

# **SOCIAL IMPACT ASSESSMENT**

(SIA)

of the

## **KABELI CORRIDOR 132 kV TRANSMISSION LINE PROJECT**

(KCTLP)

Submitted to

Kabeli Corridor 132kV Transmission Line Project, Transmission Line / substation Construction  
Department, Transmission and System Operation

**Nepal Electricity Authority**

(NEA)



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# Terms and Definitions

## A. Abbreviations

AT	Angle tower
CFUG	Community Forest User Group
DDC	District Development Committee
DFO	District Forest Office/Officer
DOED	Department of Electricity Development
EIA	Environmental Impact Assessment
FGD	Focus Group Discussion
GON	Government of Nepal
Hhs	Households
IDA	International Development Association
IEE	Initial Environmental Examination
INGO	International Non-Governmental Organization
INPS	Integrated Nepal Power System
KCTLP	Kabeli Corridor 132 kV Transmission Line Project
KV	Kilovolt
MW	Megawatt
NEA	Nepal Electricity Authority
NFDIN	National Foundation for Development of Indigenous Nationalities
NGO	Non-Governmental Organization
NPDP	Nepal Power Development Project
NTFP	Non-timber forest product (i.e., alternative forest resources or AFRs)
OP	Operational Policies
PCRs	Physical Cultural Resources
PS/S	Power Substation
RAP	Resettlement Action Plan
ROW	Right-of-Way
SIA	Social Impact Assessment
SMEF	Social Management and Entitlement Framework
SMF	Social Management Framework
TL	Transmission Line
TL/ROW	Transmission Line Right-of-Way
VDC	Village Development Committee
WB	World Bank

## B. Definitions

i. **Vulnerable Groups** in Nepal are defined as groups that have been marginalized economically, socially and politically since ages past by more privileged castes (the erstwhile ‘upper’ or ‘higher’ castes) and by Adivasi/Janajati groups (see below). The Vulnerable Groups in the project area include women and Dalits (traditional artisan castes). Poverty is a key feature of vulnerability, though poverty does not discriminate by caste, ethnicity or gender.

ii. **Indigenous Peoples or Indigenous Nationalities (also known as Adivasi/Janajati)** are defined in Nepal as those ethnic groups or communities that “have their own mother tongue and traditional customs, distinct cultural identity, distinct social structure and written or oral history of their own” (National Foundation for Development of Indigenous Nationalities Act, 2002).

iii. **Physical Cultural Resources** are defined by the World Bank as archaeological, paleontological, historical, architectural, religious resources (including graveyards and burial sites), aesthetic, or other cultural significance.

iv. **Caste** (caste group) (in Nepali: *jaat* or *jaati*) is defined as belonging to the Hindu system: e.g., Brahmin, Chhetri, Dalit and other.

v. **Dalit** is a term for **traditional artisan castes** of Nepal, who live typically disadvantaged lives both socially, economically and politically. Dalits are classified in Nepal as a **Vulnerable Group**.

vii. **Ethnic group** is defined as one of the recognized hill or terai Indigenous Peoples (Indigenous Nationalities, or Janjati/Adivasi); e.g., Limbu, Rai, Tamang, Magar and other. See Indigenous Peoples, above.

viii. **Vulnerable Groups** are defined as **Disadvantaged Groups** that have been marginalized economically, socially and politically since ages past by more privileged castes (the erstwhile 'upper' or 'higher' castes) and by Adivasi/Janajati groups. Vulnerable Groups in the project area include **Women** (and Girls) and **Dalits** (traditional artisan castes).

ix. **Vulnerable Project-Affected Families** is defined in Nepal as families affected by the project that are identified as belonging to the Vulnerable Groups (Dalits or Women).

## **Chapter 1: NAME AND ADDRESS OF THE INDIVIDUAL / INSTITUTION PREPARING THE REPORT**

### **1.1 Proponent**

The proponent of the **Kabeli Corridor 132 kV Transmission Line Project (KCTLP)** is the **Nepal Electricity Authority (NEA)**. It has obtained survey license (**Annex 1**) valid up to 2067/3/21 for the development of KCTLP from Department of Electricity Development (DoED).

