted VDCs are listed in the following section, corresponding to the New Damauli-New Butwal segment of the NR1 project.

Table 15 provides statistical data on populations and households of each project-affected VDC, according to district. In general, the overall populations of these affected VDCs tend to be higher than those potentially impacted by the other proposed transmission projects.

Literacy rates among Dhading and Tanahu indicate that roughly 75% of individuals over the age of 5 can read and write in Tanahu, while about 63% of the same demographic can read and write in Dhading (Chandibhanjyang VDC in Chitwan district also possesses 60% literacy). This shows about a 12% discrepancy between the two districts. However, there are certain project-affected VDCs that fall noticeably short of the district averages. For example, Kiranchok and Pida (Dhading District) possess 49% and 55% respectively; Chhimkeshwori and Deurali VDCs (Tanahu District) possess 55% and 53%, respectively.

Table 15. Total Population, Number of Households, and Average Household Size of NR1 Project-Affected VDCs between Naubise and New Damauli

Tanahu District

Table 15. Total Population, Number of Households, and Average Household Size of NR1 Project-Affected VDCs between Naubise and New Damauli

	Anbukhareni	Bandipur	Chhimkeshwori	Deurali	Dharampani	Pokhari-bhanjyang	Keshavtar		
Total Population	16,382	12,450	1,887	2,499	3,141	3,978	4,771		
Total No. of HH's	4,034	3,056	356	521	724	979	1,171		
Average HH Size	4.06	4.07	5.30	4.80	4.34	4.06	4.07		
Chitwan District									
	Chandibhanjyang								
Total Population	4,978								
Total No. of HH's	847								
Average HH Size	5.88								
Dhading District									
	Baireni	Benighat	Bhumisthan	Dhussa	Gajuri	Jogimara	Kiranchok	Pida	Thakre
Total Population	13,369	9,717	10,786	7,190	10,035	7,744	6,006	11,043	9,838
Total No. of HH's	2,795	2,123	2,145	1,361	2,223	1,442	1,1163	2,214	2,141
Average HH Size	4.78	4.58	5.03	5.28	4,51	5.37	5.16	4.99	4.60

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Table 16. Female-Headed Households and Female Ownership of Fixed Assets by District

	Tanahu	Chitwan	Dhading
% Female-Headed Households	42.7%	33.7%	27.8%
Female ownership of House Only	N/A	N/A	N/A
Female ownership of Land Only	7,577	15,407	5,248
Female ownership of Both House & Land	10,139	22,655	5,323
Female ownership of Neither House Nor Land	59,610	93,354	62,932

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Ethnicities and ethnic diversities between Tanahu and Dhading are similar in that both districts show high percentages of individuals identifying with either the Brahmin Hill or Chhetri group. However, Dhading also holds a high percentage of people who identify with the Tamang group (22% of total district population), while Tanahu's most common ethnic group is Magar (27% of total district population). Specifically speaking to the project-affected VDCs, it is also notable that Gurung is a commonly found group in Tanahu, and Chepang is a more common group in Dhading. The most commonly found ethnicities in each affected VDC are shown in Table 17.

Table 17. Common Ethnic Groups and Populations within Project-Affected VDCs					
VDC	Ethnic Groups/Castes				
Tanahu District					
Anbukhaireni	Magar (4,279) (IP)	Gurung (3,721) (IP)	Chhetri (1,889)	Newar (1,719) (IP)	Brahmin Hill (1,575)
Bandipur	Gurung (2,670) (IP)	Magar (2,367) (IP)	Newar (1,430) (IP)	Chhetri (1,308)	*Kami (942)
Chhimkeshwori	Gurung (1,000) (IP)	Gharti (328)	Magar (229) (IP)	*Kami (137)	Other (136)
Deurali	Gurung (1,669) (IP)	Gharti (441)	Magar (239) (IP)	Brahmin Hill (40)	*Kami (40)
Dharampani	Gurung (2,535) (IP)	Magar (338) (IP)	*Kami (97)	Thakuri (64)	*Damai/Dholi (51)
Keshavtar	Magar (2,847) (IP)	Brahmin Hill (387)	Gurung (366) (IP)	*Kami (311)	Gharti (224)
Pokharibhanjyang	Magar (1,747) (IP)	Brahmin Hill (536)	*Kami (477)	*Damai/Dholi (340)	*Sarki (223)
Chitwan District					
Chandibhanjyang	Gurung (2,371) (IP)	Chepang (1,587) (IP)	Gharti (618)	Chhetri (159)	Magar (85) (IP)
Dhading District					
Baireni	Tamang (4,509) (IP)	Chhetri (2,700)	Brahmin Hill (2,394)	*Kami (738)	Newar (701) (IP)
Benighat	Brahmin Hill (2,224)	Chhetri (1,758)	*Kami (860)	Chepang (804) (IP)	*Sarki (691)
Bhumisthan	Tamang (5,029) (IP)	Brahmin Hill (1,855)	Chhetri (1,386)	*Kami (579)	*Damai/Dholi (275)
Dhussa	Chepang (3,416) (IP)	Newar (868) (IP)	Chhetri (650)	Brahmin Hill (640)	Magar (569) (IP)
Gajuri	Tamang (2,229) (IP)	Brahmin Hill (1,776)	Chepang (1,405) (IP)	Chhetri (1,301)	Newar (646) (IP)
Jogimara	Chepang (3,223) (IP)	Magar (837) (IP)	Chhetri (708)	Gurung (572) (IP)	Newar (524) (IP)

Table 17. Common Ethnic Groups and Populations within Project-Affected VDCs					
VDC	Ethnic Groups/Castes				
Kiranchok	Tamang (3,029) (IP)	Chhetri (1,357)	Brahmin Hill (751)	Newar (258) (IP)	*Sarki (208)
Pida	Chepang (2,499) (IP)	Chhetri (1,813)	Tamang (1,645) (IP)	Brahmin Hill (1,403)	Magar (692) (IP)
Thakre	Chhetri (3,960)	Tamang (1,926) (IP)	Brahmin hill (1,633)	Chepang (382) (IP)	Newar (272) (IP)

**Indicates an ethnic group considered as Dalit*

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Both Dhading's and Tanahu's economies rely predominantly on agriculture and agricultural products. Dhading in particular maintains a large agriculture sector because of its proximity to the consistent demand from Kathmandu for produce and other goods. The climate and altitude in the affected areas of both districts are suitable for several staples crops, including rice, maize, and millet. Other fruits, vegetables, and roots (especially potatoes) are also a primary source of income for farming communities, as well as a means of subsistence. In Tanahu, grains such as wheat and lentils are commonly found, especially in the project-affected VDCs (as learned through VDC-level meetings with local stakeholders).

A unique socioeconomic characteristic that was discovered through consultations with VDC-level stakeholders is that Bandipur VDC (Tanahu District) has increasingly become a popular tourist destination, on account of it possessing a well-preserved atmosphere of cultural heritage. This is relevant to a transmission line project in the sense that there could be a potential for panoramic views and other aesthetic features to be impacted by the construction of the line. Although this potential does exist in this case, it should be noted that the proposed transmission route only cuts across a small segment of the southern tip of the VDC. Additionally, aerial map analysis indicates that the line runs several kilometers away from any heavily populated areas, thus minimizing the potential impact of this risk.

On average, roughly 70% of homes within the project-affected VDCs are electrified, while a slightly lesser percentage of households utilize piped water as their primary source of drinking water. This information was supported by similar claims during VDC-level stakeholder meetings, as well as analysis of census data.

New Damauli to New Butwal

The section of NR1 that spans between the proposed New Damauli substation and the proposed New Butwal substation is an 82.5 km stretch of transmission line that runs generally southwest through the Western Development Region of Nepal. A total of 3 districts are transected by the proposed line, within which a total of 16 VDCs are impacted to varying degrees. The districts impacted by this segment of the NR1 project include Tanahu, Palpa, and Nawalparasi, and the names of the specific VDCs impacted are provided in the table below. In the interest of logic and organization, socioeconomic characteristics of Tanahu have been addressed in the Naubise-New Damauli section above; Nawalparasi, being the same district where the entirety of the XB1 proposed

transmission project is located, will be addressed in section 4.8 – XB1. Subsequently, the socioeconomic characteristics of Palpa District are the primary focus of this section. However, relevant information concerning Tanahu and Nawalparasi are also mentioned, where applicable.

Table 18. Total Population, Number of Households, and Average Household Size of NR1 Project-Affected VDCs between New Damauli and New Butwal								
Tanahu District								
	Byas Municip.	Gajarkot	Jamune	Kahu-shivapur	Majhakot	Rani-pokhari	Samu-bhagwati	Sundhara
Total Population	42,899	5,575	9,838	7,098	6,799	3,917	7,302	6,881
Total No. of HH's	11,321	1,299	2,408	1,353	1,522	861	1,503	1,430
Average HH Size	3.79	4.29	4.09	5.25	4.47	4.55	4.86	4.81
Palpa District								
	Archale	Darchha	Gadaket	Galdha	Jyamire			
Total Population	2,545	7,565	5,127	3,824	3,754			
Total No. of HH's	453	1,756	1,177	751	576			
Average HH Size	5.62	4.31	4.36	5.09	6.52			
Nawalparasi District								
	Dhurkot				Ramnagar			
Total Population	5,394				15,606			
Total No. of HH's	980				3,315			
Average HH Size	5.50				4.71			

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Table 19. Female-Headed Households and Female Ownership of Fixed Assets by District			
	Tanahu	Palpa	Nawalparasi
% Female-Headed Households	42.7%	40.6%	29.0%
Female ownership of House Only	N/A	N/A	N/A
Female ownership of Land Only	7,577	5,242	12,741
Female ownership of Female	10,139	5,882	18,711

ownership of Both House & Land			
Female ownership of Neither House Nor Land	59,610	47,766	96,413

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Across virtually all of the project-affected VDCs not only in Palpa, but in Tanahu and Nawalparasi as well, the overwhelming majority of individuals identify with the Magar ethnic group. As can be seen in Table 20, very often the total number of people belonging to the Magar ethnicity is several times higher than the next most commonly found ethnic group in a particular VDC. Archale and Galdha VDCs in Palpa, Dhurkot VDC in Nawalparasi, and Samubhagwati VDC in Tanahu are especially illustrative examples of this. At the district level, over 52% of Palpa's entire population identify as Magar.

Table 20. Common Ethnic Groups and Populations within Project-Affected VDCs					
VDC	Ethnic Groups/Castes				
Tanahu District					
Byas Municip.	Magar (7,546) (IP)	Brahmin Hill (7,029)	Chhetri (5,985)	Newar (4,074) (IP)	Gurung (3,257) (IP)
Gajarkot	Magar (1,666) (IP)	Brahmin Hill (1,018)	*Kami (765)	Newar (644) (IP)	*Damai/Dholi (269)
Jamune	Magar (3,285) (IP)	*Kami (1,483)	Chhetri (1,298)	Newar (1,298) (IP)	Brahmin Hill (1,213)
Kahushivapur	Magar (5,695) (IP)	Thakuri (447)	*Kami (376)	*Sarki (234)	*Damai/Dholi (148)
Majhakot	Magar (3,818) (IP)	*Kami (501)	Thakuri (479)	Brahmin Hill (434)	Gurung (365) (IP)
Ranipokhari	Magar (1,717) (IP)	Newar (754) (IP)	Brahmin Hill (549)	Gurung (396) (IP)	*Kami (194)
Samubhagwati	Magar (4,865) (IP)	Newar (650) (IP)	*Kami (575)	*Damai/Dholi (544)	*Sarki (265)
Sundhara	Magar (3,344) (IP)	Kumal (1,519) (IP)	*Kami (597)	*Sarki (514)	Newar (400) (IP)
Palpa District					
Archale	Magar (2,266) (IP)	*Sarki (162)	*Kami (83)	Musalman (21)	Others (13)
Darchha	Magar (2,555) (IP)	Brahmin Hill (1,317)	Thakuri (937)	Musalman (456)	*Kami (433)
Gadakot	Magar (1,378) (IP)	Thakuri (855)	Chhetri (849)	*Sarki (509)	*Kami (412)
Galdha	Magar (3,159) (IP)	*Kami (208)	Brahmin Hill (193)	Thakuri (97)	*Damai/Dholi (57)

Table 20. Common Ethnic Groups and Populations within Project-Affected VDCs					
VDC	Ethnic Groups/Castes				
Jyamire	Magar (3,557) (IP)	*Kami (95)	*Damai/Dholi (44)	Brahmin Hill (29)	*Sarki (13)
Nawalparasi District					
Dhurkot	Magar (4,243) (IP)	*Kami (349)	Chhetri (263)	Brahmin Hill (130)	*Damai/Dholi (129)
Ramnagar	Brahmin Hill (6,280)	Tharu (2,863) (IP)	Magar (1,616) (IP)	Chhetri (885)	*Kami (721)

**Indicates an ethnic group considered as Dalit*

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Literacy rates across Palpa, as well as the project-affected VDCs in Tanahu and Nawalparasi, are similar. On average, the affected VDCs in Palpa show an approximate literacy rate of 73%, while the affected VDCs in Tanahu and Nawalparasi demonstrate an average of approximately the same. Byas Municipality in Tanahu is a relative outlier, with a literacy rate of over 83%. This could be due to the fact that it is one of the larger urbanized areas in the region, and contains a higher number of educational institutions.

Figure 18 is an image taken from Google Earth of a small segment of the proposed transmission line that runs through Archale VDC, and shows the extent that terraced agriculture is relied on in the area, both for income generation and for subsistence. Rice, maize, and wheat are strong staples crops that are harvested, as well as tomato, potato, lentils, and other agricultural products such as milk.

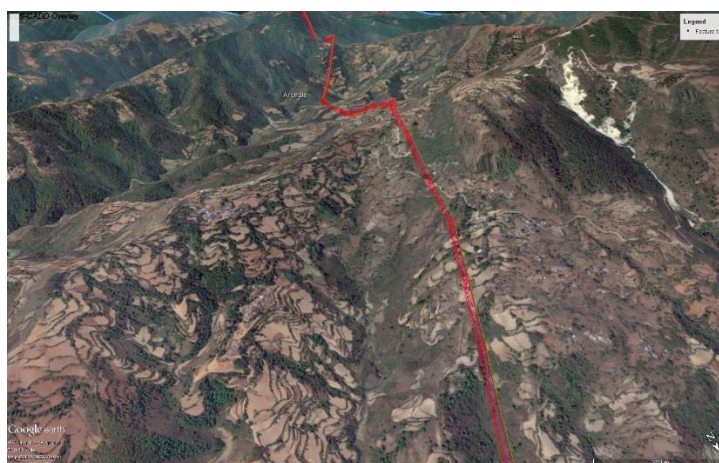


Figure 18. Representative Image of Terraced Agriculture near Archale VDC, Palpa District
(Photo: Google Earth)

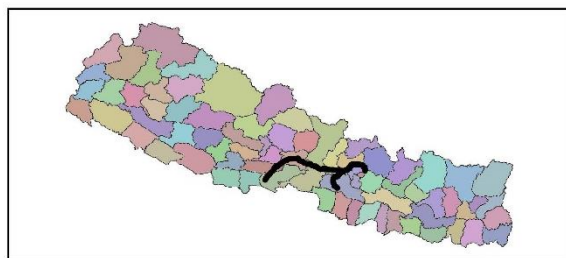
4.2.2 Resettlement Impacts

Because NR1 is the longest and most significant transmission line of the 7 projects, it transects the greatest number of districts and VDCs. Consequently, it ends up with the highest number of impacts to structures and land when compared to the other proposed projects under the Compact. As shown

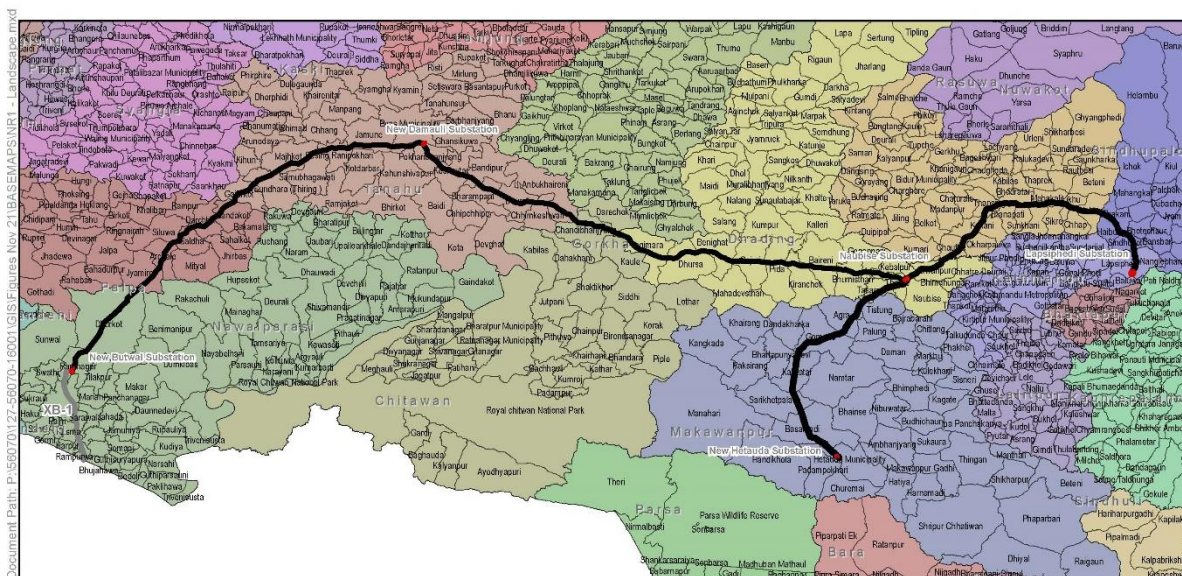
in Table 21, NR1 impacts a total of 56 VDCs across 9 separate districts. An estimated 492 structures will be impacted, along with 663 hectares of agricultural land and 487 hectares of forested land. Land impacts are summarized for agriculture land under transmission lines, forest land under transmission lines, and land underneath the transmission towers that will need to be acquired. There are expected to be a total of 1,012 towers along the entire length of NR1. The total number of towers for each segment of NR1 follows:

- Lapsiphedhi to Naubise – 197 Towers
- Naubise to New Hetauda – 166 Towers
- Naubise to New Damauli – 340 Towers
- New Damauli to New Butwal – 309 Towers

Table 21. Estimated Resettlement Impacts to Structures and Land – NR1						
	Districts	VDCs Impacted	Total Structures (Trans. line, SS, & access road)	Ag. Land Area under Trans. Line (ha)	Forest Land Area under Trans. Line (ha)	Land Under Towers to Purchase (ha)
NR1	Makwanpur	6	64	55.21	101.34	2.26
	Dhading	12	174	208.53	100.31	6.19
	Nuwakot	9	82	95.44	42.99	2.63
	Sindupalchok	3	17	32.14	13.93	0.70
	Kathmandu	2	37	10.71	6.24	0.37
	Nawalparasi	2	19	23.81	59.02	0.76
	Palpa	6	20	53.25	59.51	2.18
	Tanahu	15	72	178.74	95.24	5.07
	Chitwan	1	7	15.37	14.53	0.59
TOTALS	9	56	492	673.20	493.11	20.75



NR1 Districts



NR1 Village Development Committees (VDCs)
Figure 19. NR1 Map: Districts and VDCs

4.3 NR3

4.3.1 Resettlement Impacts

The proposed NR3 project is a 132kV transmission line located in the far southeast corner of Nepal, in the Eastern Development Region of the country. The line crosses through a total of 25 VDCs within the districts of Sunsari, Morang, and Ilam as it travels 114 kilometers between two existing substations: Ilam substation at the eastern terminus (Godak VDC, Ilam District), and Inaruwa substation at the western terminus (Bhokraha VDC, Sunsari District). Depending on the district of focus, the line passes mostly through either mountainous regions in the hills that cut across the center of Nepal, to the flat Terai area along the southern east-west border of the country. As shown in Table 22, Sunsari District contains, by far, the highest overall population among the project-affected VDCs.

Literacy rates among all 3 districts reflect the more specific literacy rates within the project-affected VDCs fairly accurately. Among individuals over the age of 5, Sunsari demonstrates a 69% literacy rate, while Morang and Ilam demonstrate rates of 70% and 78%, respectively.

The ethnic groups found throughout each of the 3 districts are diverse. However, the Rai and Limbu ethnicities tend to predominate among the project-affected VDCs. The Brahmin Hill, Chhetri, and Magar ethnic groups are common as well. In terms of ethnic groups that are particularly unique to the NR3 transmission project, Rai, Musahar, Jhangad, and Sanyasi are among some groups that are not found in the areas of the other proposed MCC transmission projects. See Table 24 for the 5 most common ethnic groups found in each of the project-affected VDCs.

Occupational and income generation characteristics that factor into the economic environment of each district vary slightly, although agriculture is by far the main source of income for almost 80% of the population as a whole. Sunsari District, located mostly in the Terai, relies heavily on small-scale and subsistence farming, with rice, maize, wheat, and tobacco accounting for some of the most-harvested crops in the area. Roughly 90% of agricultural land in Sunsari is irrigated. Morang is also heavily dependent on similar crops; however, according to 2011 census data, fishing also accounts for a significant portion of residents' income, as there are many rivers that flow down from the mountains in the northern part of the district. Ilam is widely known for producing high-quality tea, ginger, and cardamom, as well as staple crops like rice, maize, millet, and potato. Additionally, Ilam is also well known for producing amriso, a plant from which the branches are used to make hand brooms.

Through extensive stakeholder engagement activities that were conducted throughout all 3 district along the NR3 transmission route, it was discovered that land ownership trends are very similar across the board. On average, almost 90% of land is allegedly registered legally – according to local representatives in several VDCs visited, it is not common to find either informal tenants, or tenant farmers. Additionally, because awareness of the associated tax break is relatively high throughout the affected VDCs, land is registered under women's names more often. Roughly 25% of titled land is allegedly registered under women's names.

Infrastructure relating to basic services delivery varies across each district in terms of access to potable water – while an average of 75% of residents in each Sunsari and Morang Districts rely on hand pumps, roughly 70% of residents in Ilam rely on piped water into their homes. Ilam also separates itself from Sunsari and Morang in terms of numbers of households containing a toilet. 9.5% of households in Ilam are without a toilet, while 36% of households in Sunsari and Morang are without. This statistic holds true for both Sunsari and Morang individually.

Table 22. Total Population, Number of Households, and Average Household Size of NR3 Project-Affected VDCs in Ramechhap									
Sunsari District									
	Bakalauri	Baraha- chhetra	Bharaul	Bhokraha	Dharan Municip.	Dumraha	Panchakanya	Singiya	Bishnupaduka
Total Population	13,903	12,499	19,466	19,415	116,181	16,528	16,901	11,281	4,623
Total No. of HH's	3,092	3,013	4,431	3,399	27,750	3,492	3,863	2,510	1,080
Average HH Size	4.50	4.15	4.39	5.71	4.19	4.73	4.38	4.49	4.28
Morang District									
	Bhogteni	Jante	Kerabari	Letang	Ramite Khola	Tandi	Yangshila		
Total Population	5,355	8,079	17,660	18,552	3,369	9,408	6,472		
Total No. of HH's	1,113	1,865	4,167	4,359	618	2,086	1,451		
Average HH Size	4.81	4.33	4.24	4.26	5.45	4.51	4.46		
Ilam District									
	Bajho	Godak	Ilam Municip.	Jitpur	Sakfara	Siddhithumka	Soyak		
Total Population	10,012	4,978	18,633	6,734	3,496	3,590	3,324		
Total No. of HH's	1,977	1,137	4,732	1,440	744	778	727		
Average HH Size	5.06	4.38	3.94	4.68	4.70	4.61	4.57		

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Table 23. Female-Headed Households and Female Ownership of Fixed Assets by District			
	Morang	Sunsari	Ilam
% Female-Headed Households	25.4%	26.0%	19.7%
Female ownership of House Only	N/A	N/A	N/A
Female ownership of Land Only	27,849	22,281	6,027
Female ownership of Both House & Land	36,121	27,651	5,242
Female ownership of Neither House Nor Land	148,556	111,360	52,268

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Table 24. Common Ethnic Groups within Project-Affected VDCs					
VDC	Ethnic Groups/Castes				
Sunsari District					
Bakalauri	Tharu (5,143) (IP)	Chhetri (2,092)	Rai (1,095) (IP)	Brahmin Hill (868)	*Musahar (622)
Barahachhetra	Chhetri (3,134)	Rai (2,595) (IP)	Brahmin Hill (1,344)	Newar (812) (IP)	Magar (606) (IP)
Bharaul	Chhetri (5,437)	Tharu (2,662) (IP)	Rai (1,561) (IP)	Brahmin Hill (1,376)	*Musahar (938)
Bhokraha	Musalman (6,495)	Koiri (4,177)	Jhangad (2,358)	Yadav (1,550)	*Musahar (1,029)
Bishnupaduka	Rai (1,998) (IP)	Tamang (994) (IP)	Chhetri (342)	*Kami (198)	Limbu (86) (IP)
Dharan Municip.	Rai (23,786) (IP)	Newar (14,440) (IP)	Limbu (14,284) (IP)	Chhetri (11,392)	Brahmin Hill (8,604)
Dumraha	Tharu (5,014) (IP)	*Musahar (1,525)	Koiri (1,364)	Jhangad (1,252)	Chhetri (1,071)
Panchakanya	Chhetri (2,958)	Rai (2,752) (IP)	*Kami (1,730)	Limbu (1,691) (IP)	Magar (1,425) (IP)
Singiya	Tharu (5,178) (IP)	Chhetri (1,512)	Brahmin Hill (1,454)	Jhangad (288)	*Kami (262)
Morang District					
Bhogteni	Magar (1,739) (IP)	Limbu (1,737) (IP)	Rai (880) (IP)	Tamang (663) (IP)	Brahmin Hill (111)
Jante	Rai (2,286) (IP)	Brahmin Hill (1,530)	Limbu (1,103) (IP)	Magar (1,030) (IP)	Chhetri (636)