The NEA is the Government of Nepal undertaking responsible for generation, transmission and distribution of electrical energy in Nepal. As 2009, NEA has a total of 9,280 staffs working under the Corporate Office and Business Group - the technical wing of NEA. The section responsible for SIA study within the NEA is Kabeli Corridor 132kV Transmission Line Project, Transmission Line / substation Construction Department, Transmission and System Operation. The survey

The official address of the proponent for the purpose of the SIA study is as under:

**Kabeli Corridor 132kV Transmission Line Project  
Transmission Line / Substation Construction Department  
Transmission and System Operation  
Nepal Electricity Authority  
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P.O. Box: 10020  
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### **1.2 Institution Responsible for Preparing the Document**

**Nepal Environmental and Scientific Services [NESS] Private Limited** is assigned as a consultant by NEA/ESSD to carryout the SIA study as per the World Bank Guidelines. The address of the lead consulting firm is as mentioned hereunder.

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## Chapter 2: INTRODUCTION OF THE PROJECT

### 2.0 Background

Development of power projects is always correlated with the power evacuation network available in the proposed power development area. As NEA is the solely responsible utility for expansion and reinforcement of networks of Integrated Nepal Power System (INPS), NEA had conducted several evacuation studies considering the candidate hydroelectric projects.

At present, INPS had 132 kV transmission network from Anarmani in the East to Mahendranagar on the Far-West region running through the Terai Physiographic Zone of the country. As most of the hydroelectric projects are located in the northern hilly region, the limiting factor for the hydropower development is pointed out to be the lack of North South extending high voltage transmission lines in the existing INPS. In the context of the ever increasing electricity demand and annually spiraling load shedding, there is a need of the development of critically important North-South high voltage transmission line to facilitate the development of candidate hydropower projects to meet the energy demand and abolish ongoing load shedding.

As of the date there are 17 hydropower projects in the Ilam district (67MW), 4 projects in Panchthar (32MW), and 14 projects in Taplejung (312MW). All of the above projects from Ilam, Panchthar, and Taplejung have been licensed for development. It is to be emphasized that additional 33 hydropower projects of above 950 MW have applied for survey license to DoED for the hydropower development in the same region. These projects are delayed for a simple reason that the area lacks an adequate capacity high voltage transmission line to evacuate the power from the area to the consumption centers. It is for this reason, feasibility study conducted in 2003 recognizing the need of development of the proposed Kabeli Corridor as priority high voltage transmission line project in the Eastern Development Region to provide transmission line facility to the licensed hydropower projects to be developed in the immediate future.

### 2.1 Project Description

#### 2.1.1 Project Location and Accessibility

The **Kabeli Corridor 132 kV Transmission Line Project (KCTLP)** is part of the Government of Nepal's **Kabeli Power Generation Project** under development by the **Nepal Electricity Authority (NEA)**. The project is funded through the **Nepal Power Development Project (NPDP)** under a loan from the **World Bank/IDA**.

The KCTLP is located in Nepal's Eastern Development Region within Mechi and Koshi Zones and passes through four districts: Terathum of Mechi Zone, and Panchthar, Ilam and Jhapa of Koshi Zone (**Figure 1**). The transmission line (TL) corridor is 83.74 km in length, crossing 25 VDCs in the four districts. They are (from north to south) one VDC in Terathum District (*Chattedhunga*), 10 VDCs of Pachthar District (*Amarpur, Subhang, Bharapa, Phidim, Chokmagu, Siwa, Nawamidanda, Imbung, Pauwasartap and Chilingden*), 13 VDCs of Ilam District (*Phakphok, Chamaita, Ektappa, Mangalbare, Sangarumba, Siddhithumka, Soyak, Godak, Chisapani, Danabari, Mahamai, Bajho and Chulachuli*), and one VDC of Jhapa District (*Lakhanpur*). At Lakhanpur, near the city of Damak on the East-West Highway, the transmission lines will link into the national electricity supply grid. **Figure 2.2** depicts the districts and VDCs crossed by the Transmission Line.