Table 24. Common Ethnic Groups within Project-Affected VDCs					
VDC	Ethnic Groups/Castes				
Kerabari	Chhetri (3,476)	Limbu (2,551) (IP)	Brahmin Hill (2,193)	Magar (1,715) (IP)	Rai (1,646) (IP)
Letang	Brahmin Hill (3,671)	Rai (3,500) (IP)	Magar (2,365) (IP)	Limbu (2,066) (IP)	Chhetri (1,471)
Ramite Khola	Rai (2,650) (IP)	Tamang (338) (IP)	Newar (65) (IP)	Limbu (36) (IP)	Magar (14) (IP)
Tandi	Rai (2,587) (IP)	Limbu (1,677) (IP)	Brahmin Hill (1,338)	Magar (885) (IP)	Tamang (682) (IP)
Yangshila	Magar (1,341) (IP)	Rai (1,161) (IP)	Limbu (1,160) (IP)	Tamang (623) (IP)	Chhetri (596)
Ilam District					
Bajho	Limbu (4,958) (IP)	Rai (4,141) (IP)	Chhetri (173)	Magar (128) (IP)	*Damai/Dholi (78)
Godak	Rai (1,160) (IP)	Brahmin Hill (874)	Tamang (578) (IP)	Magar (541) (IP)	Chhetri (522)
Ilam Municip.	Chhetri (5,036)	Brahmin Hill (3,419)	Tamang (1,748) (IP)	Rai (1,522) (IP)	Limbu (1,419) (IP)
Jitpur	Limbu (1,719) (IP)	Magar (1,611) (IP)	Brahmin Hill (1,372)	Rai (448) (IP)	Sanyasi (385)
Sakfara	Rai (1,717) (IP)	Newar (394) (IP)	Chhetri (378)	*Kami (273)	Tamang (241) (IP)
Siddhithumka	Rai (921) (IP)	Brahmin Hill (713)	Tamang (697) (IP)	Limbu (504) (IP)	Magar (288) (IP)
Soyak	Limbu (1,475) (IP)	Brahmin Hill (520)	Rai (410) (IP)	Chhetri (299)	Tamang (193) (IP)

*Indicates an ethnic group considered as Dalit

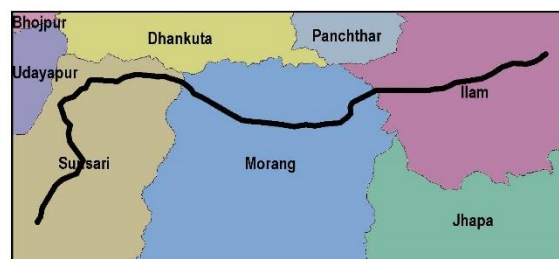
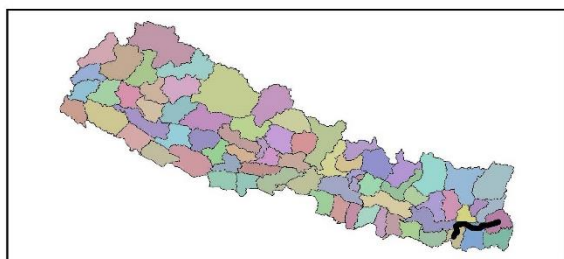
Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

4.3.2 Resettlement Impacts

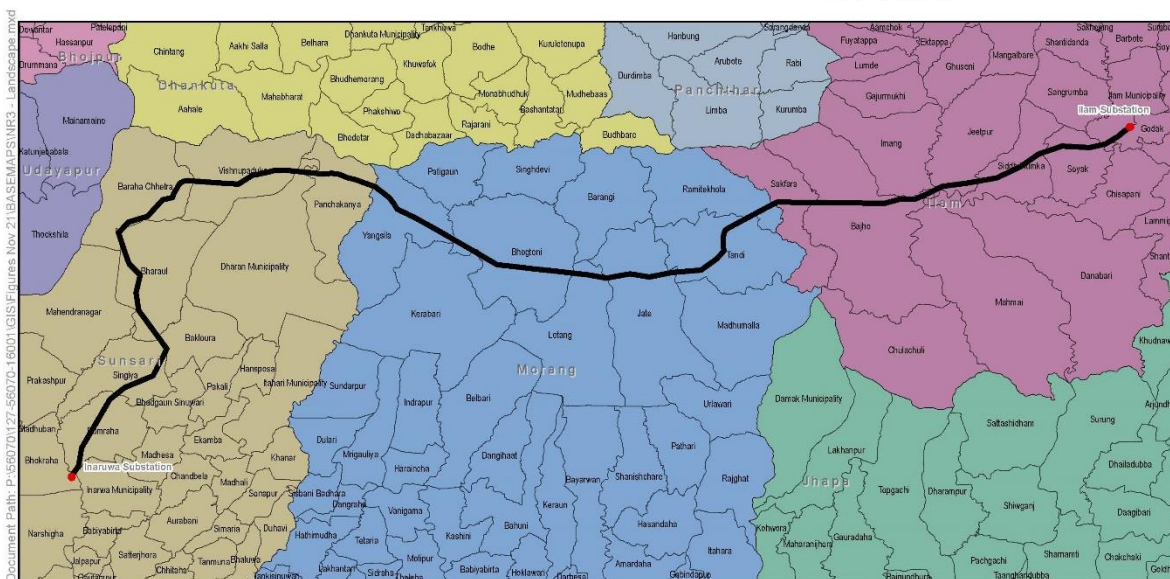
The estimated impact to structures and land along the proposed NR3 line are provided in Table 25. The total estimated number of structures impacted is approximately 264, while an estimated 79.3 hectares of agricultural land will be impacted by easement restrictions. Land impacts are summarized for agriculture land under transmission lines, forest land under transmission lines, and land underneath the transmission towers that will need to be acquired. The total amounts of land underneath the transmission towers that will need to be acquired have been separated from the total amount of impacted agricultural land, and there are expected to be a total of 439 towers along the entire length of NR3.

Table 25. Estimated Resettlement Impacts to Structures and Land – NR3

NR3	Districts	VDCs Impacted	Total Structures (Trans. line, SS, & access road)	Ag. Land Area under Trans. Line (ha)	Forest Land Area under Trans. Line (ha)	Land Under Towers to Purchase (ha)
	Ilam	8	101	18.91	31.97	0.59
	Morang	7	65	16.28	45.18	0.68
	Sunsari	10	98	44.1	34.44	0.56
TOTALS	3	25	264	79.29	111.59	1.83



NR3 Districts



NR3 Village Development Committees (VDCs)
Figure 20. NR3 Map - Districts & VDCs

4.4 NR4

4.4.1 Socioeconomic and General Characteristics

The proposed NR4 transmission project lies in the Far-Western region of Nepal, and runs north to south from Darchula District to Kailali District, passing through Dadeldhura, Doti, and Baitadi Districts as well. In contrast to the other proposed transmission projects included in this report, NR4 is unique in nature in that there is already an existing single-circuit transmission line. This project would add a second circuit to the existing towers to increase the carrying capacity of the line, in order to take advantage of other future hydropower projects that are currently under construction near the northern section of the line.

4.4.2 Resettlement Impacts

Due to the nature of the NR4 proposed project and the fact that it would be adding a second circuit to an existing transmission line (as opposed to constructing an entirely new line), estimated resettlement costs for NR4 are ultimately not included in the overall estimated resettlement costs. As was claimed in face-to-face meetings with the NEA Project Manager of the transmission line project to which NR4 would be adding the second circuit, approximately 95% of all compensation to PAPs and households for resettlement-related issues has allegedly been completed by NEA and the construction contractor. Additionally, it should be noted that during a meeting with the CDO of Dadeldhura District (one of five affected districts along the line), it was stated that ROW land and structure compensations have allegedly not yet been provided to some PAPs, because they were not satisfied with the level of compensation. Although exact numbers of pending cases in Dadeldhura could not be verified, this is relatively consistent with the NEA Project Manager's estimate of between five and ten households that have yet to receive resettlement-related compensation.

The existing transmission line was originally funded by the Korean Government, through its international development agency, the Economic Development Cooperation Fund (EDCF), in the form of a \$45 million USD soft loan. Civil works began in 2006, and transmission line work began in 2009 by Korean Hydro & Nuclear Power (KHNP), a Korean Government-owned contractor. The entire 18 meter right of way (ROW) has been acquired, as has additional land for the purpose of reforestation, on account of the trees that needed to be cut to create the ROW. At the time of interview with the NEA Project Manager, transmission line construction was reported at approximately 95% complete, and the line is expected to be energized within the next 2 to 3 months. No other allowances or compensation are being given, other than direct financial compensation for structures, land, and standing crops. For land within the ROW, easements are being secured in return for a flat fee payment of 10% of the value of the land to landowners⁷.

The initial transmission project has apparently run about \$3 million under budget, and EDCF is considering a move to allocate that remaining money towards adding the second circuit to the transmission line as well (the Government of Nepal would provide the remaining necessary funds). At the time of the creation of this report, representatives from EDCF were expected to meet with

⁷ Note: Section 6 in this document describes alternative ideas that are suggested to address the contentious issue of the flat-fee of 10% paid for the easement land under the transmission lines.

the Ministry of Finance and Nepal Electricity Authority sometime during the month of November to negotiate this possibility. Depending on the outcome of this negotiation, the NR4 project may or may not need to be removed from the Compact scope entirely. It will ultimately be the responsibility of OMCN to follow up with the NEA Project Manager, so as to keep abreast of the latest information and progress on this matter. However, it is because of the above reasons that resettlement compensation for impacts under this proposed transmission project are ultimately not included in the overall resettlement costs for this detailed feasibility study.

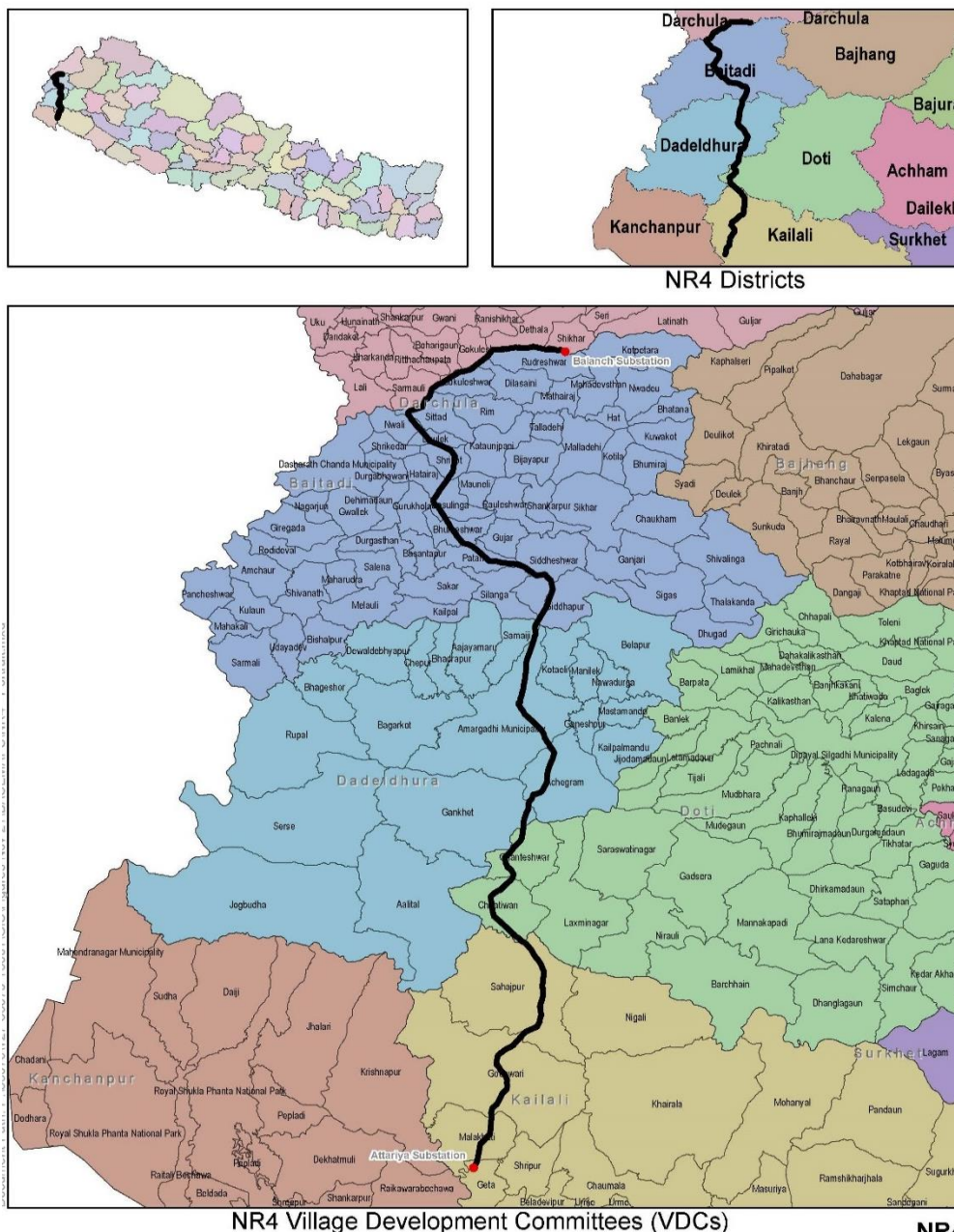


Figure 21. NR4 Districts and VDCs

4.5 T2'

4.5.1 Socioeconomic and General Characteristics

The T-2' proposed transmission project is a 29 kilometer East-West transmission line, located in the Central Development Region of Nepal, approximately 80 kilometers east of Kathmandu. As it runs from the proposed New Khimti Substation site at the western terminus to the proposed Likhu Hub Substation at the eastern terminus, it transects a total of 10 VDCs across 2 districts: Ramechhap and Dolakha. There is a single VDC within a third district (Solukhumbu) that is affected by this proposed transmission project at the eastern end of the line; however, the impacts would be limited to only several hundred meters over the border with Ramechhap, the neighboring district. Likhu Hub Substation would essentially be the only aspect of the T2' project that affects Solukhumbu District; therefore, general statements about socioeconomic characteristics in this region should be construed as applying just to Ramechhap and Dolakha Districts. Specific information on the small area of Solukhumbu will be addressed separately. Further, 8 of the 10 VDCs mentioned above are located in Ramechhap, while just two are located in Dolakha. Therefore, the majority of the potential impacts to structures and land by this proposed project would be located throughout Ramechhap.

As can be seen in the tables below, average household sizes among the project-affected VDCs remain fairly consistent, even as total populations and total numbers of households fluctuate from VDC to VDC. Through stakeholder engagement activities, it was learned that Ramechhap allegedly has the lowest population growth rate in Nepal.

Table 26. Total Population, Number of Households, and Average Household Size of T2' Project-Affected VDCs in Ramechhap								
Ramechhap District								
	Betali	Bhuji	Duragaun	Gupteshwor	Kubukasthali	Namadi	Phulasi	Priti
Total Population	4,483	2,402	3,023	1,769	2,727	3,981	5,733	5,093
Total No. of HH's	739	538	652	361	606	827	1,284	1,128
Average HH Size	4.25	4.46	4.64	4.90	4.50	4.81	4.46	4.52
Dolakha District								
	Sahare				Chyama			
Total Population	3,326				2,733			
Total No. of HH's	800				607			
Average HH Size	4.16				4.50			

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Table 27. Female-Headed Households and Female Ownership of Fixed Assets by District		
	Dolakha	Ramechhap
% Female-Headed Households	34.4%	28.1%
Female ownership of House Only	N/A	N/A
Female ownership of Land Only	4,193	4,748
Female ownership of Both House & Land	4,043	3,398
Female ownership of Neither House Nor Land	37,090	35,181

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

The diversity of ethnic groups in Ramechhap and Dolakha Districts as a whole tends to be consistent, with the high percentages of the district populations identifying as Chhetri, Tamang, Newar, or Brahmin Hill. Between both districts, roughly 67% of the total population identifies with one of these 4 ethnicities. However, the project-affected districts also contain a noticeable percentage of individuals who identify with the Sunuwar and Sarki Dalit castes as well. As can be seen in the below table though, the Chhetri ethnic group accounts for the majority of individuals in the project-affected VDCs.

An important point regarding demographics in Ramechhap that was learned through engagement with district-level representatives: Ramechhap is allegedly home to the highest population of individuals belonging to the Kusunda indigenous group. The Kusunda people are an officially recognized indigenous group under the National Foundation for the Development of Indigenous Nationalities (NFDIN) Act of 2002, and are the most endangered indigenous group in Nepal; of the 59 legally recognized indigenous nationalities in Nepal, the Kusunda group comprises the smallest number of people who identify as such (approximately 273 individuals, according to the 2011 Census Report).

Table 28. Common Ethnic Groups within Project-Affected VDCs					
VDC	Ethnic Groups/Castes				
Ramechhap District					
Betali	Chhetri (2,024)	Brahmin Hill (616)	*Sarki (499)	Gharti (296)	Magar (241) (IP)
Bhuji	Sunuwar (1,015) (IP)	Newar (553) (IP)	Chhetri (161)	*Sarki (154)	Tamang (124) (IP)
Duragaun	Chhetri (816)	Sunuwar (773) (IP)	Tamang (412) (IP)	*Sarki (233)	Brahmin Hill (197)
Gupteshwor	Sunuwar (519) (IP)	Chhetri (352)	Newar (272) (IP)	Tamang (262) (IP)	Sherpa (177) (IP)
Kubukasthali	Chhetri (1,280)	Sunuwar (810) (IP)	Sherpa (253) (IP)	Brahmin Hill (159)	*Damai/Dholi (124)

Table 28. Common Ethnic Groups within Project-Affected VDCs					
Namadi	Chhetri (2,342)	Hyolmo (490) (IP)	Sunuwar (275) (IP)	Gharti (234)	*Sarki (125)
Phulasi	Chhetri (2,486)	Tamang (1,280) (IP)	Magar (370) (IP)	*Kami (305)	Newar (253) (IP)
Priti	Chhetri (1,623)	Sunuwar (1,184) (IP)	Tamang (1,060) (IP)	Newar (329) (IP)	*Kami (226)
Dolakha District					
Chyama	Brahmin Hill (1,345)	Chhetri (950)	*Kami (193)	Newar (90) (IP)	*Sarki (71)
Sahare	Chhetri (1,558)	Brahmin Hill (662)	Newar (303) (IP)	*Kami (265)	*Sarki (162)

**Indicates an ethnic group considered as Dalit*

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Income sources and occupations in both Ramechhap and Dolakha districts follow similar trends. As with most districts in Nepal, agriculture and agricultural products play a significant role both in maintaining livelihoods/generating income, and also for subsistence. Staple crops such as rice, maize, millet, wheat, and potato are the biggest agricultural contributors to the economy, as they are resilient and more easily grown in the higher altitudes of this region of the country. Other crops like citrus fruits, vegetables, and soy also exist to a lesser extent, but are nonetheless still consistently harvested.

In both districts – but particularly within Ramechhap – mineral mining is another important economic resource that is utilized. Minerals such as copper, iron, nickel, titanium, and tungsten are commonly sought, as well as slate, marble, quartzite, and limestone.

Census data relating to basic services delivery demonstrate that roughly 80% of households in both districts rely on water piped into their homes for their main source of drinking water, but approximately 30% to 35% of households do not have a toilet in their homes. Additionally, households located in Dolakha fare differently than households in Ramechhap in terms of utilizing available electricity for lighting: while 82% of households in Dolakha use grid electricity for their main source of lighting, 45% of households in Ramechhap utilize the same. Other main sources of lighting in Ramechhap include kerosene (30% of households) and solar (21% of households).

Land ownership and land use trends are almost identical, with the vast majority of individuals owning by legal title, the land they reside on, and from which they sustain their livelihoods. In Ramechhap, only 146 individuals are tenants on the land they reside on, while 49,400 individuals possess title to their land. Dolakha contains zero tenant farmers, with 59,402 titled land owners.

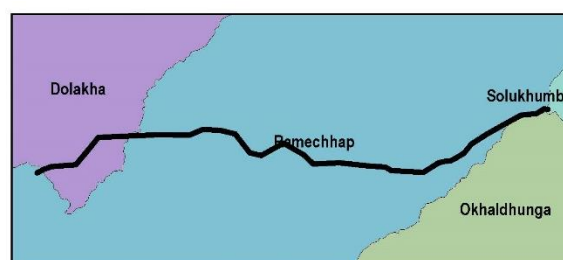
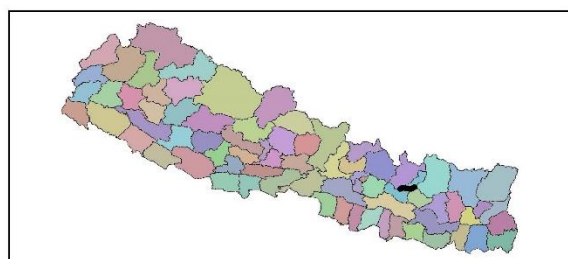
4.5.2 Resettlement Impacts

Impacts to structures along the T2' proposed transmission route were kept to a minimum; however, agricultural land was impacted to a higher degree relative to the total length of the line. An estimated 32 structures will be impacted, as well as 36.41 hectares of agricultural land. Land

impacts are summarized for agriculture land under transmission lines, forest land under transmission lines, and land underneath the transmission towers that will need to be acquired. The total amounts of land underneath the transmission towers that will need to be acquired have been separated from the total amount of impacted agricultural land, and there are expected to be a total of 119 towers along the entire length of T2'.

Table 29. Estimated Resettlement Impacts to Structures and Land – T2'

T2'	Districts	VDCs Impacted	Total Structures (Trans. line, SS, & access road)	Ag. Land Area under Trans. Line (ha)	Forest Land Area under Trans. Line (ha)	Land Under Towers to Purchase (ha)
	Ramechhap	8	28	34.08	9.45	1.27
	Dolakha	2	3	2.29	3.52	0.32
	Solukhumbu	1	1	0.05	0.02	0.02
TOTALS	3	11	32	36.42	12.99	1.61



T2' Districts

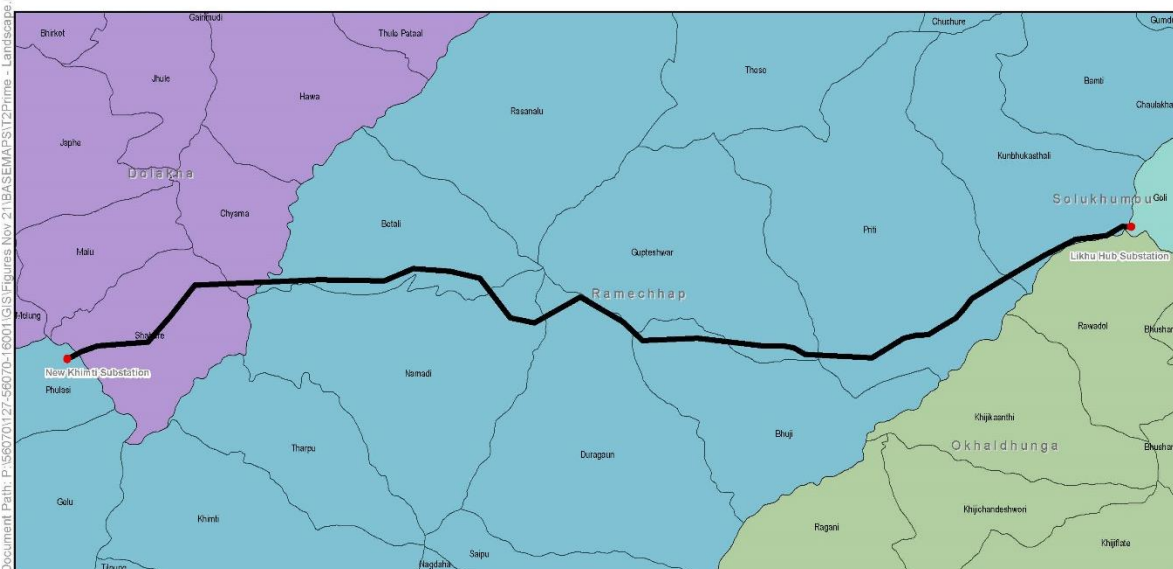


Figure 22. T2' Districts and VDCs

4.6 T3

4.6.1 Socioeconomic and General Characteristics

The T-3 proposed transmission project is a 35 kilometer transmission line located in the Dhaulagiri Zone, in the mountains of the Western Development Region of Nepal. The project's overall impact covers 12 VDCs in 2 different districts; 7 VDCs are located in Myagdi and 5 are located in Parbat. Parbat District is more populous overall than Myagdi by almost 33,000 individuals – the total population of Myagdi is 113,641, while Parbat's population reaches 146,590. Even though the proposed T3 project impacts 2 more VDCs in Myagdi than in Parbat, the combined populations of the affected VDCs within each of the two districts are relatively similar, with a discrepancy of approximately 3,500 individuals. Further information on each project-affected VDC is as follows, organized by district:

Table 30. Total Population, Number of Households, and Average Household Size of T3 Project-Affected VDCs in Myagdi							
Myagdi District							
	Arman	Babiyachaur	Darwang	Ghatan	Patlekhhet	Pulacahaur	Ratnechaur
Total Population	4,189	3,402	3,595	4,327	1,753	3,318	2,333
Total No. of HH's	948	819	904	1137	458	846	622
Average HH Size	4.42	4.15	3.98	3.81	3.83	3.92	3.75
Parbat District							
	Khurkot	MajhphantMallaj	Nagliwang	Banou	Pang		
Total Population	3,950	8,087	2,751	1,458	4,566		
Total No. of HH's	958	2,100	683	349	1,201		
Average HH Size	4.12	3.85	4.03	4.18	3.80		

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Table 31. Female-Headed Households and Female Ownership of Fixed Assets by District		
	Myagdi	Parbat
% Female-Headed Households	43.5%	40.5%
Female ownership of House Only	N/A	N/A
Female ownership of Land Only	1,635	3,494
Female ownership of Both House & Land	2,612	4,096

Table 31. Female-Headed Households and Female Ownership of Fixed Assets by District		
Female ownership of Neither House Nor Land	23,381	27,924

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Literacy rates between the two districts are similar in nature, although Parbat demonstrates a slightly higher percentage of people over 5 years old who are able to read and write. Myagdi boasts a 74% literacy rate, while Parbat comes in at 76%. Additionally, both districts are also similar in the fact that of those individuals who are unable to read and write, the majority are women. The ratio of illiterate women to men among both districts combined averages out to approximately 2.5:1, with Myagdi having a lower gender discrepancy than Parbat by only about 5%. Education levels also show Parbat containing almost twice the number of individuals who have completed secondary school; however, this could also be attributed to the fact that Parbat's overall population is significantly higher than Myagdi, as stated above.

Myagdi District's general ethnic makeup demonstrates that approximately 73% of the overall district population identifies as one of 3 prevailing ethnic groups: Magar, Chhetri, and Kami. Among these groups, Magar is most common, comprising almost 40% of people. Chhetri comprise about 17%, and Kami comprise the remaining 15%. The other 17% of the district population is spread across a number of other ethnic groups, which include Brahmin Hill; Damai/Dholi; Chhantyal; Sarki; Thakuri; Newar; Gurung; Thakali; Kissan; Tharu; and others. This spectrum of ethnic diversity is, to a degree, reflected in the ethnic makeup of the project-affected districts as well, where at least 2 of the 3 aforementioned ethnic groups comprise a majority of that VDC's population. It is important to note that Kami, Damai/Dholi, and Sarki are three Dalit groups which comprise a sizeable proportion of the population of the affected VDCs.

Parbat District's overall ethnic makeup is similar to that of Myagdi in the sense that the most commonly found groups tend to be similar (Chhetri, Kami, Magar, etc.). However, Brahmin Hill comprises the largest percentage of this district's population, with approximately 36% of individuals identifying as part of this group. Chhetri and Magar are the second and third most common ethnicities, with 17% and 11% of the population respectively. Table 32 displays the 5 most common ethnic groups within each project-affected VDC, along with the specific number of individuals that identify with each group.

Table 32. Common Ethnic Groups within Project-Affected VDCs					
VDC	Ethnic Groups/Castes				
Myagdi District					
Arman	Magar (1,734) (IP)	*Kami (840)	Brahmin Hill (564)	Chhetri (501)	Chhantyal (140) (IP)
Babiyachaur	Chhetri (940)	Brahmin Hill (607)	Magar (420) (IP)	*Kami (405)	*Sarki (277)
Darwang	Magar (1,810) (IP)	*Kami (517)	Brahmin Hill (411)	*Damai/Dholi (197)	Chhetri (190)

Table 32. Common Ethnic Groups within Project-Affected VDCs					
VDC	Ethnic Groups/Castes				
Ghatan	Chhetri (1,854)	*Damai/Dholi (823)	Brahmin Hill (401)	*Kami (303)	*Sarki (295)
Patlekhet	Magar (760) (IP)	Brahmin Hill (232)	*Sarki (170)	Chhetri (166)	Thakuri (162)
Pulacahaur	Chhetri (1,343)	*Damai/Dholi (957)	Brahmin Hill (409)	*Kami (318)	Magar (160) (IP)
Ratnechaur	Magar (1,202) (IP)	Chhetri (464)	*Sarki (236)	*Damai/Dholi (157)	Newar (76) (IP)
Parbat District					
Banou	Magar (1,288) (IP)	Brahmin Hill (111)	*Damai/Dholi (23)	*Sarki (22)	Others (14)
Khurkot	Brahmin Hill (2,074)	Chhetri (680)	*Damai/Dholi (535)	*Sarki (232)	Sanyasi (197)
MajhphantMallaj	Chhetri (2,706)	*Damai/Dholi (1,770)	Brahmin Hill (959)	Magar (670) (IP)	*Kami (575)
Nagliwang	Chhetri (964)	Brahmin Hill (665)	*Damai/Dholi (528)	Magar (269) (IP)	*Kami (113)
Pang	Brahmin Hill (2,044)	Chhetri (691)	*Kami (569)	*Damai/Dholi (549)	*Sarki (276)

**Indicates an ethnic group considered as Dalit*

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Much of the local economies of Myagdi and Parbat consist of agriculture and agricultural products. Crops such as potato, maize, and rice contribute significantly to farmers' income, as those crops are resilient and more easily grown in the higher altitudes of that region of the country. Other noteworthy economic contributors include millet, mustard seed, and wheat, as well as livestock products such as milk, eggs, meat, and different types of wool. It should also be noted that remittances constitute a relatively significant source of livelihood and income generation, as learned through stakeholder engagement activities in the area. This includes significant remittances from overseas employment of Gurkha soldiers in the British military, or possibly in security companies, or other similar positions, overseas.

Related to the agriculture-centric economy is the overall condition of land ownership and land use. Throughout both Myagdi and Parbat, the overwhelming majority of farmers possess legal title to the land that they occupy and derive their livelihoods from. According to the 2011 Census, only 109 farmers out of 68,698 (combined between both districts) are tenant farmers, meaning that they rent their farmland from the land titleholder. Notably, it was also learned through VDC-level meetings in the area that roughly 40% to 50% of all agricultural land is irrigated.

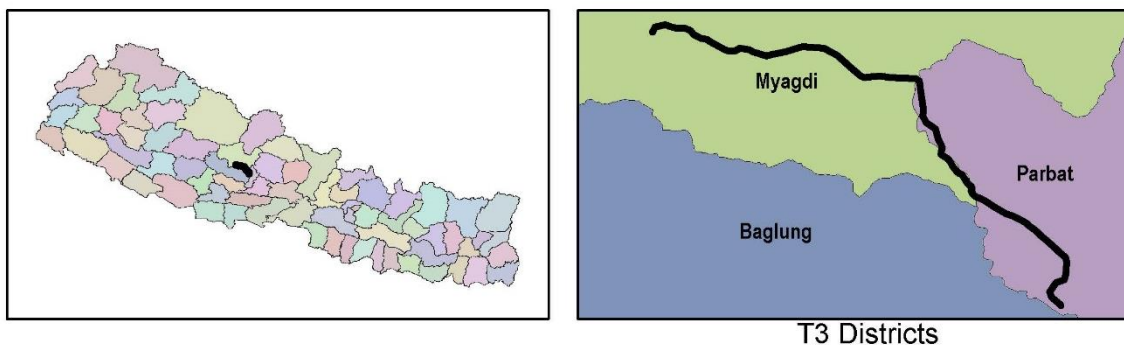
In terms of basic services delivery (water, sanitation, electricity), infrastructure throughout both districts is strong, in that a majority of residents rely on piped drinking water into their homes, have a private toilet in their homes, and utilize electricity as their main source of lighting. Data for Parbat

District shows that at least 80% of all residents fall into all 3 of these categories; data for Myagdi shows that at least 80% of all residents rely on piped water and have a toilet in their homes, while 68% of residents rely on electricity as their main source of lighting. This information was supported by both statistical data contained in the 2011 Census, as well as through stakeholder meetings with district and VDC level representatives

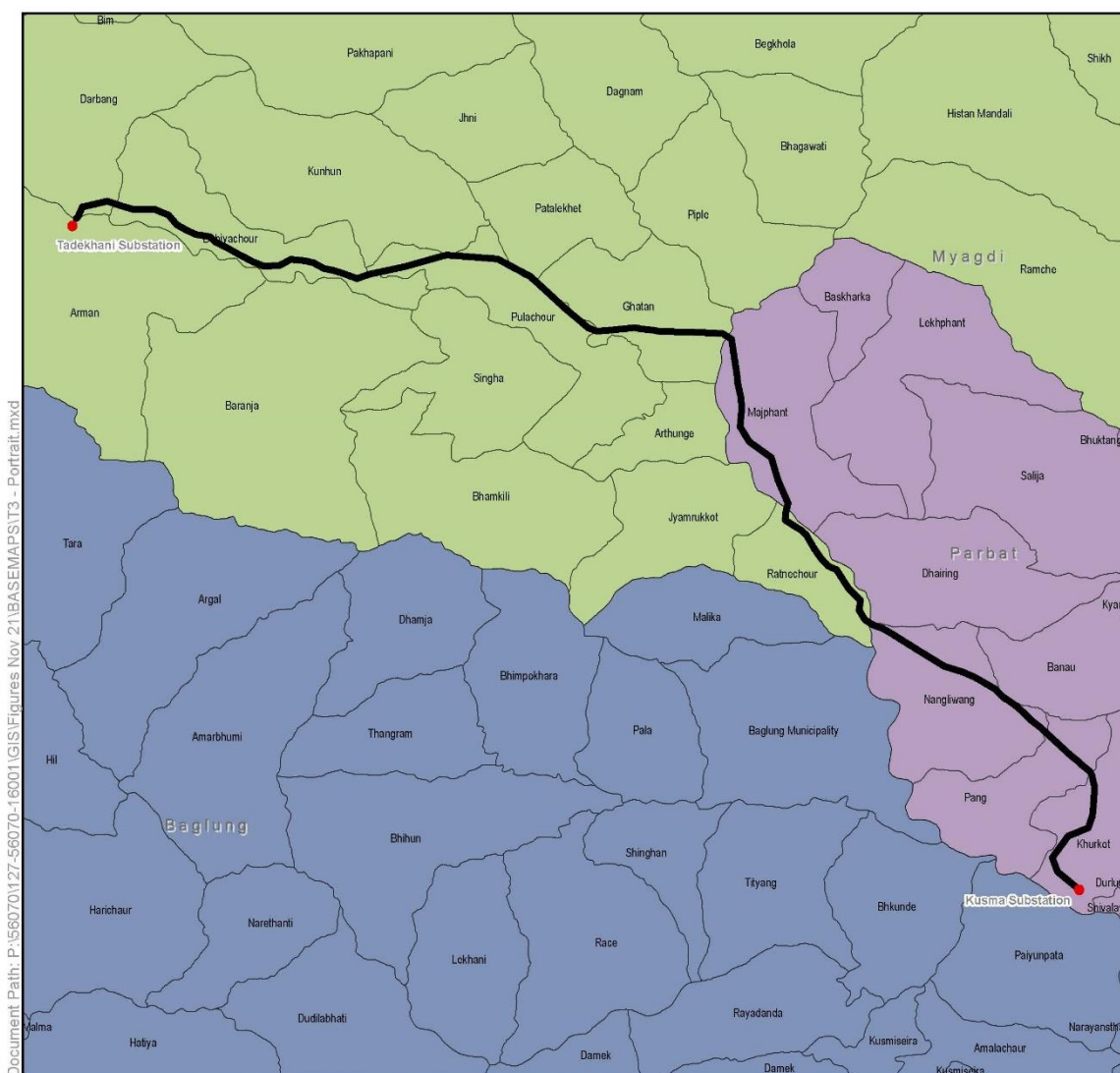
4.6.2 Resettlement Impacts

The estimated impact to structures and land along the proposed T3 line are provided in the table below. The total estimated number of structures impacted is approximately 189, while an estimated 43.73 hectares of agricultural land will be impacted (permanently and temporarily). Land impacts are summarized for agriculture land under transmission lines, forest land under transmission lines, and land underneath the transmission towers that will need to be acquired. The total amounts of land underneath the transmission towers that will need to be acquired have been separated from the total amount of impacted agricultural land, and there are expected to be a total of 149 towers along the entire length of T3.

Table 33. Estimated Resettlement Impacts to Structures and Land – T3						
T3	Districts	VDCs Impacted	Total Structures (Trans. line, SS, & access road)	Ag. Land Area under Trans. Line (ha)	Forest Land Area under Trans. Line (ha)	Land Under Towers to Purchase (ha)
	Myagdi	7	102	21.32	12.9	1.41
	Parbat	5	87	22.94	2.41	0.83
TOTALS	2	12	189	44.26	15.31	2.24



T3 Districts



T3 Village Development Committees (VDCs)

T3

Figure 23. T3 Districts and VDCs

4.7 T8

4.7.1 Socioeconomic and General Characteristics

The T8 transmission project is located entirely within the district of Kailali, in the southern part of the Far Western Development Region of Nepal. Much of Kailali is made up of the flat agricultural land of the Terai, and the district shares its southern border with India. The T8 transmission project is located in the southeastern part of the district, and transects a total of 6 VDCs and 1 municipality as it runs 30 kilometers south from the proposed New Lamki Substation site in Baliya VDC, to the Indian border. The other affected VDCs are as follows (north to south): Pathariya VDC, Durgauli VDC, Tikapur Municipality, Munuwa VDC, Narayanpur VDC, and Dhansinghapur VDC. Although the proposed transmission project passes almost entirely through flat agricultural or forest land, there are also several populated areas that it runs close to, particularly within Tikapur Municipality. Extra care in these areas was therefore taken during the routing process to avoid structure impacts, where environmentally and technically possible.

Kailali District is located in the Seti Zone of the Far Western region of Nepal, and houses its District Government offices in Dhangadhi Municipality, in the southwestern corner of the district. With a total population of 775,709 according to the 2011 Census, approximately 20% of district residents reside in the project-affected VDCs (160,180 individuals). Total Populations, households, and average household sizes for each of the project-affected VDCs are displayed in Table 34.

Table 34. Total Population, Number of Households, and Average Household Size of T8 Project Affected VDCs in Kailali							
Kailali District							
	Baliya	Pathariya	Durgauli	Tikapur Municip.	Munuwa	Narayanpur	Dhansinghapur
Total Population	41,461	17,396	13,683	56,127	11,556	11,207	8,750
Total No. of HH's	8,573	3,443	2,626	11,630	1,990	2,186	1,540
Average HH Size	4.84	5.05	5.21	4.83	5.81	5.13	5.68

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Table 35. Female-Headed Households and Female Ownership of Fixed Assets by District	
	Kailali
% Female-Headed Households	24.7%
Female ownership of House Only	N/A
Female ownership of Land Only	8,154

Table 35. Female-Headed Households and Female Ownership of Fixed Assets by District	
Female ownership of Both House & Land	10,417
Female ownership of Neither House Nor Land	123,146

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Literacy rates among men and women over the age of 5 in Kailali range between 66% and 70%. Of the total population over 5 years old (701,431 individuals), 267,593 men are able to read and write, while 216,403 women are able to read and write. This demonstrates a literacy gap between men and women of 51,190, or approximately 7% of the total district population over 5 years old.

Although ethnic groups and castes found throughout Kailali are diverse, there are several groups that tend to be much more common than others. Exceptions do, of course, exist depending on the VDC in question, however, the highest populations of particular ethnic groups/castes tend to repeat themselves, especially among the project-affected VDCs. As can be seen below in Table 36, the Brahmin Hill, Chhetri, Tharu, Kami, and Thakuri groups comprise the top 5 most populous ethnicities in most of the affected VDCs:

Table 36. Common Ethnic Groups within Project-Affected VDCs					
Kailali District					
VDC	Ethnic Groups/Castes				
Baliya	Brahmin Hill (11,535)	Chhetri (10,183)	Tharu (6,550) (IP)	*Kami (4,313)	Thakuri (2,440)
Pathariya	Tharu (7,723) (IP)	Chhetri (2,587)	Brahmin Hill (2,262)	*Kami (2,250)	Thakuri (534)
Durgauli	Tharu (8,850) (IP)	Brahmin Hill (1,334)	Chhetri (1,293)	*Kami (1,201)	Thakuri (450)
Tikapur Municip.	Tharu (22,445) (IP)	Chhetri (12,392)	Brahmin Hill (7,118)	*Kami (4,347)	Thakuri (2,906)
Munuwa	Tharu (9,622) (IP)	Brahmin Hill (535)	Chhetri (366)	*Kami (290)	Thakuri (221)
Narayanpur	Tharu (6,016) (IP)	Chhetri (2,097)	Brahmin Hill (764)	*Kami (522)	Magar (536) (IP)
Dhansinghapur	Tharu (3,360) (IP)	Chhetri (2,715)	*Kami (1,033)	*Dalit (348)	*Damai/Dhoti (266)

*Indicates an ethnic group considered as Dalit

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Because of Kailali's location in the Terai region, the large majority of income generating activities are centered on agriculture. Cash crops such as oil seed, potato, tobacco, sugarcane, and wheat contribute significantly to income generation. Other crops such as rice, maize, millet, barley, lentils, and black gram also factor into the economic growth of the district, as well agricultural products like milk, meat, eggs, and wool. It should be noted that although agricultural production is one of the primary sources of income, there is also a high level of subsistence agriculture as well. The proximity

to the Indian border is a significant factor in consideration of local economies because, as was discovered during stakeholder engagement activities in the district, many Nepalis travel into India regularly to seek employment opportunities there.

Information on infrastructure relating to the availability of basic water and sanitation shows that almost 81% of households rely on hand pumps as their main source of drinking water, while the remainder rely on either piped water, wells, rivers/streams, or other sources. However, almost 51% of households across the district are without a toilet in their homes, as of the 2011 Census. The percentage of availability of electricity in homes hovers around 70%, equating to approximately 100,000 households that use electricity as their primary source of lighting. With a total of 142,413 households across the district, this leaves approximately 42,413 households that rely on either kerosene, natural gas, solar, or another means as their primary source of lighting.

Among the project-affected VDCs, Tikapur Municipality serves as an urban hub, due to its central location within the other affected VDCs. Many people from rural areas come to Tikapur Municipality for educational opportunities, and some employment opportunities (although it was mentioned during VDC level meetings that it is much more common for Nepalis to seek out work in India, rather than in Tikapur).

Land ownership trends across the project-affected VDCs are relatively distinct to each VDCs; however, certain similarities exist as well. For example, the number of farmers who possess title to their land versus the number of tenant farmers tended to be roughly 60% to 40% respectively on average, with a possible discrepancy of 5-10% either way. Among the plots of land that are owned by legal title, the vast majority of them are in men's names. This trend is changing on account of a tax break for registering land in women's names, but progress on this front is very slow, due to an apparent lack of awareness about the tax incentive.

4.7.2 Resettlement Impacts

Considering that the entirety of the T8 proposed transmission line falls in the flat agricultural lands of the Terai, the route necessarily must traverse through a significant amount of agriculture land. Land impacts are summarized for agriculture land under transmission lines, forest land under transmission lines, and land underneath the transmission towers that will need to be acquired. An estimated 58 structures and 109.49 hectares of agricultural land will be impacted by the proposed T8 transmission line. The total amounts of land underneath the transmission towers that will need to be acquired have been separated from the total amount of impacted agricultural land, and there are expected to be a total of 91 towers along the entire length of T8.

Table 37. Estimated Resettlement Impacts to Structures and Land – T8

T8	Districts	VDCs Impacted	Total Structures (Trans. line, SS, & access road)	Ag. Land Area under Trans. Line (ha)	Forest Land Area under Trans. Line (ha)	Land Under Towers to Purchase (ha)
	Kailali	7	58	109.49	23.56	1.25
TOTALS	1	7	58	109.49	23.56	1.25

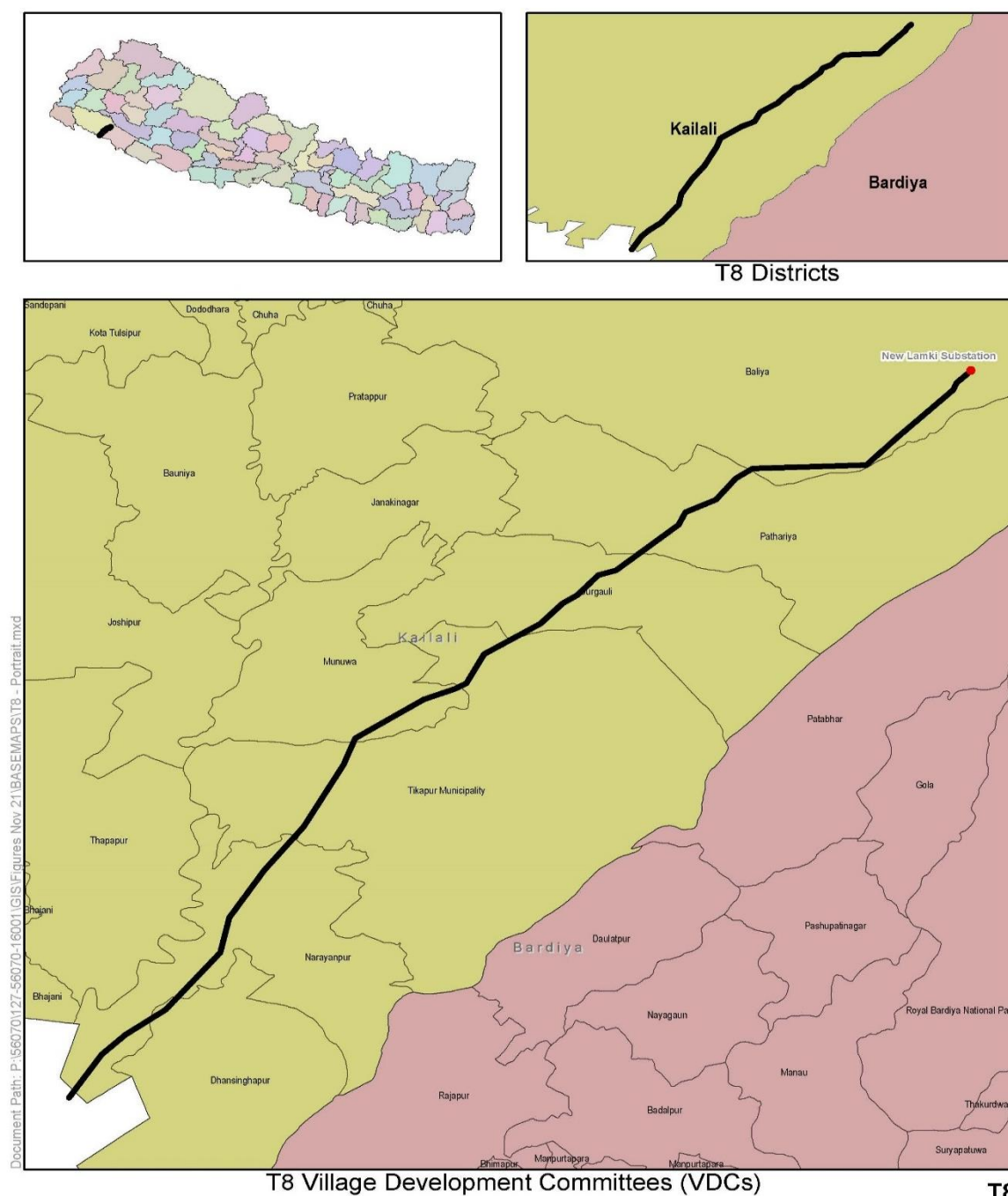


Figure 24. T8 Districts and VDCs

4.8 XB1

4.8.1 Socioeconomic and General Characteristics

The XB1 transmission project begins at the proposed New Butwal substation, and stretches south to the border between Nepal and Uttar Pradesh, India. The entirety of this 18 kilometer transmission line is located in Nawalparasi District, and transects a total of six VDCs and one municipality:

Ramnagar VDC; Ramgram Municipality; Dedgaun VDC; Kusma VDC; Harpur VDC; Rampurwa VDC; and Bhujahawa VDC. Although Nawalparasi District encompasses an area that includes both flat agricultural lands in the Terai region and also mountains in the Pahadi (hills) region, the VDCs potentially affected by this project are located exclusively within the Terai.

Nawalparasi is located in the Lumbini Zone of the Western Development Region of Nepal, and comprises an area of 2,162 square kilometers. Although the district as a whole boasts a total population of 643,508 (2011 Census), the project-affected VDCs contain a combined population of 69,261 – almost 11% of the total district population. The total number of households and average household size among the affected VDCs ranges relatively significantly, as can be seen in Table 38.

Table 38. Total Population, Number of Households, and Average Household Size of XB-1 Project-Affected VDCs in Nawalparasi							
	Nawalparasi District						
	Ramnagar	Ramgram Municip.	Dedgaun	Kusma	Harpur	Rampurwa	Bhujahawa
Total Population	15,606	25,990	3,286	6,758	6,148	5,003	6,470
Total No. of HH's	3,315	4,972	750	1,079	1,086	882	1,088
Average HH Size	4.71	5.23	4.38	6.26	5.66	6.29	5.95

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Table 39. Female-Headed Households and Female Ownership of Fixed Assets by District	
	Nawalparasi
% Female-Headed Households	29.0%
Female ownership of House Only	N/A
Female ownership of Land Only	12,741
Female ownership of Both House & Land	18,711
Female ownership of Neither House Nor Land	96,413

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

Although literacy rates among men and women can vary greatly between VDCs in Nawalparasi, the overall literacy percentages remain relatively consistent, with the vast majority of VDCs falling somewhere between 50% and 80% literacy rate, including the project-affected VDCs. Literacy rates between men and women, however, demonstrate a relatively smaller discrepancy: 219,593 men over the age of 5 can read and write, while 196,418 women over the age of 5 can read and write.

A wide variety of ethnic groups/castes are also typically found within the project-affected VDCs. Table 40 illustrates the most common ethnic groups within each project-affected VDC, including the specific population of each.

Table 40. Common Ethnic Groups within Project Affected VDCs					
Nawalparasi District					
VDC	Ethnic Groups/Castes				
Bhujahawa	*Chamar/Harijan (1,180)	Kewat (1,176)	Musalman (1,062)	Yadav (837)	Tharu (290) (IP)
Dedgaun	Magar (899) (IP)	Chhetri (434)	*Kami (428)	Newar (377) (IP)	*Damai/Dholi (365)
Harpur	Musalman (1,039)	*Chamar/Harijan (1,000)	Kewat (693)	Teli (639)	Yadav (403)
Kusma	Musalman (1,853)	Teli (700)	*Chamar/Harijan (657)	Tharu (164) (IP)	Kewat (141)
Ramgram Municip.	Tharu (4,958) (IP)	*Chamar/Harijan (2,277)	Yadav (2,195)	Brahmin Hill (2,027)	Kewat (1,848)
Ramnagar	Brahmin Hill (6,280)	Tharu (2,863) (IP)	Magar (1,616) (IP)	Chhetri (885)	*Kami (721)
Rampurwa	Musalman (950)	*Chamar/Harijan (621)	Tharu (532) (IP)	Yadav (490)	Teli (296)

**Indicates an ethnic group considered as Dalit*

Source: 2011 Census data taken from District & VDC Profile of Nepal, 2014-2015

In terms of occupations and income sources, agricultural production comprises a majority of the project-affected VDCs' economies. Cash crops such as oil seed, potato, tobacco, and sugarcane are substantial contributors to local economies, with sugarcane and tobacco production accounting for the overwhelming majority of the annual harvests on an alternating basis. Other noteworthy crops include rice, maize, millet, buckwheat, wheat, barley, lentil, chick pea, and soy bean. However, these crops generally provide for livelihoods on more of a subsistence level, as opposed to generating significant income. Adding to the agriculture-centric quality of the district's economy is the fact that the vast majority of farmers in Nawalparasi own the land that they harvest from, with 19,987 total land owners, as opposed to only 743 tenant farmers. This is indicative of the data that one would find within the project-affected VDCs themselves, although owner-vs.-tenant data not readily available for those particular areas.

In terms of basic services such as water and sanitation, there are a total of 128,760 households in the district, and the vast majority attribute their main source of drinking water to piped water (51,829) and hand pumps (60,049). An additional 12,908 households rely on wells, and the remaining households rely on spout water, rivers/streams, or other water sources. In contrast to the high percentage of households that have water piped into their homes, there is also a sizeable percentage of the total households that lack a toilet – 48,934 households (approx. 38%) do not have a toilet inside their home.

Electrification of households within Nawalparasi is high; 104,202 (approx. 81%) of households use electricity as their main source of light, while an additional 15,297 (approx. 12%) utilize kerosene. Although the majority of houses are electrified, this electricity seems to be used solely for lighting and certain appliances; 80% of households use wood as their main source of cooking fuel, while just .07% of households utilize electricity for cooking.

4.8.2 Resettlement Impacts

The estimated impact to structures and land along the proposed XB1 line are provided in the table below. The total estimated number of structures impacted is approximately 26, while an estimated 76.82 hectares of agricultural land will be impacted (permanently and temporarily). Land impacts are summarized for agriculture land under transmission lines, forest land under transmission lines, and land underneath the transmission towers that will need to be acquired. The total amounts of land underneath the transmission towers that will need to be acquired have been separated from the total amount of impacted agricultural land, and there are expected to be a total of 53 towers along the entire length of XB1.