Figure 2.1. Project Location Map, KCTLP

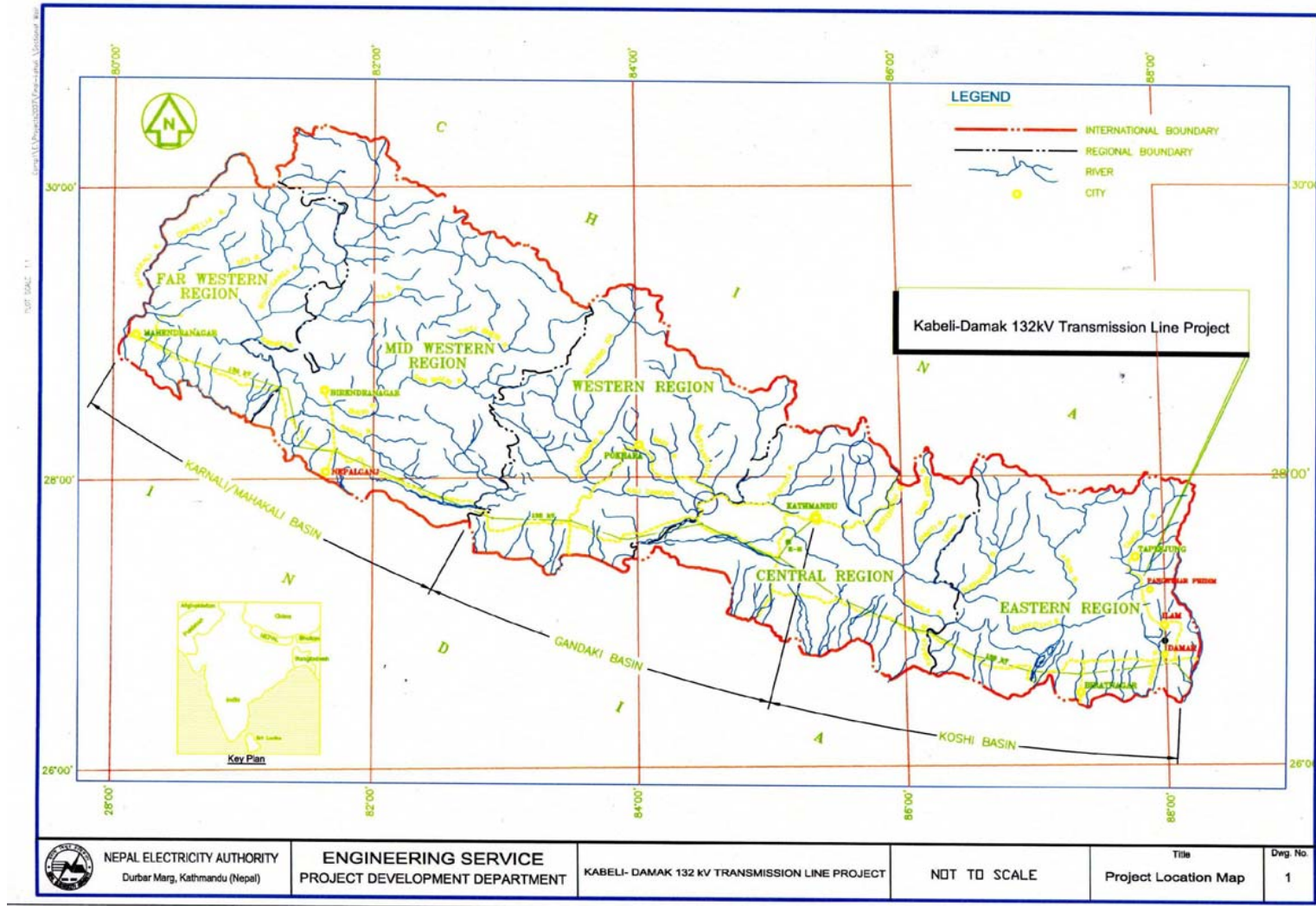
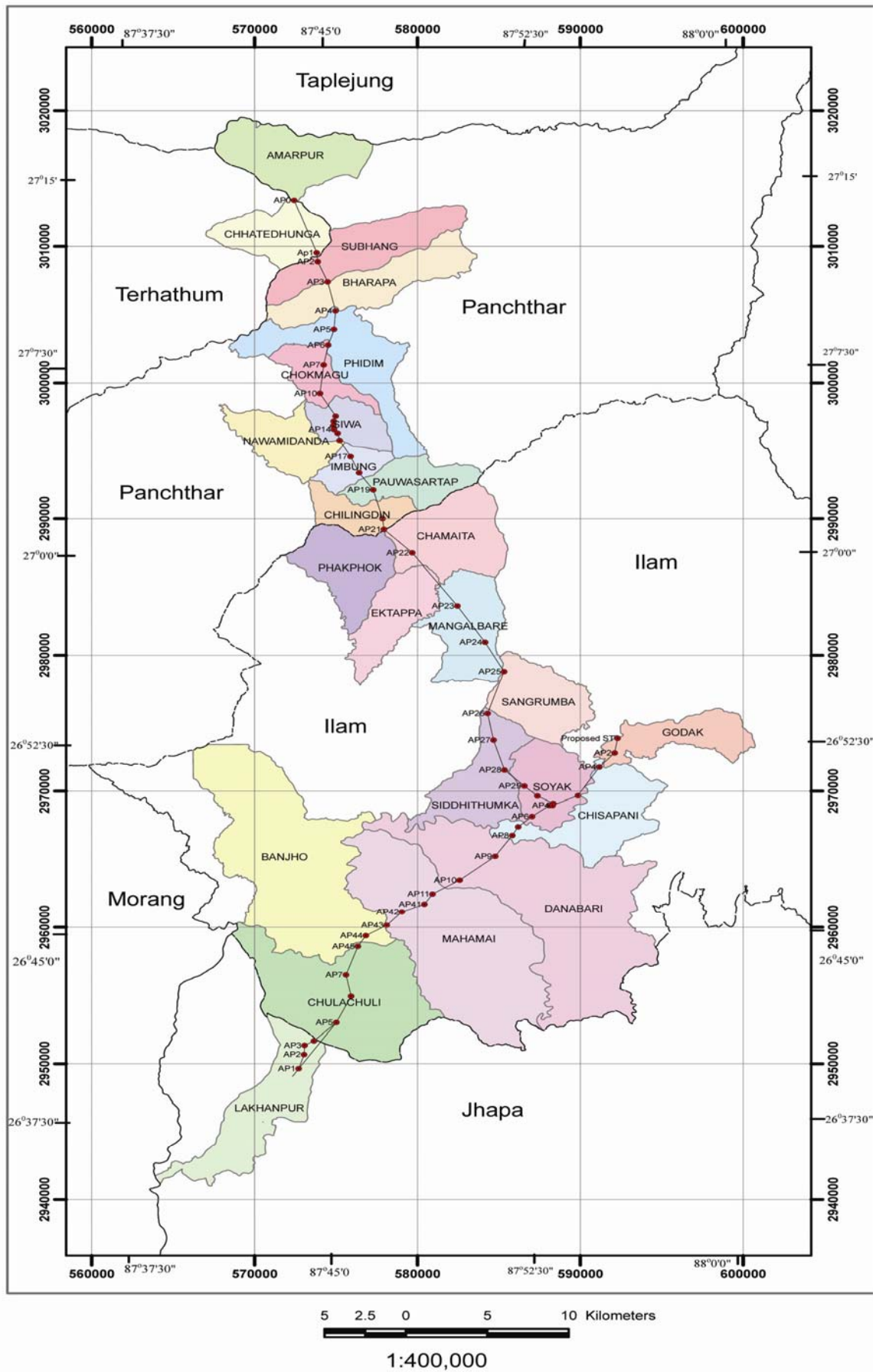