Table 41. Estimated Resettlement Impacts to Structures and Land – XB1						
XB1	Districts	VDCs Impacted	Total Structures (Trans. line, SS, & access road)	Ag. Land Area under Trans. Line (ha)	Forest Land Area under Trans. Line (ha)	Land Under Towers to Purchase (ha)
	Nawalparasi	7	26	76.82	0.00	0.90
TOTALS	1	7	26	76.82	0.00	0.90



5. Eligibility Criteria and Entitlement Matrix

5.1 Eligibility

Eligibility defines those persons, groups of persons, families, businesses, and the like who are entitled to compensation or social assistance due to physical (relocation or loss of shelter) and/or economic displacement (loss of assets or access to assets that leads to loss of income source or other means of livelihood) or other impacts resulting from the transmission line projects. Eligibility is determined using both land ownership status and severity of impact as guides. The goal of the entitlements is to restore, to pre-project levels, or preferably to improve, the standard of living or livelihoods of those impacted by the project.

In terms of land ownership, IFC PS5 clearly defines those who are eligible for entitlements:

- Those with formal legal rights to the land/assets;
- Those with no legal rights but with a claim to land recognized under Nepal national or customary law (e.g., Aileni land in the process of legalization);
- Those with no recognizable legal right to land.

Severity of impact can range from temporary or minor, to severe. Severe impact is usually identified as: persons losing a portion of land, leaving the remaining land unviable; or resulting in physical relocation (to a home or business); or suffering a significant loss of income or livelihood due to the project.

Those persons who take up residence in the project area after a cut-off date has been established, documented and well communicated in the project areas are not eligible for compensation in the project. The cut-off date is set at the completion of the Census and Asset Inventory process during the RAP period, which is further described in Section 7.

The entitlement matrix in Table 43 includes: a description of the types of losses expected for the transmission line projects, the persons or groups who are entitled to the compensation or support, and the recommended entitlements. The detailed Census and Asset Inventory will be used to identify the extent of the land and structural impacts along the RCOI, the project affected persons and their socioeconomic status as well as vulnerabilities, and other important aspects that will assist in determining the proper entitlements. As the detailed Census and Asset surveys commence on the project during the RAP period, the entitlement matrix may be updated and fine-tuned to address additional impacts, other categories of project affected persons or groups, or to further refine the entitlements.

It is important to note that two different options for compensation are offered in the entitlement matrix for most cases – in-kind replacement of the impacted asset, or cash compensation at full replacement value. As stated in IFC PS5, because of the concern that short-term consumption of cash compensation can result in hardship – especially for subsistence-based or poorer households, it is usually preferable to offer in-kind replacements wherever possible. However, the project affected

person will make this choice. It is also important to note that a person, family, or group may be entitled to several different compensations listed in the entitlement matrix, depending on the extent of the impact. For example, a business owner who rents out part of their property, may be compensated for the loss of the structure, the land, income loss for a set amount of time (due to the loss of the tenant), and other allowances. His tenant (as well as any employees) will also be entitled to certain compensations.

Additional RAP Allowance

Discussions were held with experts at the Investment Board of Nepal (IBN) who are currently overseeing two large hydropower projects in Nepal, one of which is required to follow IFC Performance Standards. As indicated below, several of the following allowances are being applied to the IFC project. In order to maintain consistency between IFC projects, these allowances should also be applied to the transmission line project. Additional allowances are also included below.

Land Development Cost⁸

Allowance for land development cost aims to cover costs that will incur while preparing newly purchased land for cultivation. Given the complications in determining the land development cost due to a variety of crops that are planted in the district and their associated costs, the average cost of production of paddy (rice) was taken as a benchmark.

Table 42. Average Cost of Production per Ropani⁹ for Rice Paddy (In Nepali Rupees)				
Activities	Unit	Amount	Rate	Total in NRs
Seed	Kg	2.5	60	150
Fertilizer				
Compost	Kg	300	5	1,500
Urea	Kg	6.5	50	325
DAP	Kg	2	70	140
Potash	Kg	1.5	60	90
Land development and seedling	Man-day	7	500	3,500
Pesticide and Contingency				2,000
Total				7,705
Source: District Agriculture Development Office				

⁸ As applied to IFC hydropower project that is being overseen by IBN;

⁹ 1 Ropani is equivalent to approximately .051 hectares.

Table 43. Entitlement Matrix				
	Type of Impact	Application	Entitled Person(s)	Compensation Policy/ Entitlement*
A. Land	A1. Loss of Land in entirety or with no viable residue.	Permanent loss of privately owned agricultural, forestry, or other land (impacted due to transmission tower footprint, sub-station (SS) land, and/or access roads to SS)	<p>Owners/ Titleholders of land as per land record at cut-off date, as set during the asset survey.</p> <p>Those with no legal rights to land but with a claim to land recognized under Nepal national or customary law (e.g., Aaileni land in the process of legalization).</p>	<ul style="list-style-type: none"> Provide full title to land of equal area and productivity acceptable to the owner in the vicinity, if available. All transaction costs covered with option for security of tenure as per IFC PS5. <p>OR</p> <ul style="list-style-type: none"> Compensation at full replacement cost for permanently lost land. All transaction costs associated with land (estimated to be 10% of total land cost). <u>Land Development cost allowance;</u> Note: In the case of vulnerable groups preference should be land for land with equivalent tenure, or opportunity to secure tenure of land, if applicable.
	A2. Partial Loss of Land with viable residue.	Permanent loss of portion of privately owned agricultural, forestry, or other land (impacted due to transmission tower footprint, sub-station (SS) land, and/or access roads to SS)	<p>Owners/ Titleholders of land as per land record at cut-off date, as set during the asset survey.</p> <p>Those with no legal rights to land but with a claim to land recognized under Nepal national or customary law (e.g., Aaileni</p>	<ul style="list-style-type: none"> Pro-rated compensation at full replacement value for affected portion of land. All transaction costs associated with land (estimated to be 10% of total land cost); <u>Land Development cost allowance</u> (if more than 50% of land is impacted); (Special note: if the owners remaining land area in the District is less than the Minimum Economic Land Holding (WB study indicated – 5 Kattha (approximately .42 acres/ .17 has) in Terai, or 3.5 Ropani (approximately .46 acres/

Table 43. Entitlement Matrix				
	Type of Impact	Application	Entitled Person(s)	Compensation Policy/ Entitlement*
			land in the process of legalization).	.18 has) in Hill districts), an additional 30% of the total land compensation will be added to the amount. Alternatively, if the title holder opts to purchase land in the District with their compensation amount, and produces an ownership title for the new land, an additional 50% of the amount they used to purchase land, will be added to their compensation package) ¹⁰ .
	A3. Temporary Loss of Land Use	Temporary loss of agricultural land (which may occur during stringing of transmission lines, or during construction of towers).	<p>Owners/ Titleholders of land as per land record at cut-off date, as set during the asset survey.</p> <p>Those with no legal rights to land but with a claim to land recognized under Nepal national or customary law (e.g., Aaileni land in the process of legalization).</p>	<ul style="list-style-type: none"> In the case of farmland, entitled to cultivation disruption allowance for the amount of time of disruption. Compensation for crop and other property losses for the duration of the temporary occupation and disturbances and damages to property. <p>OR</p> <ul style="list-style-type: none"> Contractor to negotiate a contract agreement on the rental rate with the owner for temporary acquisition of land. At the end of the temporary acquisition period, land/property restored to its original condition or as agreed with the owner.

¹⁰ In discussions with Investment Board of Nepal (IBN), who is overseeing the implementation of Arun III and Upper Karnali hydropower projects (the latter of which is required to follow IFC performance standards) – this entitlement is offered to title holders as an option. In order to maintain a consistency in IFC projects in Nepal, this option has been included for the transmission line projects.

Table 43. Entitlement Matrix				
	Type of Impact	Application	Entitled Person(s)	Compensation Policy/ Entitlement*
	A4. Permanent Easement on Land	Land that falls within RoW/ RCOI of transmission line (land use or easement required).	Owners/ Titleholders of land as per land record at cut-off date, as set during the asset survey. Those with no legal rights to land but with a claim to land recognized under Nepal national or customary law (e.g., Aaileni land in the process of legalization).	<ul style="list-style-type: none"> Title deed holders owning land in the Right of Way for transmission lines are entitled to cash compensation at 10% of the full replacement cost based on current market rate, in compensation for the restriction on future land use¹¹.
	A5. Loss of Land in entirety or with no viable residue.	Permanent loss of privately owned agricultural, forestry, or other land (impacted due to transmission tower footprint, sub-station (SS) land, and/or access roads to SS).	Informal Settlers	<ul style="list-style-type: none"> Informal settlers cultivating affected land for at least 3 years before cut-off date will be entitled to allocation of land if <i>aailani</i> or other government land is available. <u>Land Development cost allowance;</u>

¹¹ Note: Section 6 in this document describes alternative ideas that are suggested to address the contentious issue of the flat-fee of 10% paid for the easement land under the transmission lines.

Table 43. Entitlement Matrix				
	Type of Impact	Application	Entitled Person(s)	Compensation Policy/ Entitlement*
	A6. Loss of Tenancy Land	<p>Permanent loss of agricultural, forestry, or other land.</p> <p>Temporary loss of agricultural, forestry, or other land.</p>	Landlord and Formal/ Registered Tenant by written agreement in practice, and processed as per 2058 amendment to the Land Reform Act.	<ul style="list-style-type: none"> Both the Landlord and registered tenant¹² will be entitled to 50% of the land compensation amount each as per the 2058 amendment to the Land Reform Act. Non-registered tenant/ renter/ lease holder does not qualify for compensation for land losses, however they are entitled to compensation for crops. Where a renter/leaseholder has a sharecropping arrangement, the compensation will be apportioned according to this arrangement.
	A7. Loss of Guthi Trust Land	Loss of land/ structures on the land.	Entitled person/ institution/ tenant in accordance with the <i>Guthi</i> Corporation Act 2033.	<ul style="list-style-type: none"> As per <i>Guthi</i> Corporation Act, land-for-land compensation will be provided to the extent possible. <p>OR</p> <ul style="list-style-type: none"> If land of equivalent value is not available, cash compensation will be paid according to the market rate. Any structures, shrines, and/or religious ornaments located on impacted <i>Guthi</i> lands, should they be impacted or access to them impacted, will either be relocated to an agreed-upon site, or cash compensation will be paid.

¹² A “registered tenant” is defined as those farmers that have a formal written agreement with the landowner, to be able to use the land upon which they grow crops, for a rental fee (money, percentage of crops, or other means of payment) paid to the landowner.

Table 43. Entitlement Matrix				
	Type of Impact	Application	Entitled Person(s)	Compensation Policy/ Entitlement*
B. Structures	B1. Loss of privately owned residence. Or partial loss of structure, but no longer viable.	Permanent or partial loss but no longer viable/ deprivation of accommodations in which PAP(s) live(s) and/or consider(s) to be their primary residence.	Legal owner of structure. Informal settlers – for a residence they have built or own on others land.	<ul style="list-style-type: none"> Provide replacement residence equivalent to lost residence and acceptable to the owner in the vicinity, if available. All transaction costs covered with option for security of tenure as per IFC PS5. OR <ul style="list-style-type: none"> Compensation for full loss of house at full replacement value with no deduction for depreciation and plus labor costs to rebuild according to structure type. Households may salvage materials with no deduction from compensation. Payment of installation charges or compensation for relocation of electricity, telephone line, TV cable, drinking water and other infrastructure to the installer if these exist. <u>Moving Allowance for Displaced Home/Residence</u> - for cost of moving household effects, salvaged materials, and rental amount to cover 6 months' rental in equivalent dwelling. If house was rented out to a tenant, additional 6 months' <u>Loss of Rental Income Allowance for Landlords</u> from rent tenant provided to home owner.

Table 43. Entitlement Matrix

	Type of Impact	Application	Entitled Person(s)	Compensation Policy/ Entitlement*
	B2. Partial Loss of privately owned residence – still viable	Partial loss of privately owned residence that is still viable, and the structure is still in livable condition.	Legal owner of structure. Informal settlers – for a residence they have built or own on others land.	<ul style="list-style-type: none"> Pro-rated compensation at full replacement value for affected portion of residence. Payment for re-installation charges or compensation for relocation of electricity, telephone line, TV cable, drinking water and other infrastructure to the installer if these are impacted.
	B3. Loss of rented accommodation(s)	Permanent or temporary loss/ deprivation of accommodations in which PAP(s) live(s) and/or consider(s) to be their primary residence.	Tenant/ renter. Leaseholder with own accommodation.	<ul style="list-style-type: none"> <u>Moving allowance for Displaced Rental Tenant</u> includes assistance and rental of vehicle to move effects and 3 months' rent to cover equivalent dwelling. Payment of installation charges or compensation for relocation of electricity, telephone line, TV cable, drinking water and other infrastructure to the installer if these exist.
	B4. Commercial Premises and Businesses	Permanent loss of business or commercial enterprise	Legal owner of business/ commercial enterprise	<ul style="list-style-type: none"> Provide replacement business equivalent to lost business and acceptable to the owner in the vicinity, if available. All transaction costs covered with option for security of tenure as per IFC PS5. <p>OR</p> <ul style="list-style-type: none"> Compensation for full loss of business structure at full replacement value with no deduction for depreciation and labor costs to rebuild according to structure type. Compensation for 3 months' <u>Loss of Income Allowance</u>, based on records of income on a per month basis.

Table 43. Entitlement Matrix				
	Type of Impact	Application	Entitled Person(s)	Compensation Policy/ Entitlement*
				<ul style="list-style-type: none"> • <u>Moving allowance for Displaced Business/ Commercial Premises</u> - equivalent to one month's rent, and vehicle rental for moving to alternative premises for commercial establishments. • Payment of installation charges or compensation for relocation of electricity, telephone line, TV cable, drinking water and other infrastructure to the installer if these exist. • If business was rented out to a tenant, additional 6 months' <u>Loss of Rental Income Allowance for Landlords</u> from rent tenant provided to business/ enterprise owner.
	B5. Other structures	Permanent or temporary loss/ deprivation of other structures.	<p>Legal owner of structure</p> <p>Tenant/ renter (if the tenant/ renter built the structure(s))</p> <p>Informal Settler (if the informal settler built the structure(s))</p>	<ul style="list-style-type: none"> • Compensation for full or partial loss of house/ shop/ workshop/ outbuilding structure, or other structures at full replacement cost with no deduction for depreciation and plus labor costs according to structure type. • If cowshed is impacted – receive <u>Moving Allowance for Cowshed</u>. • Households may salvage materials with no deduction from compensation. • Special Note: if the Project damages drinking water source, sanitation facilities, schools, community buildings and other important structures for day to day needs of community or individual – arrangements must be made to ensure uninterrupted service during the project (e.g., replacement latrine or water point prior to removal of

Table 43. Entitlement Matrix				
	Type of Impact	Application	Entitled Person(s)	Compensation Policy/ Entitlement*
				existing one).
C. Vulnerable Persons (VPs)	C1. Loss of residence, land, or other assets (other than trees, crops)	Vulnerable Persons who are displaced or who lose assets (other than trees, crops) and need additional assistance.	Vulnerable Persons (elderly HH, child-headed HH, single parent HH, disabled HH, extremely poor HH, others)	<ul style="list-style-type: none"> Entitled to applicable compensation as defined in other sections of Entitlement Matrix. <p>AND</p> <ul style="list-style-type: none"> <u>Food Security Allowance.</u> <u>Pension for Elderly Allowance</u> will be provided to those HHs that elderly headed where the head of household is 60 years of age or older. Counselling regarding project impacts, compensation alternatives and risks and resettlement options where required. Social Development Assistance from the alternative livelihoods program with community social mobilizer support. <u>Vulnerability Allowance</u> – including linkage with local social programs as available. For VPs 18 years or older, who are vulnerable (may include: Unemployed youths, minority tribal groups and landless households, women-headed households and the

Table 43. Entitlement Matrix				
	Type of Impact	Application	Entitled Person(s)	Compensation Policy/ Entitlement*
				<p>socially excluded – as determined in consultation with Local Consultative Forum (LCF)) – will receive additional attention and support from the community social mobilizer.</p> <ul style="list-style-type: none"> • Preferential employment for one household member on the construction projects, where applicable (Sub-stations, access road construction, others).
D. Employees	D1. Loss of wages due to displaced business/ enterprise	Permanent loss of income from employment due to displacement of business/ enterprise.	Wage earners, with proof of employment in business/ enterprise that has been displaced due to project.	<ul style="list-style-type: none"> • One time financial assistance of 3 months of lost wages to be computed on basis of local wage rates in the District for each category of wage earner. • Skilled and semi-skilled workers will be considered for preferential employment on the construction projects, where applicable (Sub-stations, access road construction, others).
E. Livelihood Losses	E1. Loss of significant source of livelihood	Permanent loss of livelihood due to project impacts.	PAPs who lose a significant portion of their livelihood due to project impacts.	<ul style="list-style-type: none"> • Livelihood restored or compensated through the Livelihood Restoration Plan (monetary or in-kind, training, other and including counseling if opted for by PAP).
F. Trees and Crops	F1. Trees and crops	Loss of privately-owned annual and/or perennial crops and trees, whether for subsistence, income, or other uses.	<ul style="list-style-type: none"> - Titleholder - Tenant - Lessee/ cultivator 	<ul style="list-style-type: none"> • Advance notice to harvest crops. • Cash compensation for crops, fruit and fodder that cannot be harvested - based on crop market value at Ministry of Agriculture official rates. If loss/damage is to a legally registered commercial farm, orchards or horticulture farms, compensation shall be paid in the amount equal to loss of income for 5 years.

Table 43. Entitlement Matrix				
	Type of Impact	Application	Entitled Person(s)	Compensation Policy/ Entitlement*
				<ul style="list-style-type: none"> Annual crops will be paid in accordance with one year's output value. Perennial crops will be paid on the basis of 5 years annual net production for fruit and fodder trees and 3 years annual net production for timber/ fuel wood trees and other perennial crops. Loss/ damage to privately owned trees and plants will be compensated based on the standard provided by District Forest Office of concerned District.
	F2. Community Forest Trees and other resources	Loss of trees or other perennial crops from the Community Forest User Group run/ maintained areas.	Local Community Forest Users Group (CFUG)	<ul style="list-style-type: none"> Mitigation measures should be initiated to control erosion caused by tree cutting, and to stabilize and rehabilitate the slopes with suitable bio-engineering works and vegetation. Community forest land due to the project should be replaced and reforested according to DoF regulations. Advance notice to harvest forest resources from affected areas. Compensation for trees lost to be paid to the CFUG. List of plants and trees lost used to plan and implement replanting. Compensation for trees is calculated on the type, age, productive value as per District Forest Office norms.
G. Community facilities/ resources	G1. Community buildings, structures, cultural assets, and sacred/ religious sites	Permanent and/or temporary loss of community facilities, assets, or sites,	Local community/ User's group	<ul style="list-style-type: none"> Cash compensation for restoring community and cultural resources. Restoration of affected community buildings and structures to at least previous condition or replacement in

Table 43. Entitlement Matrix				
	Type of Impact	Application	Entitled Person(s)	Compensation Policy/ Entitlement*
		including access to those facilities, assets, and sites.		<p>areas identified in consultation with affected communities and relevant authorities.</p> <ul style="list-style-type: none"> Restoration should be made before commencement of the project or as agreed with the community or group.
	G2. Community land	Permanent and/or temporary loss of community land, including access to that land.	Local community/ User's group	<ul style="list-style-type: none"> Restoration of access to community resources by request to the Land Revenue Office in the District and concerned VDC/ municipality; OR Restoration of access to alternative community resources.
H. Government Impacts	H1. Facilities and infrastructure	Impact to government property from project	Relevant agency	<ul style="list-style-type: none"> Facilities will be repaired or replaced in consultation with the relevant Department or Ministry, including the restoration of public accessibility to the facilities and infrastructure, where applicable – <i>Not expected to affect any such buildings or structures.</i>
	H2. Forest areas	Impact to government property from project	Department of Forestry	<ul style="list-style-type: none"> Mitigation by afforestation to be undertaken in consultation with Department of Forestry.
	H3. Government land	Impact to government property from project	Relevant agencies	<ul style="list-style-type: none"> Compensation and/or replacement of land will be managed through collaboration between relevant agencies, as per government requirements.

Table 43. Entitlement Matrix				
	Type of Impact	Application	Entitled Person(s)	Compensation Policy/ Entitlement*
I. Damage During Construction/ Easement	I1. Any damage to assets that have not been compensated	Physical damage sustained by any structure, land, or other asset as a direct result of project-related easement and/or construction activities	PAPs Affected communities	<ul style="list-style-type: none"> Contractors will take extreme care to avoid damaging public and private property. Where damage does occur as the result of construction works or activities, the contractors will be required to pay compensation immediately to affected families, groups, communities or the Government for damages to crops and trees. Damaged land, infrastructure and structures shall be restored to their previous conditions. The same entitlement policies/ compensations shall apply as for other land acquisition impacts.
<p>*Note: bold and underlined items under the Compensation Policy/ Entitlement column are Allowances that are further described in the “Additional RAP Allowances” section below.</p>				

Only those HHs that will lose 50% or more of their total land will be eligible for Land Development Costs. Those HHs that will receive additional allowance for being landless or having balance land less than the Minimum Economic Landholding (MELH) after land acquisition will not be eligible for any land development cost.

Land development allowance will be computed based on the land that will be acquired (in Ropani) times the average cost of planting paddy as highlighted in the table above.

(Note: during the RPF, it is not possible to determine if a HH has lost more than 50% of their land, therefore this will be a part of the general contingency added to the total estimated costs in Section 8).

Moving Allowance¹³

Moving Allowance for Displaced Home/ Residence

All HHs that will be physically displaced will be entitled to moving allowance. The allowance will cover the cost of labor required to move personal belongings from the structure to be demolished, cost of transportation of personal belongings, and rental cost of six months on the assumption that a new house could be built within that period. HHs will be allowed to salvage any building materials from affected structures with no deductions to compensation.

Table 44. Moving Allowance for Displaced Home (in Nepali Rupees)		
	Rate	Remarks
Assistance for salvaging building materials and personal belongings	NRs 4,800	4 unskilled laborers for 2 days @ NRs 600/day
Cost of hiring a truck or other means of transportation	NRs 60,000	Estimation of 12 ton hired for a day
Rent cost	NRs 30,000	For six month @ NRs 5,000/month
Total	NRs 94,800/HHs	

(Note: for the RPF, although the exact type of structure impacted along the lines could not be determined during this phase, in order to provide a conservative estimate – it will be assumed that each impacted structure will receive this moving allowance. It will be included in Section 8).

Moving Allowance for Displaced Rental Tenant

The following table is a modification of the moving allowance provided to displaced home owners in order to address the needs of rental tenants who are permanently impacted due to the project (this was not included as part of the IBN initial recommendation for compensations).

¹³ Ibid.

Table 45. Moving Allowance for Displaced Rental Tenant - Homes

	Rate	Remarks
Assistance for salvaging building materials and personal belongings	NRs 2,400	4 unskilled laborers for 1 days @ NRs 600/day
Cost of hiring a truck or other means of transportation	NRs 30,000	Estimation of small truck hired for a day
Rent cost	NRs 15,000	For three month @ NRs 5,000/month
Total	NRs 47,400	

(Note: for the RPF, the number of rental tenants impacted along the lines could not be determined during this phase, therefore this will be a part of the general contingency added to the total estimated costs in Section 8).

Moving Allowance for Displaced Businesses/ Commercial Premises

The following table is a modification of the moving allowance provided to displaced home owners in order to address the needs of business/ commercial Premises that are permanently impacted due to the Project (this was not included as part of the IBN initial recommendation for compensations).

Table 46. Moving Allowance for Displaced Rental Tenant - Business

	Rate	Remarks
Assistance for salvaging building materials and personal belongings	NRs 2,400	4 unskilled laborers for 1 days @ NRs 600/day
Cost of hiring a truck or other means of transportation	NRs 30,000	Estimation of small truck hired for a day
Rent cost	NRs 5,000	For one month @ NRs 5,000/month
Total	NRs 37,400	

(Note: for the RPF, the number of businesses/ commercial premises impacted along the lines could not be determined during this phase, therefore this will be a part of the general contingency added to the total estimated costs in Section 8).

Moving Allowance for Cowshed

For those who are only losing cowsheds but not any residential structures, a flat compensation rate of NRs 6,000 per cowshed will be provided as a moving allowance.

(Note: during the RPF, it is not possible to determine if a structure is a cowshed, therefore this will be a part of the general contingency added to the total estimated costs in Section 8).

Food Security Allowance¹⁴

Considering the sensitivity of displaced HHs, food security allowance to vulnerable households within the physically displaced households for a period of six months will be provided. The amount of the allowance that each HH will be eligible for depends upon the size of the HH. The following formula will be applied for the purpose of calculating the allowance that each vulnerable HH within the physically displaced households will receive.

Food Security allowance = NRs 26,712/12 *size of the HHs * 6 months

As per the Nepal Living Standard Survey 2011, the poverty line is set at NRs 19,261 as minimum annual income required to enable an individual to consume 2,250 calories on a daily basis, and access other essential non-food items (NRs 12,000 for food expenses and remaining for non-food expenses). Adjusting for inflation, NRs 26,712 per person per year as the poverty line has been established.

An important aspect of the food security allowance that the RAP implementation team should take into consideration is the impact of remoteness/altitude on the relative costs of food in different regions of Nepal. PAPs located in certain areas of the country that are remote or not easily accessible, and who are eligible for the food security allowance, may require that the allowance amount be adjusted higher to compensate for the potentially higher food prices (and transport prices) within that area. The RAP team should conduct further research into this consideration to determine whether it may be applicable in certain project-affected areas (such as along T2', T3, and certain sections of NR1 and NR3 that transect mountainous regions). To this end, the RAP implementation team should seek guidance from the IBN, as well as the District Agriculture Development Office (DADO) of the affected district.

(Note: during the RPF, it is not possible to determine how many of the displaced PAPs will be vulnerable, therefore this will be a part of the general contingency added to the total estimated costs in Section 8. Also note – vulnerable populations are considered: elderly headed households, child headed households, single parent headed households, disabled headed households, and those considered extremely poor).

Transitional Allowance¹⁵

In order to make up for the possible loss of income from agriculture or commercial operations due to land acquisition activities and to assist in restoring livelihood for all the affected HHs, a transitional allowance for a period of 6 months is provisioned. Those HHs generating income through agriculture or commercial activities on government land or rented private land, will also be eligible for the allowance.

¹⁴ Ibid.

¹⁵ Ibid.

Table 47. Estimation of Allowances (In Nepali Rupees)

Transition Allowance	Amount	Justification
For agriculture	NRs 6,000*/ropani	Mean income
For shop, business, commercial use	NRs 15,000**/month	Mean income
<p>*A top up of 20% will be added</p> <p>** Average income from shops based on household surveys conducted on IBN projects</p> <p>HHs involved in commercial activities as well as agriculture will be entitled to transitional allowance to cover for income loss from both activities.</p>		

(Note: during the RPF, it is not possible to determine the income source of the affected HHs, therefore this will be a part of the general contingency added to the total estimated costs in Section 8).

Pension for the Elderly¹⁶

Those HHs whose members are all 60 or above will receive a pension equivalent to double of the prevailing senior citizen allowance that the government provides for the individual's lifetime or for a period not exceeding the term of the project, whichever is earlier.

(Note: during the RPF, it is not possible to determine the affected HHs with members who are above 60 years old, therefore this will be a part of the general contingency added to the total estimated costs in Section 8).

Disturbance Allowance¹⁷

Users:

There are two categories of land users that have been identified in the project footprint *(Note: the following types of land users may or may not apply to the transmission line Project – this will be determined following the detailed Census and Asset Survey work conducted during the RAP period).*

- a) Sharecropping: An arrangement whereby the landowner allows a second party to use his/her land for cultivation in expectation of half of the produce from the land to be given to the owner as rent. In such cases, compensation for lost crops will be divided amongst the two parties based on the arrangement of sharecropping. In the absence of a contract or a written agreement between the parties for such an arrangement, the developer will negotiate with concerned parties in the presence of the VDC secretary and have this endorsed by the CDC.
- b) Bandagi: Bandagi is another arrangement of land use identified in the project footprint. Under such arrangements, the owner of the land borrows money from a second party in exchange for allowing the second party to use the land until the owner repays the entire debt. The project will assess such Bandagi arrangements carefully before acquiring land from the owner. In the absence of a written agreement between the parties for such an arrangement, developer will negotiate with concerned parties in the presence of VDC secretary and have this endorsed by the CDC.

¹⁶ Ibid.

¹⁷ Ibid.

(Note: As of this publication, the compensation amount has not been finalized. It is planned to be a percentage of the total land lost. For the RPF, this will also be a part of the general contingency included in Section 8).

Loss of Employment Allowance

This allowance applies to employees of a formal business that is permanently or temporarily impacted/ displaced. The employee will be compensated for 3 months of lost income for temporary impact and for 6 months of lost income for permanent impact to the place of employment. The wages will be in accordance with Nepalese legal standard pay for the lost positions.

(Note: during the RPF, it is not possible to determine how many employees will be losing their salary/wages, therefore this will be a part of the general contingency added to the total estimated costs in Section 8).

Loss of Income Allowance

This allowance is to compensate for a loss of income as experienced by owner-operators and tenants of businesses that will be permanently impacted/ displaced. Eligible owner-operators and tenants will be provided with compensation that addresses the loss of an average monthly profit, dependent on size of business and types of items sold. The loss will be determined for a 3 month loss.

(Note: during the RPF, it is not possible to determine how many PAPs will be losing their business and therefore experiencing lost profits, therefore this will be a part of the general contingency added to the total estimated costs in Section 8).

Loss of Rental Income Allowance for Landlords

This allowance applies to landlords of residences or businesses whose residence or business will be impacted and who will lose rental income from their tenants. The compensation will be based on the per month rental payments for a 6-month period.

(Note: during the RPF, it is not possible to determine how many Landlords may be losing their tenants and therefore experiencing lost income, therefore this will be a part of the general contingency added to the total estimated costs in Section 8).

Vulnerability Allowance

The vulnerability allowance will be applicable to any vulnerable PAP as determined by the Census and Socioeconomic Survey (i.e., elderly headed HH, child headed HH, disabled headed HH, single parent headed HH, and extremely poor headed HH) whose assets are impacted (does not include impacts to trees, crops, similar). In addition to the Food Security Allowance and the Pension for the Elderly, this support will involve additional social support as needed.

Other Allowances¹⁸

- a) People living on government land will not be compensated for land but will be eligible for all allowances and benefits from RAP.

¹⁸ Ibid.

- b) If a resettlement site is required, host communities will be assessed separately.
- c) For those who do not have land or house somewhere else, security of tenure will be ensured.
- d) Community forest users will be involved during the RAP preparation through the District Forest Office. Compensation Agreements will be prepared during the RAP period for those families or individuals who are impacted due to the project impacts on the specific community forest – particularly for those families or individuals who have a significant impact to their source of livelihood. In terms of the payment for the loss of trees and other forest commodities, it may be feasible to establish a tripartite agreement between the project, the District Forest Office and the impacted CFUG that defines the relationship and payment scheme.
- e) Any community infrastructure that is to be displaced will be compensated and restored by the project.
- f) A separate livelihood restoration plan is a part of the RAP for households losing land, and/or land and structures, or for those who will lose access to resources.
- g) Financial literacy programs for those receiving cash should be organized and conducted in the project area(s).

6. Asset Valuation Framework and Methodology to Define Compensation

The following sections describe the different categories of impacts along the transmission Line project and the methodologies used to define compensation.

6.1 Categories of Assets and Valuation Methods

6.1.1 Land Acquisition

Current Practice

The District Land Revenue Office (LRO) is responsible for land administration and revenue collection, including land valuation in its district and annual estimates for land rates. The values are often different from the actual land market transactions – the prices set by the land revenue offices are normally lower than the prevailing market price (due to an under-reporting of market transactions by people in the districts in order to keep taxes low). The valuation of affected assets/structures follows the existing Nepal legal framework and guidelines as specified in the Land Acquisition Act Clause 13. A four-member Compensation Determination Committee (CDC), headed by the CDO of the concerned district, is constituted to determine the compensation for lost assets. The other members include the Project Chief or his/her representative, a representative from the social sector/academia/retired government officer (to be selected by the CDO), a representative from civil society (potentially a human rights organization), and a representative from the District Development Committee (DDC). Affected persons will be present as observers if the project is a donor-funded project (and specified by the donor)¹⁹. In this process, the Committee issues a circular or holds extensive consultation with representatives of the project affected population, political party local representatives, and relevant district-level chiefs of line agencies to finalize and fix the rate of compensation. The CDC also verifies the current selling and buying of land through the land revenue office before determining assets. If required, the CDC will conduct a market survey to evaluate local market rate structures and land, which helps to reduce disparities in the valuation based on prevailing market rate.

Large differences are often found between the Government and Market Prices of land. During several meetings in the project districts, CDOs in these areas indicated that the differences are upwards of a 35% gap between market price and the Government Prices and that the offered price is usually negotiated with the land owner and results as somewhere between the market and government price when land is required for development projects in an area.

The discrepancy between government price and market price has been found to be much higher on other projects in Nepal. The Investment Board of Nepal (IBN) is currently overseeing two projects,

¹⁹ It should be noted that although the LARRPIDP (2015) is not implemented as of the preparation of this RPF, the recommendation in the LARRPIDP (section 12.1.2) to extend invitation to representatives of projected families/ individuals to be a part of the decision making process held by the CDC, should be put in place during the RAP period. In addition (as specified in LARRPIDP, section 12.1.3), the technical task force that assists the CDC in investigating and evaluating the affected land should include participation of the affected families/ individuals.

the Arun III hydropower project and the Upper Karnali hydropower project²⁰. During implementation, the land transactions for those projects have actually been 3-4 times higher than the government prices for land in the areas of the projects²¹. IBN has been closely involved in the preparation of the new *Land Acquisition, Resettlement and Rehabilitation Policy for Infrastructure Development Projects (2015)*. The Upper Karnali hydropower project is required to follow IFC PS5, one of the first to follow IFC requirements in Nepal, and the IBN is closely monitoring and assisting with this process. In addition, in discussions held with ADB regarding its resettlement projects, market prices for land are reportedly being paid at 3-4 times higher than the government prices.

Recent Changes/ New Trends

Due to the recent passage of the *Land Acquisition, Resettlement and Rehabilitation Policy for Infrastructure Development Projects, 2071 (2015)*, the recent trend is the practice of fixing the compensation through Community Consensus Valuation (CCV). The CCV process includes formal and informal consultations, meetings with local people (including project affected persons/ families), the VDC secretary and VDC representatives. This process is followed prior to the CDC meeting, which helps to determine prevailing market rates. Overall, the new policy is recommending a more *scientific method* be applied to the valuation of both assets and land – to this end, the Policy has recommended the establishment of a Land Valuation Authority to fix land and structure valuation. During the RAP period, the development of this new policy should be followed closely to determine if it comes into force through the update of the Land Acquisition Act.

Process Used to Estimate Land Costs for RPF

IFC PS5 requires that replacement cost is provided for land. This is defined as market value of the land plus any transaction costs. Depreciation is not included in the cost.

During the field visits to the districts along the proposed transmission line projects, land pricing data was gathered from the Land Revenue Offices in the districts along NR1, NR3, NR4, T2' and T8. Table 48 includes a summary of the government pricing for several different types of land in the districts along the project lines.

Land Acquisition

Permanent Land Acquisition applies to the land under the towers, in the substation footprints and their associated road access points.

During discussions with both the IBN and ADB, the RPF team learned that the land acquisition as part of their projects was paying sometimes 3-4 times the government prices for land. However, in the table of land pricing for this project (Annex C), we included only a 1x multiplier due to the uncertainties of the original pricing used by IBN and the ADB²². The prices we used in our table were mid-level pricing for each area (as selected from a range available in the LRO documents). In cases

²⁰ Note: the Upper Karnali hydropower project is a 900 MW project with two connecting transmission lines, being developed by the GMR group and IFC. It is understood that this project connects to the current T8 project which is part of this Feasibility Study.

²¹ Learned during meeting with IBN on 7 November 2016.

²² Note: Prior to finalizing this RPF, if MCC desires to increase this multiplier, there is an option to do this inside of the Microsoft Excel pricing chart provided in Annex D.

where the government pricing had not been collected for the District, a District with similar features (e.g. – both in the lowlands/Terai, or the Hills and/or urban or semi-urban). The table included in Annex C includes the details of the pricing for each of the Districts that was collected from LROs – and includes the justification for the selection of both the structure pricing, as well as the justification for choosing the specific land pricing. This was then applied to the specific area to arrive at an estimated cost. It should be noted that this data is very preliminary and will need careful review during the RAP process.

It should be noted that the land prices included in the Annex are present-day prices. Because it is expected that compensations will be paid to PAPs over a several year period, and that payments will be coordinated with the construction period (which is not expected to begin for a few years), an inflation rate of approximately 3% per year was applied to the overall costs for land and structures (and additional related allowances) – resulting in approximately 17% inflation estimated for the 5 year timeframe. Annex C accounts for this inflation factor.

Table 48. Government Pricing for Land in Districts (gathered from Land Revenue Offices in Districts)										
	Government Pricing, per Hectare (NRs)*									
Type of Land	NR1				NR3			NR4	NR4/T8	T2'
	Makwanpur	Nawalparasi	Tanahu	Dhading	Ilam	Morang	Sunsari	Dadeldhura	Kailali	Ramechhap
Urban										
Main road access	177,180,000	115,050,000	88,000,000	165,144,000	152,972,800	250,750,000	339,595,000	110,096,000	88,590,000	173,008,000
Road access	162,415,000	33,333,333	36,000,000	78,640,000	75,000,000	206,500,000	177,180,000	53,333,333	44,295,000	86,504,000
No road access	11,812,000	8,333,333	6,000,000	4,915,000	11,796,000	17,700,000	13,288,500	15,000,000	17,718,000	17,300,800
Semi-Urban										
Road access	35,400,000	26,833,333	16,000,000	78,640,000	24,933,333	103,250,000	53,100,000	49,150,000	29,530,000	43,252,000
No road access	8,850,000	3,800,000	4,000,000	3,932,000	8,900,350	20,650,000	8,850,000	11,796,000	14,675,000	13,762,000
Rural										
Road access	23,600,000	8,600,000	3,600,000	9,830,000	10,200,000	44,250,000	13,288,500	16,666,666	23,480,000	15,728,000
No road access	5,900,000	2,500,000	1,600,000	2,949,000	6,000,000	11,800,000	3,100,650	5,000,000	11,740,000	7,864,000

Table 48. Government Pricing for Land in Districts (gathered from Land Revenue Offices in Districts)

	Government Pricing, per Hectare (NRs)*									
Type of Land	NR1				NR3			NR4	NR4/T8	T2'
	Makwanpur	Nawalparasi	Tanahu	Dhading	Ilam	Morang	Sunsari	Dadeldhura	Kailali	Ramechhap
Agricultural land general										
Fertile, road access	50,000,000	3,395,950	3,932,000	4,226,900	24,933,333	44,300,000	13,288,500	19,660,000	23,480,000	15,728,000
Less fertile, road access	44,250,000	2,500,000	3,932,000	3,735,400	24,933,333	44,300,000	13,288,500	19,660,000	20,000,000	11,796,000
Fertile, no road access	8,850,000	1,475,000	1,966,000	3,145,600	6,000,000	11,800,000	7,375,000	4,915,000	11,740,000	7,864,000
Less fertile, no road access	8,850,000	1,475,000	1,966,000	1,395,860	4,000,000	11,800,000	7,375,000	4,915,000	11,740,000	6,222,390

Land Easements

The land under the transmission lines will require a restriction, or easement, on the land use to prohibit the construction of houses or other structures on this land as well as tall trees and other crops. This RPF considered agricultural land and bare lands under the transmission lines as candidates for these easements (i.e. – forested lands are not included because it is understood that this land will primarily fall in government land managed by either a Community Forest User Group or by the Department of Forestry. Some contingency has been included for private tree owners within the resettlement pricing, as discussed below - in section 6.1.4).

The current practice, as mentioned in sections above, is to provide a flat one-time 10% compensation to the landowners for the cost of the land under the lines that is placed under easement. This, however, has been a highly contentious and politicized issue in Nepal which has, in some cases, delayed the construction of transmission lines for many years due to the protests of the impacted landowners.

The Government of Nepal recognizes this as an important issue to address and has included it in their *Action Plan on National Energy Crisis Prevention and Electricity Development Decade, 2016* as action item #30 out of the 99-point action plan, as mentioned above in section 2. The idea currently being worked out is to provide additional compensation for the lands falling in the ROW through an annual rent to the landowners with the managerial responsibility being taken up by the related VDCs/ Municipalities. The following table includes this, and other, possible options to be taken up by MCC (including the current process of providing the 10% flat fee) when addressing the easements under the transmission lines. It also indicates the expected benefits and risks of the option.

Table 49. Evaluation of Easement Land Options

Options	Source	Benefits	Risks/ Negative Aspects	Budget Impacts
10% flat fee payment	Existing process	<ul style="list-style-type: none"> Ease in application One-time, up-front cost 	<ul style="list-style-type: none"> Continued protestations to policy – delay in TL completion No benefit to subsequent owners or to family (for inheritance, e.g.) 	<ul style="list-style-type: none"> MCC – one-time payment (as estimated in Annex C)
10% flat fee payment + yearly annuities (or “rent”) up to percentage of land value for life of Tx lines (~50 years)) or in	Existing process plus	<ul style="list-style-type: none"> Provides landowner regular income stream Possible to transfer to buyers/ include in will for beneficiaries May make land more appealing to buyers 	<ul style="list-style-type: none"> May be perceived as lesser amount to the landowner (versus flat fee payments) Administrative burden of managing over time Source of payment stream must be identified If set an agreed-upon interest rate/inflation rate – fluctuations may cause losses to utility Affected persons may not trust utility/ GoN to administer properly (and capacity may be lacking in utility/ GoN – causing difficulty in administration) 	<p>Two possible options:</p> <ul style="list-style-type: none"> MCC – pays 10% flat fee plus flat rate for annuity (say another 10% - for a total of 20% up-front); (this would change the total estimated resettlement costs from an approx. \$74 million USD to \$97 million USD); or

perpetuity (~99 years)				<ul style="list-style-type: none"> MCC – pays 10% flat fee; NEA pays the annuity amount to be paid out annually;
10% flat fee + option to invest in shares of Tx line fund (potentially based on wheeling charges paid by hydro, other sources)	Existing process plus (Wheeling charges discussed with OMCN)	<ul style="list-style-type: none"> Benefits may increase over time as more energy producers evacuate their power through the transmission lines Innovative and may be viewed similar to shares Possible to transfer to buyers/ include in will for beneficiaries May make land more appealing to buyers No up-front costs to MCC 	<ul style="list-style-type: none"> New/untested process being considered in Nepal – may be difficult to finalize wheeling charges with hydropower IPPs and other power sources Affected persons may not trust utility/ GoN to administer properly (and capacity may be lacking in utility/ GoN – causing difficulty in administration) Because NEA is a loss-making enterprise, shares in Tx line may not be seen as a worthwhile investment, unless and until Tx company can be made profitable (or until wheeling charges are defined) 	<ul style="list-style-type: none"> MCC pays 10% flat fee; NEA pays the shares (e.g. – portion of wheeling charges);
20% flat fee payment	World Bank – Involuntary Resettlement Sourcebook	<ul style="list-style-type: none"> Ease in application One-time up front cost 	<ul style="list-style-type: none"> Possible continued protestations to policy – delay in TL completion No benefit to subsequent owners or to family (for inheritance, e.g.) Raises the bar of compensation, thereby affecting future Tx development 	<ul style="list-style-type: none"> MCC pays flat 20% fee up-front (this would change the total estimated resettlement costs from an approx. \$74 million USD to \$97 million USD);
Land Acquisition & leased back to original owners	ADB (2006). Nepal: Preparation of National	<ul style="list-style-type: none"> Affected persons may be amenable to this solution Will provide utility with 	<ul style="list-style-type: none"> Highest cost/ expense to MCC (payment for land, less lease cost) May require purchase of entire land parcel, if remaining land is unviable 	<ul style="list-style-type: none"> This would be a cost-prohibitive option, since, e.g. – the amount of easement land exceeds the

	Resettle ment Policy Framew ork	constant income from properties	<ul style="list-style-type: none"> • May be lack of capacity in utility/ GoN to administer yearly lease payment collection from users 	amount of land that needs to be purchased. For example, in NR3, the amount of easement land is 126 times the amount of land that requires acquisition for that project.
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In keeping with the current process in Nepal, the 10% flat fee was used as an estimate of costs in Annex C. However, it is recommended that MCC consider one of the two options that will include the 10% flat fee up-front along with the additional yearly payments to the owners, based on the options offered above. Ideally, the payments offered from the “shares” based on the wheeling funds paid by the hydro companies may be the best option, if this has been resolved in the distribution company, as this could be available to all landowners in perpetuity and the value of the “shares” may increase as more hydro plants come on-line.

The legal process involved with establishing easements is based on the Land Acquisition Act, Section 33 of the 1992 Electricity Act of Nepal, and Rule Number 13 of the Electricity Rules. In accordance with discussions held with NEA representatives, in Nepal there is no practice of modifying the land title of impacted persons/families to incorporate the easement. Impacted persons are notified of the easements through a Government Notice published in the Gazette after following the same process used for land acquisitions (surveys and then compensations determined through the Compensation Determination Committee). Although there is no formalized/legal title change included for easements, the RAP team should develop compensation packages for each of the impacted persons along the ROW of the transmission lines, which would include information on the compensation for the easement.

If the GoN Ministries come up with a resolution for item #30 in their 99-point action plan, prior to this project starting, the MCC project should review the findings for consideration in the projects. The primary risk in moving ahead with a policy that is not in-line with the GoN policy is that it will establish policy for all transmission lines moving forward, which may not be tenable (i.e. - cost prohibitive) and may reduce the number of transmission lines that can be built in the country, thereby deterring the GoN goal of addressing their national energy crisis.

Project Practice during RAP and Implementation

The currently passed Land Acquisition, Resettlement and Rehabilitation Policy (2015) has not been applied across Nepal yet because, in order to apply it, the Land Acquisition Act must be updated to be more in-line with the Policy’s requirements. Nepal’s Prime Minister has directed the Ministry of Land Reform and Management to undertake the necessary steps to amend the Land Acquisition Act to be more in line with the policy. The Ministry of Land Reform and Management, together with the National Planning Commission, has initiated a process to respond to the Prime Minister’s direction.

Several others are involved in implementing the policy as well, including the Ministry of Energy (MoE) and the Nepal Electricity Authority (NEA).

For the current transmission project, compensation practices should be more in-line with the 2015 Policy, particularly in terms of the increased involvement of the project affected persons/ families. IFC PS5 requires that replacement cost is provided for land. This is defined as market value of the land, plus any transaction costs. Depreciation is not included in the cost. Replacement cost is also a provision in the 2015 Policy.

The valuation of land in Nepal is a challenging process. As mentioned above, the newly passed *Land Acquisition, Resettlement and Rehabilitation Policy for Infrastructure Development Projects (2015)* is recommending a more *scientific method* be applied to value both assets and land. It is recommending a process whereby the following are reviewed to arrive at a fair price for land compensation: current registration price in the Land Revenue Office; comparative reference point/ index based on composition, structure and size of required area of land; type of road; geographical location and the strategic, business and commercial importance of the land; and the type of land classification.

A detailed description of the RAP work is described in section 7 below. However, in terms of the process for land assessment, the following provides a brief description of the process of how the land will be assessed during the RAP, and subsequent resettlement implementation period. The project should implement a combined process which includes the requirements of the IFC process, while also working within the Nepal legal requirements. The following section assumes that a final design, or near final design, is available to the RAP team²³. The following steps are the recommended process to be followed:

RAP Period:

- Because of the gap between the government prices and the replacement prices, it will be important that the RAP team works closely with the CDO, VDCs, LRO, and others in the project areas to be provided clear information on the process and gain their approval to offer replacement values for the land.
- The RAP team should then work closely with the CDO and join the surveyors to assess the impacts in the field along the projects, and conduct and carefully record both the Census and Asset Inventory for all of the Project Affected Persons (PAPs) along the project. For the survey work, the RAP Team may be wise to employ a local survey officer (possibly a retired officer), or several if needed, who is/are still accredited and known to the District Survey Office to expedite the process and help with this assessment.
- The RAP team may want to verify buying/selling rates in the District Land Revenue Office, or may organize a VDC level meeting with the VDC Secretary and others (including persons who are potentially impacted in the project area) to acquire real market prices in the area for the land. Appropriate documentation should be captured from the LRO and VDC meetings when researching the “real market prices” for land, including indicative land transaction receipts,

²³ Note: the RAP team, or some key members of the RAP team, should work very closely with the design team at the beginning stages of design to ensure that impacts are avoided or minimized wherever possible. This also assumes that the same team will be completing the RAP work and implementing the final work.

historical trends in land price fluctuation, etc. In addition to the market prices, the transaction costs (an approximate 10% of land cost) will be included in the values determined for the land. Compensation packages will be prepared for each PAP by the RAP team in coordination with the surveyors, itemizing these details. It is also recommended that the Team would be wise to employ a local valuation expert, or several if needed, who have a proven track record working as a valuation expert, to help assess the land values (as well as structure prices in each area).

- The compensation packages will be included in the RAP document in preparation for the next phase of resettlement implementation, where payments will be prepared by MCA-Nepal.

Resettlement Implementation:

- Once the land pricing is complete (and added to the other compensations to be offered to each PAP), the compensation packages should be reviewed and approved by MCA-Nepal.
- Overall, the Project Manager will coordinate with the CDO and the CDC, and will also serve as a Member Secretary on the CDC in preparation for compensation assessments. The RAP team, under the direction of the Project Manager, will implement the work.
- The Resettlement Team will meet with each of the PAPs to review their compensation packages, discuss their preferred mode of payment (e.g. – check, cash, bank deposit), collect any bank information, ensure they have proper mode of identification (and assist to obtain this, if necessary), and other similar items. If small errors are found in the compensation packages, the RAP team should review and correct these at this time and return to the PAP with the corrections. Preliminary sign-off for the approval (or rejection) of the compensation packages should be obtained from the PAPs. All personal information that is gathered should be kept confidential and well-protected. This information will be provided to MCA-Nepal for final review and approval.
- The Project Manager will then provide the approved packages to the CDO to be reviewed through the Compensation Determination Committee (CDC). The Project Manager will discuss any changes that are proposed by the CDC with the CDO. These changes will need to be reviewed and approved again by MCA-Nepal.
- Once all rates are approved through MCA-Nepal (and the CDO/CDC), MCA-Nepal will prepare the payments for each PAP (in accordance with the agreed-upon mode of payments) and provide these to the respective VDC to prepare for disbursement.
- The agreed-upon rates will be disclosed in national and local newspapers and other forms of local media as required by the LAA. The specific use of local radio stations will also be utilized, as it is more widespread in its reach than newspapers are because of illiteracy rates. This disclosure serves to notify people that will be receiving compensation that they should plan to attend meetings with proper forms of identification and other proof of ownership (e.g., land certificates, and others). The location of where they will claim their payments will be disclosed in the disclosure notice.
- The RAP team will be present at the location where the PAPs will claim their payments and assist in answering any questions, etc. MCA-Nepal may also choose to be present. Payments will be made at either the project office or the District Administration office. The Land Revenue and Land Survey Office will also be involved if there is a need to transfer deeds. VDC representatives will help with the timely disbursement of the payment information. The

RAP team will assist the PAPs with the payments. Photos of the PAPs receiving the payment with a date/time stamp, as well as signatures from the PAPs signifying receipt of the payments, should be carefully logged during the process. During these meetings VDC staff, social mobilizers, NGOs, or others, and possibly representatives from the engineering teams should be on hand to answer any immediate questions and serve as witnesses to the process. If any grievances arise at this time, the RAP team should carefully log these issues.

6.1.2 Structures

With regard to structures' costs, normally the rate is determined by Department of Urban Planning and Building Construction, and is taken as the basis for estimation. The Department is the main authorized government body to estimate the compensation costs for the structures (Nepal Rajpatra, Section IV, Number 50, Date 2045/12/6 (1988)). The Department annually updates the rates based on current market value. However, as mentioned in other sections of this RPF, PAPs will be compensated for the replacement value of impacted structures, not simply the market value of the structure. This replacement value encompasses the market price for the structure itself, as well as eligible allowances as detailed above in Section 5.

Project Practice during RAP and implementation

The RAP team will work closely with the Department of Urban Planning and Building Construction, or with the District Technical Office (DTO) engineering division, to engage available engineers to help during the Asset inventory of the structures present in the RCOI. If no engineers are available from these organizations, the RAP team may consider hiring one or more engineers (possibly retired from the DTO) to help with expediting this process.