Figure 2.2. Districts and VDCs across the KCTLP





From the South, the KCTLTP is first accessed at Sabitrachowk of Lakhanpur VDC of Jhapa District through the all weather Mahendra Highway about 600 km east of Kathmandu, the capital city of Nepal. The Bhadrapur airport at Jhapa, with daily flight services from Kathmandu is located about 40 km southeast of Sabitrachowk. The KCTLTP alignment is also assessed at various points of Mechi highway, extending from Charali (Jhapa), Ilam (Ilam), and Phidim (Panchthar) up to Taplejung (Taplejung). The Mechi Rajmarga is an all weather road up to Phidim. From Phidim to Taplejung it is a fair weather road with jeep and bus services regularly operating for most of the time. Besides, there are a number of fair-weather roads linking various project VDCs from the Mechi Rajmarga. The major settlements near TL route accessed by fair-weather road linking Mechi Rajmarga are Ekchepa of Subhang VDC; Chokmagu, Maidane and Bhadaure of Chokmagu VDC; Patlebhanjyang of Nawamidanda VDC; Kolbun, Hanyok and Imbung of Imbung VDC; Sartap of Pauwasartap VDC, Deurali of Phakphok VDC, Phalate Bazaar, Simsara, Chaulagaigaun and Thapagau of Chamaita VDC.