Alternatively, the RAP team should capture information on the extent of the impacts to structures in the project areas and capture photos of the structures to share with either the Department of Urban Planning and Building Construction or the DTO to conduct their review and assessment from the records. Photos should also be captured of the PAPs themselves in a manner that clearly associates each PAP with their affected assets and includes a date/time stamp; permission from the PAP should be acquired prior to capturing photos of them. Information and photos captured should be included in the records for each individual PAP; this should be a standard and routine part of the data documentation process. The engineers from the organization may be able to make assessments through the review of documentation provided by the RAP team, or they may need to gather additional information by visiting the impacted assets. For instance, the engineers may need to assess if a partially impacted structure can remain standing after a portion of the structure is removed; if it cannot remain, the structure will need to be fully compensated.

The final reports of the pricing for each of these structures will be provided to the CDO to use in the CDC meetings. The engineer will explain his methodology to the CDC team. If the CDC disagrees, or questions some of the pricing and assessments, they can request the engineer rework the pricing and revert back to them.

It will be important for the RAP team to reiterate that market value must be offered with no deduction for depreciation.

The final agreed upon pricing for each structure will be what is included in the material that is disclosed through the media (as described in the Land Acquisition section above).

6.1.3 Crops

If agricultural crops are impacted by the project, cash compensation for loss of crops is valued at current market value of mature crops, based on average production. The District Agriculture Development Office (DADO) is responsible for valuation of the crop types. Normally the project will provide the list of details of the affected crops or fruit trees to the DADO. The DADOs then assign the staff to visit the site before valuation of crops and fruit trees. Additionally, an advance notice of 1 month is to be provided to PAPs to harvest their crops.

The following information was determined by the IBN, and is being applied to the two projects it is overseeing. This average productivity of different perennial crops was collected from the DADO. Similarly, retail market rates of the agro-products were taken from various market points in the district and the rates averaged across the peak and lean season of the agricultural calendar. These values are expected to vary from district to district and will need to be determined (for each impacted district) during the RAP.

Table 50. Sample Valuation of Crops per Ropani (In Nepali Rupees)			
Items	Rate/kg*	Production in kg/Ropani**	Cost/Ropani
Paddy	50	127	6,350
Wheat	50	102	5,100
Corn	50	81	4,050
Mallet	50	56	2,800
Cereals	150	41	6,150
Potato	40	408	16,320
Sources: * Market Survey/ **District Agriculture Development Office (source IBN)			

The prices estimated for crop loss in the RPF used the pricing for potatoes - NRs 16,280/ Ropani (.05 Ha), or NRs 325,600/ Ha – as a conservative estimate, to calculate an estimated loss of crop allowance for the land under both the transmission towers and the substation land.

Please note that the prices and production level of each of these crops may fluctuate and should be confirmed during the RAP phase.

6.1.4 Trees

Privately owned trees that may be impacted along the project line include: fruit and non-fruit bearing trees; timber trees; and fodder/firewood trees. The valuation and compensation for the tree must take into consideration the loss suffered by the owner due to the loss of the tree.

Fruit Trees

Fruit trees should be assessed in accordance with the price of the average productivity per tree for various species of fruits, based on agricultural productivity statistics provided by the District Agriculture Development Office (DADO). In addition, the fruit must be valued on a price per kg unit, using prices collected from fruits in the market places surrounding the district. In addition, the replacement period that it takes for the tree to reach maturity and produce fruit again shall be taken into account – this will differ between species and should be available at the Department of Horticulture.

In addition to these compensations, IBN is also considering the following two additional methods:

1. Providing saplings (2 for each tree/plant lost) and compensating for the number of years that species of tree takes to reach fruit bearing age. This data is provided by the government of Nepal
2. Providing saplings (2 for each) and assessing the age and productivity of each tree to come up with the replacement cost for each tree.

The IBN provided information it gathered from the Department of Horticulture regarding replacement periods for different fruit species. In addition to the cost of buying saplings, which will be provided at the ratio of 1:2, the cost incurred to raise the trees, including fertilizer is also being taken into account.

Tree Types	Per Tree Production (kg)	Per Unit Price (kg)**	Per year per tree income	Years for mature production	Loss of income till maturity	Cost of raising	Cost of two saplings	Compensation amount/tree
Guava	30	45	1,350	4	5,400	1,721	400	7,521
Nibuwa	23.33	70	1,633.1	4	6,532.4	1,721	400	8,653
Orange	25	60	1,500	5	7,500	2,109	400	10,009
Pineapple	0.85	70	59.5	2	119	150	400	669
Mango	70	60	4,200	5	21,000	2,109	400	23,509
Banana	13	50	650	1	650	704	400	1,754
Lime	23.33	60	1,399.8	4	5,599.2	1,721	400	7,720
Pear	36.67	30	1,100.1	5	5,500.5	2,109	400	8,010
Jack Fruit	50	40	2,000	3	6,000	1,334	400	7,734
Peach	35	50	1,750	4	7,000	1,721	400	9,121
Pomegranate	30	120	3,600	4	14,400	1,721	400	16,521
Pomelo	23.33	70	1,633.1	4	6,532.4	1,721	400	8,653
Yuzu	23.33	70	1,633.1	4	6,532.4	1,721	400	8,653
Coffee	5	80	400	3	1,200	1,334	400	2,934
Persimmon	35	60	2,100	4	8,400	1,721	400	10,521

However, for trees that are yet to bear fruits, saplings will be provided in addition to the raising cost for the number of years that particular species will bear fruits (e.g. Banana will bear fruit in 1 year

and will receive compensation for 1 year, whereas a mango tree takes 5 years to bear fruits). The cost of raising each tree is based on GoN data.

In addition, the cost of saplings and the cost of bearing will also be assessed against the market rate to ensure replacement cost principle is met.

Table 52. Cost of Raising Fruit Trees before the Fruit Bearing Stage (In Nepali Rupees)			
Cost of Sapling*	Raising cost/year	Age of plant	Total cost
200X2=400	704	1 or less	1,104
	302	2 or less	1,406
	328	3 or less	1,734
	387	4 or less	2,121
	388	5 or less	2,509
<i>Source: Various government agencies</i> <i>Adjusted with annual average inflation for forward yearly costs</i> <i>* Prevailing Market Price for best species</i> <i>(Information provided by IBN)</i>			

Timber

The valuation of privately owned timber trees is based on the Government pricing that takes into consideration the length and circumference of the tree. The unit rate (cubic feet) for different species of timber have been used to compensate compensation for timber (see Annex 7 of the Forest Regulation 2051 for ways to compute the timber volume of impacted trees).

In addition to the price compensated for the tree, transportation and harvesting cost (labor cost) will be included in the compensation. Ministry of Forest and Soil Conservation (MoFSC) norms 2060 include information on labor cost and transportation cost estimation of each tree that is impacted. The owner of the tree(s) will also have the right to the tree and can keep the timber for their use. The following tables discuss the rates of different types of trees that are being applied along the IBN projects. In addition, information on approximate labor per day is included.

Table 53. Valuation of Timber Trees (in NRs)					
Category	Trees	Rate per cu. Ft.			
		Wood Rate	Cutting*	Transportation*	Total
1	Sal	800	500	100	1,400
2	Asna, Jamun, Karma, Tuni, Seris, Gamhari	300	500	100	900
3	Simal	125	500	100	725
4	Harro, Barro, Faldu, Chilaune, Shor	200	500	100	800
5	Bhutkul, Gutel, Papalar, Utish, Tikul, Katus, Mashala, Aap, Shallo, Far, Isprsh	100	500	100	700

6	Baji, Boteckgero	80	500	100	680
<i>Source: District Forest Office and market survey (as supplied by IBN)</i>					

Since there is no standard price for different varieties of fodder trees in the local market, a flat rate should be determined and allocated for fodder trees.

An alternative valuation rate that is under discussion on the IBN projects includes the following valuation options. This may be a more straight-forward way to value timber and fodder trees for the project.

Table 54. Alternative Valuation Method (Average Pricing Rates) for Timber and Fodder Trees		
Tree Species	Unit Rate of Tree (NRs)	Average Rate (NRs)
Sal Category A	105,304	46,293
Sal Category B	30,760	
Sal Category C	2,814	
Sisoo Category A	36,560	17,870
Sisoo Category B	15,880	
Sisoo Category C	1,170	
Simal Category A	4,570	2,305
Simal Category B	2,051	
Simal Category C	292	
Harro/Barro/Chilaune A	4,388	3,094
Harro/Barro/Chilaune B	1,800	
Uttis/Katus/Sallo A	1,523	1,074
Uttis/Katus/Sallo B	625	
Botdhairo A	1,218.4	859
Botdhairo B	500	
Khayar A	9,138	6,444
Khayar B	3,750	
Other Timber A	1,142.3	806
Other timber B	468.75	
Koiralo, Gokul Dhup, Khirro, Bilaunae, Gogan, Malgedi, Khannyo, Chulatro, Panchpatae, Kutmiro, Jhakripat, Dudhilo, Nibaro, Gadel, Malageri, Kabro, Tuni, Patlae, and other fodder	N/A	TBD

Table 55. Labor Estimates for Log Harvest		
#	Measurement of tree	Person per day required
1	above 12 cm to 30 cm girth	0.13
2	above 31 cm to 60 cm girth	0.39

3	above 61 cm to 90 cm girth	0.52
4	above 91 cm to 120 cm girth	1.56
5	above 121 cm to 180 cm girth	2.50
6	above 181 cm to 240 cm girth	4.00
7	above 241 cm to 300 cm girth	12.99
8	above 301 cm girth	41.67
<i>Source: Ministry of Forest and Soil Conservation, 2060</i>		

Table 56. Labor Estimates for Log Transportation		
#	Distance of Transportation	Person per day per cubic meter
1	First 10m distance (from source)	0.50 person day/cubic meter
2	For each additional 10m	0.08 person day/cubic meter
3	For the first 1,000m	8.42 person day/cubic meter
4	For each additional 1,000m (0.08 person day/cubic m x 100)	8.00 person day/cubic meter
5	For the first 5,000 m (8.42 x 4 x 8)	40.42 person day/cubic meter
<i>Source: Ministry of Forest and Soil Conservation, 2060</i>		

Community Forests

Several of the transmission lines may pass through Community Forests, which are managed by Community Forest User Groups (CFUGs). These forests may serve as important livelihoods for community members for not only timber, but also for fodder, and non-timber forest products (e.g., soap nut, Teipat, Dlachini Cinnamon bark, Bojho, Sugandhwal Pakhanved Rockfoil, and various medicinal plants). It will be important to understand the impacts to the community and to work with both the CFUG and the District Forest Office (and the Department of Forestry) to ensure proper compensation to the CFUGs and regeneration of the lost assets. It may be feasible to establish a tripartite agreement between the project, the District Forest Office and the impacted CFUG that defines the relationship and payment schemes.

Additionally, in instances where the impacts to CFUGs impacts a main source of livelihood for community members, the impacted persons or families must be considered PAPs and assisted in restoration of their lost livelihood, as well as compensation for lost assets. This is a particularly important point when considering vulnerable populations – especially as related to occupational castes. For example, the Kami ethnic group, who are considered Dalits, are traditionally known for being blacksmiths. Should access to charcoal from timber in the community forest be impacted, a main source of that group's livelihood would be negatively affected, and compensation would be required. Extra care should be taken to ensure inclusion of these individuals, and others as appropriate, in the PAP category.

During the field visits to the potentially impacted VDCs, as discussed above, the RPF field teams inquired about the numbers of CFUGs in each of the areas. Table 57 includes a listing of the VDCs/ Municipalities visited and the numbers of CFUGs in each area.

Table 57. CFUGs in Potentially affected VDCs (from Field Team Meetings)

No.	Project	District	VDC or Municipality	No. of CFUG
1	NR1	Makwanpur	Hetauda Municipality	20
2	NR1	Tanahu	Bandipur	11
3	NR1	Tanahu	Byas Municipality	15
4	NR1	Makwanpur	Basamadi/ Hetauda Municipality	14
5	NR1	Tanahu	Pokharibhanjyang	12
6	NR1	Nuwakot	Chauthe	5
7	NR1	Nuwakot	Thakre	1
8	NR1	Dhading	Gajuri	16
9	NR1	Nuwakot	Kakani	14
10	NR3	Sunsari	Dumraha	2
11	NR3	Sunsari	Singiya/ Ramdhuni Municipality	4
12	NR3	Morang	Tandi	5
13	NR3	Ilam	Bajho	5
14	NR3	Morang	Bhogteni/ Letang Municipality	16
15	T3	Myagdi	Ratnechaur	9
16	T8	Kailali	Narayanpur	5
17	T8	Kailali	Tikapur Municipality	5
18	T8	Kailali	Dhansinghapur	2
19	T8	Kailali	Durgauli	5

6.1.5 Livelihood Restoration

In addition to physical impacts, or loss of property and assets, IFC PS5 requires that livelihoods that are impacted or disrupted, due to project impacts, must be restored to pre-project or improved conditions. In areas where there are large land acquisition taking place, such as under the substations, there may be a significant loss of livelihood for impacted farmers. In addition, as mentioned above, families who are members of CFUGs may also be impacted by the project and require assistance with livelihood restoration. Other related impacts to significant sources of livelihood may also take place due to the project. It will be important for the RAP team to consider not only the physical impacts and displacement, but to also carry out a census inventory of people who may only lose their major, or sole, source of livelihood due to the project. Because it is expected that this project will cause physical and economic displacement a Livelihood Restoration Plan (LRP) should be prepared by the RAP team to identify the impacted persons/families and identify opportunities to restore their livelihoods. The LRP should be part of the RAP (and not a stand-alone document).

The basic objectives of livelihood restoration activities are to ensure that each PAP who loses their main source of livelihood²⁴ due to the project, will have at least the same or improved income and

²⁴ It should be noted that some impacted families may have remittances from family members working overseas, which make up a significant portion of their livelihood/ income source. During the Census and Asset Inventory work in the project areas, this should be

livelihood after the project is complete. Income restoration is an important part of resettlement and relocation and PAPs that have lost both house and income sources are at the most risk of impoverishment, and vulnerability. PAPs who lose their income source (e.g., land employment, business) and are at risk of impoverishment need to be assisted through livelihood restoration programs under the project. Income restoration or livelihood improvement programs may include a wide variety of assistance, depending upon the need, including: potential favored employment in construction work for the project, with associated training; life skills training – such as facilitation to financial training and linkage with financial institutions available in the district or VDC; language training; and others.

With any income restoration program it will be important to establish linkages between markets and skills needed in the area, and training provided to ensure opportunities for the attained skills. An income uplifting micro-plan might be prepared for PAPs to use the new sets of skills acquired by life skill training. Moreover, suitable mechanisms should be identified for business expansion in the areas to determine possible entrepreneurship opportunities if this is an interest of the PAPs. As women and marginalized or vulnerable communities are often times more hard-hit by the impacts of loss of livelihoods due to projects, it will be important to pay special attention to the needs of these individuals and potentially provide linkages to local social programs to assist with their transitions.

All PAPs who lose their main source of livelihood as a result of the Project would be eligible for livelihood restoration opportunities to restore their income to their pre-project, or improved, level. Based on lessons learned from the trainings conducted in similar infrastructure development projects in Nepal, when establishing training programs as part of the LRP, the project should identify only those training courses which will have skills testing and are certified by the Nepal Skills Testing Board (NSTB). The NSTB now has standardized courses in 243 different trades and are offered in several areas around the country. NSTB has five different levels of skills courses. However, the project should provide for a minimum of Level 1 training, which provides 390 hours of credit with two months training and 1 month on-the-job training. An equally important factor in providing skills training, however, is that the trainings and courses offered to PAPs should avoid gender-based occupational segregation, which can limit training options for both men and women. All eligible PAPs should have an equal opportunity to participate in the trainings that are of interest to them.

MCA-Nepal, with support from the RAP Consultant, will be responsible for planning, managing and implementing the training. NGOs should be engaged to help with the training needs assessment, monitoring, and liaise with district organizations and the PAPs. MCA-Nepal will be responsible for the selection of appropriate training providers.

As mentioned in Section 5, in the case of elderly impacted PAPs – particularly those who may lose their livelihood, an alternative should be offered to training. They should receive a pension as described in Section 5, as well as compensation for the loss of any immediate impact to crops or other assets impacting their livelihood.

noted and captured by the RAP team. However, because this income is tenuous (workers may lose their positions, e.g.), this should not be considered in the assessment of whether or not the PAPs lose their main source of livelihood.

7. Proposed Procedures for Resettlement Action Plan Preparation

The following sections provide information on the procedures to be followed for RAP preparation. More specific details are included in the TOR for the RAP provided in Annex D.

7.1 Schedule and Linkages

The RAP shall include an implementation schedule covering resettlement activities, including target dates for the provision of compensation – either in-kind or through direct payment, and the clearing of the right of way. The schedule must indicate how the resettlement activities are linked to the implementation of the overall project, and must include time for contracting firms to support implementation as necessary, including a firm for constructing resettlement sites and/or a firm for implementing a social assistance plan for vulnerable populations.

The implementation schedule shall provide recommendations on phasing and staging of resettlement so that construction works can be accomplished on a rolling basis.

Some critical issues to be aware of that should be included in the schedule and relate to the linkages between the RAP team, the ESIA team, and the Technical Design team include the following:

- Resettlement team must work closely with the Technical Design team, from the beginning of design, to avoid and/or minimize impacts through alternative designs;
- Resettlement team should use the final, or near-final, designs to conduct field work (Census, Asset inventory, other);
- The project should be planned so that the land acquisition and other compensations are completed approximately 2-3 months prior to the start of construction; Long time gaps between the completion of this task and the construction period may lead to further encroachment and, subsequently, the need to do additional resettlement work; This also applies to the time lag between the completion of the Census/Asset Inventory (and the cut-off date) and the actual payment period – this time should be limited as well²⁵;
- The specific impact information that is captured during the Census and Asset Inventory will feed into the preparation of the ESIA;
- All compensation needs to be paid, and the PAPs provided a minimum of one month to salvage all materials from impacted assets, before any construction can begin²⁶;
- Design adjustments, and additional impacts, may happen throughout the project, including during the construction period, therefore a skeleton Resettlement team should be kept on-board until the end of the construction period to address any additional impacts and changes that arise²⁷;

²⁵ Note: This bullet item applies to the implementation period, which is not detailed in this section.

²⁶ Note: This bullet item applies to the implementation period, which is not detailed in this section.

²⁷ Note: This bullet item applies to the implementation period, which is not detailed in this section.

The Consultant shall also include in the RAP (for inclusion in construction bidding documents) a “resettlement map” identifying areas where the works Consultant will be provided access to site immediately upon contract signing and areas where the Consultant will not be immediately provided access to site due to the need for ongoing implementation of resettlement activities. The map must also include estimated dates, based on the implementation schedule, of when the Consultant will have access to the different sections of the project (e.g., such as through red and green zones).

7.2 Quality Control, Consistency, Coherence and Transparency

The Consultant is responsible for the professional quality, technical accuracy, and coordination of all documents and other services. The Consultant is required to have a logical and functional quality control program to assure that errors and deficiencies in all submittals are minimized. As part of the Inception Report, the Resettlement Consultant will provide detailed information on the Quality Assurance and Quality Control Plan that will be applied.

The complexity of this project requires that care be taken to ensure quality, consistency, coherence and transparency. Communities become acutely aware of discrepancies between practices in one place compared to another or at different times during RAP implementation. If owners of similar assets are given different compensations, questions will arise and asset owners may seek to enlist support of political leaders, elected representatives or party militants and, in a worst case scenario, may choose to block the contractor’s entry into their area. In the case of the RAPs covered under this contract, the Consultant will need to be aware of similarity to and proximity to the Asian Development Bank and World Bank funded transmission projects.

The Consultant will alert MCC and MCA-Nepal to attempts by political representatives or high level stakeholder to announce approaches to resettlement that are not in accord with MCC guidance and IFC PS5. It will be important that MCC and MCA-Nepal are vigilant in making sure that high level stakeholders are aware of the resettlement process and that the Consultant provides information and consultations aimed at high level groups.

7.3 RAP Preparation

The following sections identify the specific activities identified for the RAP preparation.

7.3.1 Kick-off Meeting, Inception Report, and Work Plan

Immediately following the contract award, the Resettlement Consultant shall mobilize its team and prepare for kick-off (initial kick-off meeting in Washington DC with the MCC team followed by a kick-off meeting in Kathmandu, Nepal with representatives of Office of the Millennium Challenge Nepal). The purpose of the kick-off meetings is to ensure mutual understanding of the requirements, expectations, and timeline for the assignment.

Following the kick-off meetings, the Consultant will prepare and submit to MCC an Inception Report that provides the status of mobilization of key staff and other staff, plans for mobilization of remaining staff, status of/plans for an office, and plans for any satellite offices within the RCOI. The Inception Plan will include a brief summary of the Consultant's approach and strategy for the key tasks.

The Consultant will also prepare and submit to MCC a detailed Work Plan, such that a draft RAP will be submitted to MCC no later than the allotted time after notice to proceed, with a final RAP due one month later.

The Plan shall be comprehensive and respond to all the elements of this SOW. Specifically, the Work Plan shall include explanations of and timelines for:

- Communications strategy -- stakeholder meetings (content and dates), plans for village development committee and village/neighborhood level consultations and plans/types of materials;
- Approach to and detailed plan for mapping of the RCOI;
- RAP operational manual;
- Detailed technical note that addresses how most properties will be acquired in fee simple and approach to easements;
- Approach to valuations and use of valuers hired and controlled by Consultant;
- Approach to and design of GIS-based data base and videography;
- Training of staff;
- Logistics and sequencing of the work on the corridors;
- Templates for the Census and Asset Forms as part of the Work Plan submission and the tabular format of categories that will be used to summarize the type of PAPs and types of assets;
- Template for socio-economic survey, if separate from the census;
- Information concerning the qualifications and recommendations of the valuers, as well as a more detailed description of the process for verification of values;
- Quality assurance and quality control plan.

7.3.2 Further Defining the Resettlement Corridor of Impact (RCOI) Including Affected Plots or Area

Table 58. Sequence of Resettlement Planning Activities Prior to Initiation of Construction on a Given Segment of Work

#	Sequence of Steps	Description
1	Design Plans Preparation	<ul style="list-style-type: none"> • Technical Design Consultant completes geometric design plans and submits to MCA-N for approval (RAP Consultant works closely with Design Consultant to avoid/minimize impacts through alternative designs);
2	MCA-N Approval	<ul style="list-style-type: none"> • MCA-N approves the alignment, grade, and footprint of the project; • MCA-N confirms that the RCOI is ready to be physically demarcated;

3	RCOI Tasks	<ul style="list-style-type: none"> • Technical Consultant begins process of physically demarcating the RCOI, based on features identified through a detailed field survey, and shown in the design plans; • RAP Consultant begins process of tagging all assets within the RCOI that are subject to inclusion in the RAP, and are eligible to be compensated for;
4	Compensation	<ul style="list-style-type: none"> • Appropriate compensation packages are compiled and paid to eligible PAPs, including replacement value of structures, real market value of land, and any associated allowances as defined in the RPF; • Independent third party entity conducts audit to verify that compensation payments have been made accurately, and within the parameters of the RPF;
5	Salvage of Assets	<ul style="list-style-type: none"> • PAPs are given a minimum of 1 month to salvage all impacted assets;
6	Commence Construction Activities	<ul style="list-style-type: none"> • Construction work may commence after all above tasks are complete.

The resettlement planning can begin as soon as the geometric design plans are available and MCC has approved the alignment, grade, and the “footprint” of the project, and confirmed that the RCOI is ready to be physically demarcated. The Technical Design Consultant is responsible for the physical demarcation of the RCOI. The RAP Consultant is responsible for the tagging of all assets within the RCOI that are subject to inclusion in the RAP. The Design Consultant will be responsible for accompanying the RAP consultant in the field to interpret and explain the design as needed, and will adjust alignments as necessary to reach optimum design and to minimize social impact.

Demarcation of the RCOI in the field will be based on features shown on the design plans, as prepared through a detailed survey conducted by the Design team. Detailed survey of the RCOI is not included for the RAP Consultant. Mapping of the RCOI will be shown on the design plans by the Design Consultant.

Prior to the initiation of construction on a given segment of work, affected parties within that segment must have received prompt and effective compensation at full replacement cost for losses of assets attributable directly to the project, and given a minimum of 30 days to salvage any materials they wish to retain. MCA-Nepal, in coordination with the RAP Consultant, may wish to incorporate the addition of an independent third party entity at this stage, to verify that resettlement compensation payments have been completed, and conducted within the parameters outlined in the RPF.

The Consultant shall focus on identifying and describing PAPs and their assets located within the RCOI based on actual designs. While the assumptions made in this RPF were useful for the purposes of that initial document, they **cannot** be relied upon for the RAP and must be reassessed during the RAP.

The RCOI that will be used in the RAP will be defined by the Consultant through joint field visits by the design engineers and MCA-Nepal (once it is established), and representatives from the Ministry of Land Reform and Management if needed. The RCOI must include areas where the land should be acquired either totally or through an easement in order to: 1) accommodate the physical works; 2) provide the Consultant sufficient room to work (includes Consultant lay-down areas); and 3) ensure public access and safety. The Consultant will confirm the RCOI and the designs with the Design Consultant, specifically to include:

Permanent impacts:

- All structures located within the RCOI of the transmission lines;
- Tall trees within the RCOI;
- The land under the footprints of the transmission towers;
- The land for the substations;
- Any permanent road access ways;

Temporary impacts:

- Temporary impacts to land within the ROW due to the installation of the towers and/or the stringing of conductors;
- Temporary road access ways.

The RAP must include the PAPs to be affected based on the final and approved final detailed design and cover the relevant aspects of the project. The RAP shall be fully compliant with IFC PS5 and applicable national legislation, with the higher standard prevailing where there are discrepancies.

7.3.3 GIS-Linked Database and RCOI Videography

GIS-Linked Data Base

The Resettlement Consultant will design, develop and enter data into a GIS-linked data base that will serve as a formal record of information and will be quality assured. The data base will be structured so as to provide a complete record of, and allow the generation of, statistics about affected assets, affected PAPs, asset valuations, compensations for assets, allowances owed, socioeconomic characteristics of PAPs and records of complaints or grievances, and the like. The RPF recommends linking the data base to a photographic record (of the PAP in front of their structure and also when signing off the compensation agreement, for example) and this should be done to the extent feasible and cost-effective.

The Resettlement Consultant shall investigate the software preferences used by MCA-Nepal (if any) to determine how to ensure compatibility without sacrificing the utility and integrity of the resettlement data base requirements and/or to advise these entities on what software and training they will need to handle the data base.

RCOI Videography

The Resettlement Consultant will also make a date/time-stamped video of the RCOI, as the Census is completed in stages such that the video provides documentation of the area affected, land, structures, or crops and trees present. In addition to detailed communications in the areas, the date

of this video will become the formal compensation eligibility cut-off date for the segment under consideration. The video must be tagged with GIS data, so that the coordinates of the images are clearly seen in the video image itself. Voice-over on the video, to provide appropriate explanations may also be used.

If the Consultant believes that the use of drones, aerial photography or satellite imagery would serve the needs of a photographic record of all assets in their context, the Consultant is free to propose such in the Work Plan with an appropriate rationale for why another method is preferred.

7.3.4 Stakeholder Communication Plan

The Resettlement Consultant will develop a Stakeholder Communication Plan that will describe the stakeholder engagement and consultation process that will be followed for the RAP. The plan should specify the process undertaken to obtain and document the views of key project stakeholders throughout the RAP process, including the Project Affected Persons (PAPs), VDCs, local NGOs, private sector, government, etc. The plan should identify specific meetings and consultations planned to discuss the details of the RPF. The plan should also describe the process for posting copies of this RPF in VDCs and district offices, as well as posting on the MCC and MCA-Nepal websites if applicable. If, through more detailed field work by the Consultant, it is found that IFC PS7 on Indigenous People is triggered, particular attention will need to be paid by the Consultant to ensure meaningful, inclusive participation of any affected IPs in all appropriate stakeholder meetings and decision making processes. Should it be deemed necessary to develop a free-standing Indigenous Peoples Plan (IPP) as outlined in IFC PS7, a framework detailing the methodology of developing such a document can be found under Annex E of the RPF. Progress reports should provide (as attachment) records/minutes of relevant meetings, communications, and activities. Finally, a secure electronic database should be established to store all records of discussions, communications, and other relevant data. The data will be made available to MCC, MCA-Nepal, and any relevant government agencies upon requests from the agencies. This database is crucial to maintaining accurate records of the resettlement process, including stakeholder engagement.

7.3.5 Training and Logistics Planning

Training

Several training needs will arise, the number and details of which will depend upon how the Resettlement Consultant intends to organize staff (census takers/enumerators who interview PAPs might also do the asset inventory, or this is a separate exercise and a different group of staff does the socio-economic survey). It is assumed that the valuers of the assets will be different individuals because of the need for specialized experience and training (they could also take the inventory, if the Consultant wished to organize this way). Training will be necessary to ensure consistency in approach and to sensitize those who interact with the PAPs to have a consistent and clear explanation of the project, the timeline, census and inventory plus asset valuation leading to compensation. The Consultant shall present the recommended timing and the components of the training in the Work Plan.

Logistics

Planning and sequencing of the work will be key to completing the RAPs in a timely manner. The Consultant will likely need to organize parallel teams and conduct the work in a rolling manner, such that teams can be working at the same time in different locations and also move from one segment to another to ensure that the census and asset inventory can be completed quickly. The Consultant shall present the recommended timing and description of the logistics in the Work Plan.

In accordance with the timing for the Census and Asset Inventory (see Section 4.8), the Resettlement Consultant will establish cut-off dates for each segment, rather than waiting until all work is done for all components of each RAP. This will allow the census and asset inventory to be completed on discrete sections of the lines, and the consultant will then establish the completion of this inventory as the official cut-off date in that area. It will need to be well-advertised and communicated to PAPs located in the RCOI, and the date of the recorded video of the RCOI will act as the cut-off date for eligibility for resettlement compensation. The cut-off date is defined in IFC PS5 as the completion of the census and asset inventory.

7.3.6 Census, Inventory of Assets, Socio-Economic Survey, and Asset Valuation Census and Inventory of Assets

The Consultant shall conduct a 100% population and household census that includes basic data about the PAPs.

The census will cover property owners of all types, rental tenants, tenants on sufferance and lessees that occupy structures or farm the land, occupants of all types (including illegal occupants and squatters) living or having businesses in the RCOI, private organizations (churches, clubs, political parties or similar) providing community services or having and using resources within the RCOI, and public governmental organizations providing community services or having assets within the RCOI. The Consultant shall include the owner and farmer of agricultural land and gardens as well as the owner and renter of a structure where different.

The census will cover those who are permanently and temporarily affected. The census shall include basic demographic data for the individuals in each household, enterprise or rental household (e.g., age, gender, ethnicity, caste, primary and secondary occupations, sources of income and vulnerability because of age, HIV/AIDS, handicaps and other categories identified in the RPF) and the nature of the impacts (e.g., loss of residence, loss of business premises, loss of garden, crops or trees, etc.). The census will differentiate between those who must temporarily move because of construction access or dangers and those who will permanently move. At a minimum, data collected will include: identification of PAPs by name (with spelling consistent with ID card and Bank account where they exist), address, ID number (or note that there is no ID), bank account number (where one exists), mobile telephone number (if such exists), age, marital status, names and ages of spouses and dependents, occupations, and other livelihood data, number and type of employees where pertinent, vulnerability status and information.

The Consultant will conduct a 100% inventory of physical assets, including: (i) land by type; (ii) structures by type -- residential, commercial and industrial structures or building starts; (iii) ancillary

structures or facilities (specifying latrines, kitchens, corrals; (iv) walls, fences or other boundary markers; (v) crops by crop type; and (vi) trees by species and maturity. The types of assets identified in the RPF do not provide sufficient detail for the purposes of the RAP.

- The RAP Consultant is responsible for marking or tagging assets with a code so that they are readily identifiable as being taken. Where open land is concerned, i.e., no trees can be marked, the Consultant will determine how best to identify such land.
- The locations of the assets, and the land upon which they sit shall be identified by GPS coordinates and linked to a data base with photos of the assets.
- Each PAP head of household and spouse will be asked to sign the inventory with witnesses. MCA-Nepal, when established, along with the Resettlement Consultant, will recommend who should be required witnesses.

The Consultant will provide templates for the Census and Asset Forms as part of the Work Plan submission and the tabular format of categories that will be used to summarize the type of PAPs and types of assets. The agencies concerned – MCC and MCA-Nepal will agree on a standard questionnaire and coding template within 2 weeks of submittal for approval.

Upon completion of a segment or section for the RAP, the Resettlement Consultant will establish the cut-off date for that segment and will notify all PAPs concerned, place notices on the site, post notices at buildings of pertinent municipal authorities and disseminate widely the information that all assets constructed or PAPs who move in after the cut-off date will not be compensated in accordance with PS 5.

The RAP shall document the results of the Census and Inventory undertaken. The templates used for census surveys must be included as an annex to the RAP and will form core elements of the data base.

Socio-economic Surveys

The Resettlement Consultant will provide socioeconomic surveys of more detailed social and economic characteristics, which can be a sampling of those affected, stratified as necessary by village/neighborhood, to provide a portrait of the types of people affected. If the Resettlement Consultant prefers to do this as part of the Census by adding additional questions to the Census, this will also be acceptable.

The Consultant shall value the affected assets lost by the affected population, based upon information about:

- Title or other evidence of valid claims to land and property rights;
- Plot dimensions or area taken;
- Built area of each structure;
- Construction materials for structures and infrastructure;
- For enterprises, net monthly profit, number of employees and salaries;
- Number and type of plants or area of crop and number, species and maturity of trees;
- Other information as necessary to determine replacement value for assets.

The Consultant shall engage qualified valuers to value physically affected assets subject to taking (in order to address the lack of capacity in the districts/VDCs, the Consultant should consider hiring retired valuation experts that are acceptable to the districts/VDCs). For temporary displacement (when moving is necessary during the construction process only), these valuers or other qualified valuers will determine the amount of loss, including loss of profit, loss of inventory, loss of rent and loss of employment by employees. The Consultant shall amplify and work with MCA-Nepal to determine how the District Land Revenue Office will review values and do sample verification of the values assigned.

The Consultant shall ensure that values for lost assets are based on current market rates, by square meter, at new replacement cost, not taking into account depreciation (per the requirements of IFC PS5). As identified as a critical issue in the RPF, there exists a discrepancy with replacement value between government prices and market prices. Final, agreed-upon, prices are usually somewhere between the two prices. As IFC PS5 requires that replacement values be offered, this will include the market pricing with an additional inclusion of various allowances, dependent on the type of impact, as spelled out in the RPF. Details need to be worked out on the best strategy to use to ensure IFC PS5 is followed, and that not only structural or land pricing is included in the estimations, but that additional allowances and costs are accounted for.

The methods and results of valuation studies used to determine replacement value for compensation, including individual acquisition agreements, must be included as an annex to the RAP. Evidence of valid claims to land and property rights must be described.

7.3.7 Eligibility Table and Resettlement Compensation/Entitlement Matrix

The Resettlement Consultant will prepare a detailed eligibility table and a resettlement/compensation entitlement matrix, which will be a more refined and definitive version than in the RPF. The latter will provide the options for each type of loss (whether in-kind, monetary payment, or other in-kind assistance such as options for training in a new profession) and the allowances relevant to each category of loss.

Eligibility and entitlements will indicate all types of lands (not cultivated, cultivated, occupied or not, with tenants or not) and all types of structures according to the types agreed to be based upon the tabular information requested for types of assets in the Work Plan. **These tables will be presented to and discussed with MCC and MCA-Nepal BEFORE any commitments or negotiations with PAPS.** The RAP shall describe the entire compensation package as applicable to all categories of assets. In the event that third parties will be needed to provide services (help with moving, vocational training or educational packages, for example), the RAP shall identify the third party providers and the budget shall include these costs.

7.3.8 Participation and Consultation

The Consultant shall develop the RAP in a highly participatory manner, not only informing PAPS of the available options but also -- and more importantly -- working out those options with the PAPS so

that local preferences and views are incorporated integrally into the RAP. The Consultant is urged to utilize the processes outlined in the RPF, including the following considerations:

- Information within the affected neighborhoods will be provided prior to conducting any census or inventory of assets in order to sensitize those affected (and those not affected) to the project and its timetable;
- The Consultant will propose setting up public information centers in all districts along the RCOI and consider the best way to utilize such drop in centers (including potential staffing needs);
- Once the Consultant completes the census and has identified and valued affected assets, the Consultant shall engage in one-on-one consultations with each of the PAPs to discuss resettlement measures and compensation packages to be offered. During these one-on-one consultations, PAPs are to be: (i) informed about their options and rights pertaining to resettlement; and (ii) consulted on, offered choices among, and provided with technically and economically feasible resettlement alternatives, including, as appropriate, economic livelihood restoration assistance. Compensation options must, at a minimum, include in-kind (land for land, residential or business structure for residential or business structure) and direct payment options. In addition to being technically and economically feasible, the resettlement packages shall also be compatible with the cultural preferences of the displaced persons. The Consultant must explain the terms and conditions of the compensation package, document the PAPs preference of compensation package, and obtain written approval from the PAP (or rejection, with the clear reason for rejection) describing the terms of the compensation package;
- In addition to the one-on-one consultations, the Consultant shall be prepared to discuss during public consultations or neighborhood level meetings the range of compensation options, including strategies/approaches for effective economic livelihood rehabilitation/restoration, available under the project to ensure that PAPs, including members of the host community, shall have the opportunity to know what compensation options are generally available.

Based on the result of the individual consultations, the RAP shall include a description of the compensation and other resettlement measures, such as in-kind, monetary payment and/or economic livelihood restoration efforts, that will be provided to various PAPs (e.g. x number choosing in-kind, y number choosing monetary compensation, etc.).

Details on and outcomes of all public consultations shall be documented in the RAP, including attendance lists, and will be included in the stakeholder consultation database. The plan for such will be stated in the Work Plan.

7.3.9 Compensation Agreements

The Compensation Agreements will be signed between each PAP household and MCA-Nepal. The Consultant, and others as recommended by MCA-Nepal and the Consultant, will be witnesses to the agreement. The Consultant will submit draft templates of the Compensation Agreements for approval by MCA-Nepal and MCC prior to using the agreements.

The Compensation Agreements will detail all the assets and the compensations of all types to be paid, including allowances. The agreements will also contain information on when the PAP is expected to vacate the property, i.e., x month(s) after compensation has been provided and, in the case of temporary takings, when the PAP can re-enter the premises or re-use the lands that were temporarily taken. The agreements will contain legal clauses (to be worked out with MCA-Nepal) stating that the PAP agrees that payment of the compensation as stated in the agreement is sufficient and the PAP surrenders all rights and interests upon the receipt of the compensation. The agreements will also reference the grievance process and the PAP will be provided with a summary of the grievance mechanism.

The Consultant will need to provide specific recommendations on the following:

- Signing of the agreements by head of household and spouse is desired, and recommended wherever possible, in order that both spouses (and the family) benefit from the compensation²⁸. What complications does this pose for determining in whose names a Bank account will be issued and/or check will be issued? Should the agreements specify the name for the account or the check? In cases where new bank accounts need to be opened by the affected families/ individuals, should bank accounts be set up in the names of both spouses?
- Arrangements for a representative of the PAP to receive cash compensation, if the PAP anticipates being absent, or is incapable of collecting the payment for any other reasons (such as a disability or other) – e.g., name a person in advance or provide the process whereby the PAP must identify a representative.

Prior to submitting a Draft RAP for approval, the Consultant must have completed an agreed-upon percentage of the Compensation Agreements and submitted them to MCA-Nepal.

The scope assumes attendance at one initial compensation meeting with MCA-Nepal and the PAPs, and one subsequent meeting, if necessary, for PAPs who are not present. The goal will be to achieve the desired percentage agreement level for the compensation packages. PAPs who are not resident in country and unavailable to collect compensation for their impacts will be assisted by the Consultant to sign Power of Attorney to a representative for them in a timely manner. Alternatively, if the spouse or relative of the impacted person who is living overseas can produce a recommendation letter from the VDC to confirm this relationship, this may also serve as proof for receipt of the compensation in the absence of the overseas worker. If, for some reason, neither approach works or is applicable, the matter should be addressed by MCA-Nepal.

7.3.10 Compensation Procedures and Mechanisms

The RAP team should meet with the MCA Fiscal Agent at the start of the project to define and prepare the procedure that should be followed for the compensation payments to the PAPs. The procedure should include the identification materials required by the PAPs to receive payments, the

²⁸ Although preferable to have both spouses sign the compensation agreements, to ensure both understand their compensation packages and both share in the benefits, it may add significant time constraints and delays if this is a mandatory requirement (due to one spouse working during the day and/or working out of the country, etc.).

modes that will be used for payments (e.g. – checks, cash, bank deposits, minimum/maximum cut-off amounts for each type of payment, etc.), and other similar items. The RAP will include a description of these procedures by which compensation will be paid, including the role of the MCA Fiscal Agent. The MCA Fiscal Agent will, ultimately, grant final approval on the payments.

The process will include discussion of the following, at a minimum:

- Obtaining ID cards, including costs and timeline, and what information banking institutions might accept as alternatives;
- Thresholds for bank account versus payment by check or payment order;
- Consideration of payment via cell phone, if available, and what the threshold amount should be for this payment method;
- Coordination with the Fiscal Agent and a description of the tasks of the Fiscal Agent with respect to setting up bank accounts, providing checks and/or the use of cell phones with a clear preference for using the bank that is handling MCA's accounts for PAP accounts and check payment to and cashing by PAPs;
- Concerning in-kind compensation, commitment as to the providers of the in-kind compensation (with a preference to subcontract for any in-kind replacement construction work during the implementation period);
- Description of the kinds of information and documentation that will need to be provided to the Fiscal Agent in order to process payments.

7.3.11 Resettlement Area Design and Assessment

As needed, the Consultant shall identify and perform an assessment of relocation sites that might be needed to accommodate the physically displaced residents, commercial or industrial operators and vendors. Such assessment will document any potential issues regarding the acceptability to the host population of the movement of PAPs to their area.

This section of the RAP shall also detail the technical adequacy of the proposed site and reference preparatory work necessary, including environmental assessments, standard architectural designs for replacement structures, and site design. The Consultant shall identify necessary follow-on studies that would be the subject of an amendment.

The Consultant, MCA-Nepal and stakeholders will identify available and suitable relocation sites in accordance with the Inception Report Schedule. Assessment of sites will include field visits, photo inventory, and overall suitability. Detailed assessment, permitting and design of sites is not included in this scope.

7.3.12 Cost and Budget

The RAP must include tables showing itemized cost estimates for **all** resettlement activities, including land acquisition; construction of replacement structures; payment of allowances or other resettlement measures, allowances for inflation, population growth, economic livelihood restoration activities, and other contingencies, and estimated timetables for expenditures. The budget must also

include the costs of implementation by a consultant, application of the grievance procedure and any other pertinent costs.

All allowances and replacement costs shall be in the Nepalese Rupee throughout the document. In the Summary Budget Tables in the pertinent RAP chapter and Executive Summary, costs will also be provided in US dollars with a rate of conversion specified.

7.3.13 Monitoring and Evaluation

The Consultant shall expand upon the discussion in Chapter 10 of the RPF. The RAP shall propose arrangements for internal monitoring of resettlement activities by MCA-Nepal to ensure complete and objective information; performance monitoring indicators to measure inputs, outputs, and outcomes for resettlement activities; involvement of the displaced persons in the monitoring process; and guidance for subsequent implementation.

The RAP will also propose external independent monitoring to evaluate the impact of resettlement for a reasonable period after the resettlement and related development activities have been completed, as well as provisions for using the results of resettlement monitoring to guide any remedial measures that might be required to restore livelihoods.

7.3.14 Preparation of Draft RAP

The draft RAP submitted by the Consultant must be in accordance with, and adequately address, the requirements of IFC PS5, applicable Nepalese legislation and regulations, and incorporate relevant elements from the Project RPF. As such, the RAP shall be prepared in compliance with the RAP outline provided in Annex A of the IFC Guidance Note 5 on Land Acquisition and Involuntary Resettlement.

7.3.15 Final RAP

The draft RAP will be submitted to MCC for review and comment. The Consultant shall budget approximately two weeks for review and submission of comments by MCC and MCA-Nepal. The Consultant will respond to MCC and MCA-Nepal comments within two weeks.

7.3.16 Resettlement Files and Documentation

The Consultant shall create a paper and an electronic file for each PAP family, household, individual not part of a family or household, commercial or other economic unit. The paper file shall contain the name of the PAP and his or her unique identification number, and documentation of the individual's title or other occupancy rights, the completed socio-economic survey, the family demographic survey, the asset inventory and valuation, a map of the area taken with surface assets indicated, photographs of assets and other documents (or copies of those documents) that are pertinent to land clearance, acquisition, resettlement and economic rehabilitation.

The electronic information will be in the form of a GIS database, supplemented by other linked electronic files as needed. The electronic file shall replicate as much of the paper information as possible (e.g., family demographics, asset inventory and valuation).

The organized paper and electronic data bases shall be turned over to MCA-Nepal with the final, approved version of the RAP. This information constitutes the baseline for implementing the resettlement operation.

7.4 Institutional Roles & Responsibilities

Table 59 outlines the institutions and agencies expected to be involved in resettlement activities, and their associated roles, for the transmission line project in Nepal.

Table 59. Agencies/ Institutions Involved in Involuntary Resettlement and Land Acquisition

Agency	Role/ Responsibility
Millennium Challenge Corporation (MCC)	Approval of the RPF, and subsequent RAPs. Collaboration with MCA-N. Transfer of funding for RAP compensation packages to MCA-N. Oversight and ensures compliance with IFC and other international standards.
Millennium Challenge Account – Nepal (MCA-N)	Overall responsibility for ensuring that the RAP is prepared and implemented in accordance with RPF and oversee the administration of the loan compact with the MCC. MCA-N shall oversee the project, including land acquisition and resettlement activities. It shall ensure that funds for the timely implementation of the RAP are available and that expenses are properly accounted for. It shall be responsible for the review of compensation packages prepared by the resettlement team, preparation of funds to compensate PAPs, assisting the resettlement team gain access to project areas if needed, taking part in communication with PAPs and other stakeholders as needed, and various other related tasks. Together with the NEA/ NEA-Environment and Social Studies Department (ESSD) (or other technical agency), they will also provide technical guidance and support in the implementation of the RAP.
Nepal Electric Authority - Environment and Social Studies Department (NEA-ESSD)	Provide technical guidance to MCA-N, and the RAP team on issues related to resettlement along transmission line projects.
Chief District Officer(s) (CDOs)	Oversees the Compensation Determination Committee (CDC), comprised of: CDO; Land Revenue Officer, Project Manager for the Project, representative of the District Development Committee (DDC) and others. CDC reviews and fixes prices for land, structures, and allowances. Responsible for posting notifications for same. Also responsible for hearing grievances/ cases regarding the compensations.
Land Revenue Officer(s) (LROs)	Responsible for registration, land revenue collection, changes in ownership, deed transfers, termination of ownership rights, and maintenance of land records and government pricing of land. Take part in the CDC and assist in pricing of land.
General Survey Office (or Survey Office), or District Technical Office (DTO)	Responsible to survey and measure lands and supply information to the LRO. Will undertake the survey and valuation of affected assets

	(in coordination with the RAP team) and make recommendations to the CDC for final valuation.
Village Development Committee(s) (VDCs)	Administrative section of the Ministry of Federal Affairs and Local Development. There are approximately 75 VDCs/Municipalities in Nepal. Each VDC comprises several Wards. VDCs will serve as the main interface with the impacted persons in the wards.
District Development Committee(s) (DDCs)	Administrative section of the Ministry of Federal Affairs and Local Development, over the VDCs. A representative of the DDC will take part in the Compensation Determination Committee to fix prices for land, structures and allowances.
Local Consultative Forums (LCFs)	Established at VDC level or project level, wherever it is most practical, in order to: assist with ongoing dissemination of project information to affected households (through communications with the project office); strengthen communication with impacted communities; assist in grievance resolution and monitoring (within first line of communication with PAPs). The LCF shall consist of representatives from potentially affected families (one male and one female from the ward), the VDC and Ward Chair, social workers, and representatives from other local offices.
Department of Forestry, Community Forest User Groups, Department of Agriculture, and others	Assist in the assessment and determination of impacts to trees, crops, and other related items along the project footprint, and methods of valuation/compensation.
Social Mobilizers, Non-government organizations (NGOs), Women's and Indigenous Group representatives, others	Serve as observers during the CDC. Serve to assist affected persons/families in the project areas. Should be present during payment of PAPs to ensure no coercion occurs and that PAPs are treated fairly. May assist in other key aspects of the assistance provided to PAPs as needed.

7.5 Stakeholder Consultation and Participation of Displaced Persons

Consultations

Affected persons (individuals, communities, households) should be meaningfully consulted in order to give them voice and choice in matters that might adversely affect their livelihoods during project implementation. They should be consulted during project design, RAP preparation and implementation and evaluation. In the event of physical relocation of groups, consultations will also be held with host communities. These consultations should fully and clearly inform all relevant persons and communities of their options and rights.

Stakeholder Consultations

Resettlement activities involve many diverse stakeholders other than persons directly affected. The resettlement process, including preparation, dissemination and implementation of the RAPs, shall be fully consultative with all relevant stakeholders. The primary purpose of stakeholder consultations is to ensure the fullest possible acceptance of, and compliance with, the resettlement principles and processes, creating authoritative consensus both vertically from grass-roots to top government level,

as well as horizontally so that policy consistency is ensured across all project areas and throughout the RCOI.

Communications

Official Nepalese languages (including English) and an appropriate level of simplification shall be used as appropriate when communicating with the affected persons and communities and when disclosing key documents. Most urban Nepalese are multilingual. English is widely used and understood among residents; Nepali is spoken by more than 90 percent of the urban population. However, in rural areas, various other languages are spoken and Nepali may not be as prevalent. When necessary, translation into other local languages should also be done in order to ensure clear communication with the affected persons and other stakeholders. For example, in order to communicate the findings of the RPF and RAP, the Executive Summaries of those documents may need to be translated into other languages, such as Tamang, which is a common language in several areas across Nepal.

7.6 Addressing Gender and Vulnerable Person Issues

Gender Equity

Gender equity will be integrated into the development, design, implementation, monitoring and evaluation of the RAPs in order to ensure that women and men receive fair and equitable treatment in the resettlement process. Compensation will be carried out with equal consideration for men and women - including representation in associations, involvement in project and economic activities, and participation in decision-making.

Vulnerability

Particular attention shall be paid to ensure effective assistance to poor and vulnerable persons at risk from the projects' land acquisition, especially those who are most at risk of slipping into deeper poverty as a result of a lack of voice during resettlement actions. The Resettlement Action Plan (RAP) shall incorporate effective special measures, including monitoring and reporting mechanisms, to protect socially and economically vulnerable groups at high risk of impoverishment, such as families headed by women, unemployed adults, Dalits, indigenous groups, disabled-headed households, orphans, and elderly people without support structures. Appropriate assistance will be provided to help them improve their socio-economic status.

Inclusion of Informal Settlers, or "Squatters"

Lack of legal rights to the assets lost or to social or economic status, including tenure and occupation, will not bar people from entitlements to appropriate compensation. Such appropriate compensation covers the cost of land improvements and structures, and provides appropriate assistance and rehabilitation measures. The RPF and RAPs do not create legal rights where none exist, but they apply a necessary measure of social protection that avoids the perpetuation or deepening of poverty.

Respect for Cultural and Religious Practices

Existing cultural and religious practices shall be fully respected.

7.7 Grievance Redress Mechanism (GRM)

The RAP team, together with MCA-Nepal, should establish a mechanism to receive and facilitate the resolution of PAPs' concerns and grievances. The grievance redress mechanism (GRM) will address PAPs' concerns and complaints promptly and be readily accessible to PAPs at no cost to them.

Most grievances relate to:

- The location of the RCOI alignment;
- The amount of compensation, or oversights in compensation (e.g. – a tree that is on an affected person's property but was not included in the compensation package);
- Rejection of the amount offered for restricted land use under transmission lines or other items;
- Accusations of unfair treatment and/or beliefs that others have received more;
- Other grievances related to damage done to private property by contractors, sub-contractors and their vehicles that has not been compensated.

The GRM should be set up at the beginning of the RAP process and continue throughout the life of the project. The GRM will be established to receive, evaluate and facilitate the resolution of affected people's concerns, complaints and grievances at different levels of the project. It will aim to provide a time-bound and transparent mechanism to voice and resolve concerns linked to the project. The project-specific GRM is not intended to bypass the government's own redress process; rather, it is intended to address affected people's concerns and complaints promptly, making it readily accessible to all segments of the affected population and is scaled to the risks and impacts of the project. PAPs are free to approach the judicial system, as a final resort, if they are not satisfied with the results of the GRM.

During Stakeholder meetings with the Project Affected Persons in the project areas, the details of the Grievance Redress Mechanism (GRM) will be communicated. The GRM will consist of 4 tiers, beginning with locally constructed/ field-level grievance redress committees, up to District level/CDO committees, and finally to an appeal to the appellate court system. The 4 tiers are described below.

Tier I - Field level Grievance Redress Committee (GRC): Local GRCs should be established in each project area. The GRC at the first level will fall under the responsibility of an established Local Consultative Forum (LCF), which is headed by the VDC or municipality head. One or two specialized Community Liaison Officers (CLOs), one man and one woman – preferably from the project-affected families, should also be hired by the project for this committee in each of the project areas, as well as Community Liaison Assistants (CLAs) from the local community (if needed) that represent the diversity and language requirements of the community. The CLOs/CLAs can assist PAPs to approach the LCF with their grievance and ensure it is properly recorded. The RAP team/Project Team should also have a central GRM Specialist who is in regular communication with each of the committees. The CLO should record the complaint, visit the site if needed to review the grievance, and include other village level leaders if needed to resolve. The CLO should resolve the complaint within 15 days if possible. The CLO should also notify the project central GRM Specialist of the grievance and, if needed, the project GRM Specialist will work closely with the CLO to resolve the issue. The Project level GRM

Specialist should conduct training sessions with the LCF, CLOs and CLAs to ensure proper understanding of their roles and responsibilities and how to record and address grievances.

Tier II - District Level GRC-level-2: If the PAPs are not satisfied with the decision made by field level GRC, or have not received any resolution, then they can raise their complaints to the District level GRC which is chaired by the CDO. The committee shall be required to make field-based assessment and research the grievance with the support of VDC and project affected persons. The District level GRC should resolve the grievance within 15 days from the date the complaint was received.

Tier III - Ministry-Level GRC: Any grievances that are not resolved in Tier II, will be elevated to Tier III. At this stage the PAP can file a complaint with the Ministry of Home Affairs in the Government of Nepal. Level 3 GRC will meet twice a month (if grievances are brought to the Committee), determine the merit of each grievance, and resolve grievances within a month of receiving the complaint. Other members of the GRC will be the Project Manager and central level resettlement specialist.

Tier IV — Court System: If the PAP still does not feel that their grievance has been resolved, the PAP can lodge their complaint with the appropriate court of Law, within 35 days of initial complain, for redressal.

Records

Records will be kept at each level of the GRM. Information collected will include: contact details of complainant; date the complaint was received; nature of the grievance; agreed-upon corrective actions and the date these were effected; and the final outcome. The GRCs will continue to function throughout the life of the Project. The Project level GRM specialist will maintain copies of each of the grievances lodged (in Tiers I & II) in the central project office and will be in regular contact with all field-level GRCs).

Costs

Costs involved in resolving the complaints (e.g. - meetings, consultations, communication and reporting/ information dissemination, etc.) will be borne by the Project.

Female PAPs and other Vulnerable Groups in GRM process

The GRM will ensure gender sensitivity and adequate access to female PAPs so that they are able to obtain timely resolution of their grievances. In addition, other vulnerable groups – such as elderly-headed households, disabled persons, marginalized groups (e.g. - Dalits), and various others, are provided with equal access to the GRM. This aspect of the GRM will be emphasized to all GRM staff. During Stakeholder outreach meetings, the resettlement team (specifically the GRM Specialist and staff) will conduct the outreach activities with gender-specific, and other vulnerable persons, focus groups to ensure that information regarding the GRM and its processes is communicated and is understood by all PAPs. The GRM will also work closely with the LCF, CLOs and CLAs to include this in their training.

7.8 Monitoring and Evaluation

Appropriate reporting, monitoring and evaluation mechanisms will be identified and set in place as part of the resettlement management system.

8. Cost Estimates

The cost estimates in **Error! Reference source not found.** are broken out by project area. Full details of the cost breakdowns are included in Annex C.

Item	Detail	Total estimated cost (USD)
NR1		
1. Land - acquisition	62.20 hectares under towers and substations	\$6,583,000
2. Land - easement	766.46 hectares	\$10,025,000
3. Structures	492	\$4,566,000
4. Transaction costs (10% land acq. and structure costs)	10% of 1 & 3	\$1,073,000
5. Other Allowances	Moving allowance (NRs 94,800 per impacted structure); Food security allowance (NRs 80,136 per vulnerable HH – assume 50% of impacted structures); Transitional allowance (NRs 6,000 per Ha – assume for all SS land); Loss of Crops allowance (NRs 325,600 per Ha – assume for land in #1 above)	\$797,000
6. Contingency for other compensation	25% on 1-5	\$5,761,000
7. Provision for inflation	3% per year to mid-point of resettlement actions (estimated 5 years ~ 17%)	\$4,897,000
8. RAP development and implementation		\$6,302,000
9. Grand Total		\$40,004,000
NR3		
1. Land - acquisition	1.83 hectares under towers and substations	\$220,000
2. Land - easement	228.26 hectares	\$1,373,000
3. Structures	264	\$3,280,000
4. Transaction costs (10% land acq. and structure costs)	10% of 1 & 3	\$320,000
5. Other Allowances	Moving allowance (NRs 94,800 per impacted structure); Food security allowance (NRs 80,136 per vulnerable HH – assume 50% of impacted structures); Transitional allowance (NRs 6,000 per Ha – assume for all SS land); Loss of Crops allowance (NRs 325,600 per Ha – assume for land in #1 above)	\$327,000
6. Contingency for other compensation	25% on 1-5	\$1,380,000

Item	Detail	Total estimated cost (USD)
7. Provision for inflation	3% per year to mid-point of resettlement actions (estimated 5 years ~ 17%)	\$1,173,000
8. RAP development and implementation		\$2,904,000
9. Grand Total		\$10,977,000
T2'		
1. Land - acquisition	2.95 hectares under towers and substations	\$186,000
2. Land - easement	36.55 hectares	\$279,000
3. Structures	32	\$264,000
4. Transaction costs (10% land acq. and structure costs)	10% of 1 & 3	\$43,000
5. Other Allowances	Moving allowance (NRs 94,800 per impacted structure); Food security allowance (NRs 80,136 per vulnerable HH – assume 50% of impacted structures); Transitional allowance (NRs 6,000 per Ha – assume for all SS land); Loss of Crops allowance (NRs 325,600 per Ha – assume for land in #1 above)	\$41,000
6. Contingency for other compensation	25% on 1-5	\$203,000
7. Provision for inflation	3% per year to mid-point of resettlement actions (estimated 5 years ~ 17%)	\$173,000
8. RAP development and implementation		\$555,000
9. Grand Total		\$1,744,000
T3		
1. Land - acquisition	4.29 hectares under towers and substations	\$691,000
2. Land - easement	44.34 hectares	\$724,000
3. Structures	189	\$1,704,000
4. Transaction costs (10% land acq. and structure costs)	10% of 1 & 3	\$224,000
5. Other Allowances	Moving allowance (NRs 94,800 per impacted structure); Food security allowance (NRs 80,136 per vulnerable HH – assume 50% of impacted structures); Transitional allowance (NRs 6,000 per Ha – assume for all SS land); Loss of Crops allowance (NRs 325,600 per Ha – assume for land in #1 above)	\$235,000
6. Contingency for other compensation	25% on 1-5	\$895,000

Item	Detail	Total estimated cost (USD)
7. Provision for inflation	3% per year to mid-point of resettlement actions (estimated 5 years ~ 17%)	\$716,000
8. RAP development and implementation		\$1,030,000
9. Grand Total		\$6,219,000
T8		
1. Land - acquisition	11.62 hectares under towers and substations	\$2,356,000
2. Land - easement	114.24 hectares	\$2,317,000
3. Structures	58	\$685,000
4. Transaction costs (10% land acq. and structure costs)	10% of 1 & 3	\$298,000
5. Other Allowances	Moving allowance (NRs 94,800 per impacted structure); Food security allowance (NRs 80,136 per vulnerable HH – assume 50% of impacted structures); Transitional allowance (NRs 6,000 per Ha – assume for all SS land); Loss of Crops allowance (NRs 325,600 per Ha – assume for land in #1 above)	\$76,000
6. Contingency for other compensation	25% on 1-5	\$1,433,000
7. Provision for inflation	3% per year to mid-point of resettlement actions (estimated 5 years ~ 17%)	\$1,218,000
8. RAP development and implementation		\$624,000
9. Grand Total		\$9,007,000
XB1		
1. Land - acquisition	0.90 hectares under towers and substations	\$164,000
2. Land - easement	83.75 hectares	\$1,531,000
3. Structures	26	\$307,000
4. Transaction costs (10% land acq. and structure costs)	10% of 1 & 3	\$44,000
5. Other Allowances	Moving allowance (NRs 94,800 per impacted structure); Food security allowance (NRs 80,136 per vulnerable HH – assume 50% of impacted structures); Transitional allowance (NRs 6,000 per Ha – assume for all SS land); Loss of Crops allowance (NRs 325,600 per Ha – assume for land in #1 above)	\$32,000
6. Contingency for other compensation	25% on 1-5	\$520,000

Item	Detail	Total estimated cost (USD)
7. Provision for inflation	3% per year to mid-point of resettlement actions (estimated 5 years ~ 17%)	\$442,000
8. RAP development and implementation		\$384,000
9. Grand Total		\$3,424,000
Total for All Projects:		\$71,375,000

9. Risks and Mitigation

The following sections highlight some of the risks and suggested mitigations associated with the resettlement work.

Delays in Finalizing Project/ Project Footprint and Lack of Coordination between RAP team and Design Team

- The RAP team will be dependent on a final (or near-final) design and confirmation of the RCOI from the designers before starting the RAP process. If delayed, RAP Census and Asset Inventory work will be delayed, potentially causing Construction delays; the construction delays could result in a “delay claim” (or “extension of time claim” as per FIDIC) by the contractor, whereby MCA may need to pay the contractor for having to remain on-site longer, which could be costly for MCA;
- Similarly, if the RAP team and Technical Design team do not work closely together to avoid or minimize resettlement from the start of design, there may be a need for rework of designs to address this requirement (and comply with IFC PS5);
- Mitigation: Ensure there is at a minimum a skeleton team of key resettlement members on-board early in project to work closely with design team(s) to identify optimal routing.

Politically Sensitive Issue of Flat Fee (~10%) Paid for Permanent Easement for all Land under Transmission Lines in Nepal

- Several uprisings/ halts to transmission lines in many areas of Nepal – this issue is highly political;
- Mitigation: Section 6, above, includes suggestions of alternatives to be considered as compensation for land under transmission lines. The recommended solution is to provide the 10% flat fee with an additional annuity payment each year up to a certain amount of time or an option to invest in shares of a Transmission Line fund (e.g. – based on wheeling charges paid by the hydropower, and other, generators). As mentioned in section 6 above, if the GoN Ministries come up with a resolution for item #30 in their 99-point action plan, prior to this project starting, the MCC project should review the findings for consideration in the projects. The primary risk in moving ahead with a policy that is not in-line with the GoN policy is that it will establish policy for all transmission lines moving forward, which may not be tenable (i.e. - cost prohibitive) and may reduce the number of transmission lines that can be built in the country, thereby deterring the GoN goal of addressing their national energy crisis.

Inability to locate all Affected PAPs

- During the RAP period, there may be instances where the owner of the property or structure may not be easily located (due to overseas work, or the like) – this may cause delays to the project due to the inability to complete the obtain final signature on the compensation agreement;
- Mitigation: In accordance with the Land Acquisition Act, if the local officer (conducting the land acquisition) is unable to know if the impacted person will see a notice about the land taking, a notice should be personally sent to each person impacted to try to reach

the person/family. In addition, the 2015 Nepal Resettlement Policy (which is yet to be implemented through the Land Acquisition Act) states that, if the family, or individual, fails to claim the compensation and the specified deadline (in the Land Acquisition Act) has passed – compensation should still be provided to the claimant if they can furnish legitimate proof. If the time specified in the LAA passes for the deadline, the project shall deposit their compensation amount in the bank under “compensation fund” and if the owner does not claim it after 5 years, the project will need to issue a public notice in the national newspapers at least once a month for 3 months. This notice should also be aired through electronic media. If no one comes to claim compensation after these efforts, the money will be transferred to the state treasury.

Lack of Capacity in Various District Offices and Others, to Complete Surveys, Valuations, Title Transfers, etc.

- Concerns of delays in surveys, transfers of title deeds, etc.;
- Project delays arising from the linear nature of the project, with many small compensations (particularly for the land under the hundreds of towers) over a large area;
- Mitigation: The project should consider hiring retired surveyors or persons who can assist with preparing deed transfers (acceptable to government, as well as valuation experts to help complete the valuations of land and structures).

Lack of Transparency of Process

- May result in land speculation/ land grabs resulting in disputes;
- Clarity of compensation packages and processes;
- Clarity of grievance process & establishment of VDC level tier (as Tier 1);
- Mitigation: frequent, meaningful stakeholder engagement.

Delayed Payments to PAPs

- Delays in payments to PAPs will delay construction;
- Past policies in Nepal at variance with IFC PS5 requirements;
- Mitigations: Payment process must be well established in MCA-Nepal, and coordinated with MCA Fiscal Agent early in the process to define the payment process that will be followed, all identification materials required from the PAPs, and any other details that must be addressed prior to payments – a procedure should be put in place that defines the required steps and accompanying materials needed in this process (see above); Ensure capacity in MCA-Nepal to address large numbers of compensation packages; work closely with CDOs to establish process of valuations, additional allowances, and payments.

Premature Compensation

- If compensation is provided too far in advance of the actual construction work, people may move from the RCOI too far in advance of construction. If not properly managed, the cleared area will be repopulated by opportunistic settlers who may block the project;

- If compensation is provided too far in advance of the actual construction work, there is a possibility that the Construction Contractor may be able to avoid the impact through additional slight design alterations and therefore, the PAP is already paid and this is a loss to the project funds;
- Mitigation: Where a site has to be cleared, early agreements are acceptable but actual compensation and movement should take place close to the time when vacant possession of the site is required.

Challenges to Demonstrating Resettlement Outcomes

- One of the main objectives or goals of resettlement, as described in IFC PS5, is that when avoidance or minimization of resettlement is not possible, that those who are displaced (either physically or economically) are left in the same, or preferably a better, condition than they were pre-project. The difficulty in this is that a sound Monitoring and Evaluation (M&E) program must be put in place to quantitatively and qualitatively measure these outcomes, and make allowances to right the condition if possible;
- Mitigation: Establish a strong M&E program that begins shortly after implementation of resettlement begins.

10. Monitoring, Reporting, Evaluation and Audit

Monitoring and evaluation of the impacts of resettlement is essential to ensure that:

- Checks are made on progress towards completion;
- That processes have been implemented correctly, on time, and within budget;
- That processes are transparent;
- That resettlement is completed successfully for all PAPs;
- That impacts on individuals can be traced and improvements in quality of life can be evaluated;
- That lessons can be learned and processes improved.

A Monitoring and Evaluation (M&E) Plan must be designed along with the rest of the resettlement process to ensure that checks are made and progress assessed from the outset. The M&E process usually begins at the start of the implementation of the RAP and usually continues until after the project has finished, to ensure that Project Affected People (PAPs) have had their livelihoods restored and that they are in at least the same, if not a better, economic and social position as they were pre-project. Being able to measure and prove this is fundamentally important to good project planning and it is important to ensure budget for this process at the onset of resettlement implementation.

A sample outline table of contents is presented below.

Contents of a Monitoring and Evaluation (M&E) Plan

1. Introduction
2. Description of the Project and Resettlement/ Livelihoods Programs
3. Scope of the Monitoring and Evaluation of Resettlement Plan
4. Monitoring Needs and Internal/ External Monitors
5. Monitoring and Evaluation Indicators
6. Monitoring of the Process of Resettlement during Implementation Plan
7. Public consultation re Monitoring of Resettlement
8. Post-project Evaluation process
9. Reporting
10. Budget
11. Responsibilities for Compliance

The first three sections are self-explanatory – Section 1 sets out the project parameters, Section 2 describes what the resettlement and livelihoods program seeks to deliver, and Section 3 identifies the targets for achievement – how many people are affected in which way and their entitlement to support and assistance.

10.1 Monitoring Needs and Actors

Monitoring needs for day-to-day project decision making include:

- Providing an ongoing picture of progress;
- Maintaining expected standards in terms of quality, effectiveness and efficiency of project work;
- Making sure resources are used effectively;
- Developing work plans;
- Identifying problems and finding solutions at an early stage;
- Identifying new emerging opportunities;
- Maintaining records of events;
- Helping staff feel their work has a definite purpose;
- Reviewing adequacy of budget allocations;
- Ensuring institutional capacity;
- Ensuring timely implementation;
- Tracking progress towards achieving stated objectives;
- Demonstrating good management of resources;
- Showing that the work is as effective as possible in terms of achieving stated objectives;
- Showing what impact the work has had on different groups, disaggregated by gender, caste, ethnicity, and other metrics as appropriate;
- Showing how problems have been addressed;
- Determining the sustainability of results;
- Showing what lessons have been learned.

Monitoring needs for the Affected Community (as related to accountability & transparency) include:

- Information to show how their problems, as they perceive them, are being addressed;
- Knowing what is happening to them and what is likely to happen to them in the future;
- Showing that the project is working in the most effective manner;
- Information to show that resources are being optimally used;
- Ensuring that assessment and valuation of assets are being applied equally to each PAP, and that equally eligible persons are not receiving different rates of compensation;
- Enabling PAPs to comment about the quality of work.

A two-tier monitoring information system is required. The first level is for internal monitoring for the OMCN/ Resettlement Consultants and then passed on to the contractor. This first level requires an appropriate information management and supervision system during the start-up, during, and at the end of resettlement activities. This overall monitoring and reporting framework provides a routine flow of information from the field level to the headquarters of the implementing agency, based on predefined indicators.

The second tier is for external monitoring by an independent agency. The external monitoring agency conducts independent monitoring and evaluation to review and verify progress, highlight delays in meeting targets, and recommends corrective measures. External (or independent)

monitoring is normally required to provide an independent periodic assessment of resettlement implementation and impacts, to verify internal monitoring and to suggest adjustments of delivery mechanisms and procedures as required. The social and economic assessment of resettlement, as well as measurement of the income and standards of living of the PAPs before and after resettlement, are integral components of this monitoring activity. To function effectively, the external monitoring organization should be independent of the government agencies involved in resettlement implementation.

Regular external monitoring should begin simultaneously with implementation activities and continue until the end of the project. Socio-economic baseline surveys that were conducted before beginning resettlement should be repeated during the household census and assets inventory process, and then one year and three years after resettlement is completed and livelihoods restored, in order to assess the effectiveness of remedial measures.

The Contractor should provide regular reports on progress in resettlement preparation and implementation through:

- Regular monthly resettlement monitoring progress reports, based on defined indicators, combined with periodic supervision and verification;
- Quarterly resettlement monitoring reports summarizing progress and problem resolution;
- Annual Resettlement Reports;
- Verification of Completion Of Payments for Losses Report;
- Livelihood Restoration Evaluation report after Year 1;
- Livelihood Restoration Evaluation report after year 3.

The Verification of Completion of Payments for Losses Report should ideally be researched and written by an independent third party organization, as should the Livelihood Restoration Evaluation surveys and reports.

10.2 Monitoring Indicators

Indicators chosen for Monitoring and Evaluation have to answer a diverse series of questions during the M&E process – some indicators are of process, others of progress/output, and others of impact. The most crucial components/indicators to be monitored and evaluated are specific contents of the activities and entitlement matrix. The RAP contains indicators and benchmarks for achievement of the objectives under the resettlement program.

These indicators and benchmarks are of three types:

- **Process indicators:** (more to be used for monitoring) including project inputs, expenditure, staff deployment, etc.;
- **Output indicators:** (for evaluation) indicating results in terms of numbers of affected people compensated and resettled, training held, credit disbursed, etc.;

- **Impact indicators:** (for evaluation) related to the longer-term effects of the project on people's lives, such as improved housing and re-establishing livelihoods.

Table 60. Monitoring and Evaluation Indicators		
Type	Indicator	Examples of Variables - All data should be disaggregated by gender, indigenous groups and vulnerable groups and for different groups of PAPs
Input	Staffing	<ul style="list-style-type: none"> ▪ Number of other line agency officials available for tasks ▪ Number of Community Liaison Officers (CLOs)/ Assistants (CLAs) located in the field
	Budget and Time Frame	<ul style="list-style-type: none"> ▪ Have all land acquisition and resettlement staff been appointed and mobilized for the field and office work on schedule? ▪ Have capacity building and training activities been completed on schedule? ▪ Are funds for resettlement being allocated to resettlement agencies on time? ▪ Have resettlement offices received the scheduled funds? ▪ Have funds been disbursed according to RP? ▪ Has all land been acquired and occupied in time for implementation?
	Basic information on AP households	<ul style="list-style-type: none"> ▪ Location ▪ Composition and structure, ages, educational and skill levels ▪ Gender of household head ▪ Ethnic group ▪ Access to health, education, utilities and other social services ▪ Housing type ▪ Land and other resource owning and using patterns ▪ Occupations and employment patterns ▪ Income sources and levels ▪ Agricultural production data (for rural households) ▪ Participation in neighborhood or community groups ▪ Access to cultural sites and events ▪ Value of all assets forming entitlements and resettlement entitlements
Process Indicator	Consultation, Grievance	<ul style="list-style-type: none"> ▪ Number of Local Consultative Forums established and meetings held ▪ Grievances by type and resolution ▪ Number of field visits by CLO team staff ▪ Number of NGOs/CBOs participating in project ▪ Have consultations taken place as scheduled including meetings, groups, and community activities? ▪ Have resettlement leaflets been prepared and distributed? ▪ How many APs know their entitlements? ▪ How many know if they have received the correct entitlement?

Table 60. Monitoring and Evaluation Indicators

Type	Indicator	Examples of Variables - All data should be disaggregated by gender, indigenous groups and vulnerable groups and for different groups of PAPs
		<ul style="list-style-type: none"> Have any APs used the grievance redress procedures? What were the outcomes? Have conflicts been resolved? Was the social preparation phase implemented? Were special measures for vulnerable peoples implemented?
	Participation	<ul style="list-style-type: none"> No. of General meetings (for both men and women) % of women / IP/ VG out of total participants No. of meetings exclusively with women/ Indigenous Persons (IPs)/ Vulnerable Groups Level of participation in meetings (of women, men & IPs/ vulnerable groups)
	Procedures in Operation	<ul style="list-style-type: none"> Census and asset verification/quantification procedures in place Effectiveness of compensation delivery system Number of land transfers effected Coordination between Project and District line agencies
Output Indicators	Acquisition of Land	<ul style="list-style-type: none"> Area of cultivation land acquired Area of other private land acquired Area of communal/government land acquired Area of cultural sites acquired
	Buildings	<ul style="list-style-type: none"> Number, type and size of private buildings acquired Number, type and size of community buildings acquired Number, type and size of government buildings acquired
	Trees and Crops	<ul style="list-style-type: none"> Number and type of private trees acquired Number and type of government/community trees acquired Crops destroyed by area, type and number of owners
	Restoration of living standards	<ul style="list-style-type: none"> Have PAPs adopted the housing options developed? Have community networks been restored? Have PAPs achieved replacement of key social and cultural elements?
	Delivery of Entitlements	<ul style="list-style-type: none"> Have all PAPs received entitlements according to numbers and categories of loss set out in the entitlement matrix? Have PAPs received payments on time? Have PAPs losing from temporary land borrow been compensated?

Table 60. Monitoring and Evaluation Indicators

Type	Indicator	Examples of Variables - All data should be disaggregated by gender, indigenous groups and vulnerable groups and for different groups of PAPs
		<ul style="list-style-type: none"> Have all PAPs received the agreed transport costs, relocation costs, income substitution support and any resettlement allowances, according to schedule? Are measures in place to provide land titles to PAPs? How many households have received land titles? Is restoration proceeding for social infrastructure and services? Are income and livelihood restoration activities being implemented as set out in the income restoration plan Have affected businesses received entitlements including transfer and payments for net losses resulting from lost business?
	Restoration of Livelihoods	<ul style="list-style-type: none"> Has employment provision adequately replaced loss of earnings Were compensation payments sufficient to replace lost assets? Was sufficient replacement land available of suitable standard? Did transfer and relocation payments cover these costs? Did income restoration allow for re-establishment of enterprises and production? Have enterprises affected received sufficient assistance to re-establish themselves? Have vulnerable groups been provided income-earning opportunities? Are these effective and sustainable?
	Levels of AP Satisfaction	<ul style="list-style-type: none"> How much do PAPs know about resettlement procedures and entitlements? Do PAPs know their entitlements? Do they know if these have been met? How do PAPs assess the extent to which their own living standards and livelihoods have been restored? How much do PAPs know about grievance procedures and conflict resolution procedures?
	Effectiveness of Resettlement Planning	<ul style="list-style-type: none"> Were the PAPs and their assets correctly enumerated? Were any land speculators assisted? Was the time frame and budget sufficient to meet objectives? Were entitlements too generous? Were vulnerable groups identified and assisted? How did resettlement implementers deal with unforeseen problems?
	Compensation Payments and entitlements	<ul style="list-style-type: none"> Was compensation as described in the RAP paid on time? Were other entitlements distributed on time, relocation grants, loss of income support? Were there additional costs PAP's had to bear? Were adequate funds available to meet the costs of resettlement?

Table 60. Monitoring and Evaluation Indicators

Type	Indicator	Examples of Variables - All data should be disaggregated by gender, indigenous groups and vulnerable groups and for different groups of PAPs
	Restoration of Livelihood	<ul style="list-style-type: none"> Were income restoration activities appropriate to restore or improve living standards? How many PAP's/households were impoverished as a consequence of resettlement? Were vulnerable groups adequately assisted to improve living standards? Are the livelihood schemes as described in the RAP being implemented satisfactorily?
	Reestablishment of Community Resources	<ul style="list-style-type: none"> Number of community buildings repaired or replaced Number of cultural sites relocated and inaugurated
Impact Indicator as appropriate	Household Earning Capacity	<ul style="list-style-type: none"> Employment status of economically active members Landholding size, area cultivated and production volume, by crop Selling of cultivation land Changes to livestock ownership – pre- and post-disturbance Changes to income-earning activities (agriculture) – pre- and post-disturbance Changes to income-earning activities (off-farm) – pre- and post-disturbance Changes to income or income-earning activities as a result of training programs or other skills development assistance Amount and balance of income and expenditure
	Changes to Status of Women, Dalits, & Other Vulnerable Groups	<ul style="list-style-type: none"> Receipt and use of compensation Participation in training programs Use of credit facilities Participation in road construction Participation in commercial enterprises
	Changes to Status of Children	<ul style="list-style-type: none"> School attendance rates (male/female)
	Settlement and Population	<ul style="list-style-type: none"> Growth in number and size of settlements Growth in market areas Influx of squatters Increase in trips made to main towns Increase in use of telecommunication

*Source: "Resettlement Due Diligence Report -MCA Nepal" from Due Diligence Contractor, 2016.



For Information/Clarifications

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