## 2.1.2 Project Salient Features

The proposed KCTLTP starts from 132/33 kV sub-station at Sabitrachowk of Lakhanpur VDC in the Terai and extend northeast through Chaju Khola (river) at the foothills of Chure and across Chure mountains into the valley of Mai Khola in the Mahabharat and Midland hills. From Soyak, it bifurcates into two branches. The one extending north east is a short 6 km long arm terminating at Godak 132/33 kV substation (Setuwabesi, Godak VDC-3). The longer arm proceeds north-northwest from Soyak up to the Amarpur 132/33 kV Power Sub-Station (PS/S) at Pinasighat, Amarpur VDC-9, Panchthar District, in the northern part of midland zone. **Table 2.1** summarizes the VDCs and wards of the four districts traversed by the KCTLTP.

**Table 2.1: Salient Features of the KCTLTP**

SN	Feature	Description	Remarks
1.	Project Districts	Jhapa, Ilam, Panchthar and Terhathum	
2.	System Data		
	System nominal voltage kV	132	
	System maximum voltage kV	145	
	System nominal frequency kV	50	
3.	Line Data		
3.1.	Total Line Length	83.74 Km	
3.1.1	Phidim Kabeli	8.76 km	
3.1.2	Phidim-Sirkot	41.33 km	
3.1.3	Sirkot –Damak	26.88 km	
3.1.4	Sirkot – Ilam	6.77 km	
3.2	Circuit	Double circuit	
3.3	Conductor		
3.3.1	Conductor size (mm <sup>2</sup> )	326.1	
3.3.2	Conductor type (ACSR)	Bear	
3.3.3	Conductor diameter (mm)	23.45	
3.3.4	Ultimate strength (kg)	11,340	
3.3.5	Modulus of elasticity final (kg/ mm <sup>2</sup> )	8,200	
3.3.6	Coefficient of linear expansion (per °C)	17.8 X 10 <sup>6</sup>	
3.3.6	Standard mass of conductor (kg/km)	1,214	
3.3.7	Electrical D.C. resistance at 20 degree C (ohm/km)	0.1093	
3.3.8	Standard unjointed length on reel (m)	2,000	
3.3.9	Every day stress (N/ mm <sup>2</sup> )	60	
4.	Design Data		
4.1	Temperature		
4.1.1	Maximum ambient temperature °C	45	
4.1.2	Minimum ambient temperature °C	0	
4.1.3	Maximum temperature of conductor °C	80	
4.1.4	Everyday temperature of conductor °C	32	
4.2	Wind Loads		
4.2.1	Wind pressure on the whole projected area of conductors kg/m <sup>2</sup>	75	
4.2.2	Wind pressure on the whole projected area of	121	

SN	Feature	Description	Remarks
	<i>steel angle members kg/m<sup>2</sup></i>		
4.2.3	<i>Wind pressure on 1.71 times projected area of steel angle face of structure kg/m<sup>2</sup></i>	207	
5.	Number of Highway crossing	4	
6.	Number of 33kV Crossing	1	
7.	Number of 11kV Crossing	5	
8.	Number of Angle Points	55	
9.	Total Number of towers	287	
10.	Type of Towers	Self supporting Lattice steel structures	
10.1	Suspension	- deviation angle - No. of this type of tower	-Up to 2° -231 Approximate area required for this type of tower 12x12 meter
10.2	Angle/Tension	- deviation angle -No. of this type of tower	Below 60° -53 approximate area required for this type of tower 14x14 meter
10.3	Dead end	- deviation angle -No. of this type of tower	- Up to 90° (45° as terminal) -3 approximate area required for this type of tower 16x16 meter
11.	Clearance (minimum)	7.0 meter at + 65°C conductor temperature	
11.1	Normal ground for pedestrians only	7 meter	
11.2	Residential area	7 meter	
11.3	Road and streets	8 meter	
11.4	Highways	8 meter	
11,5	To metal clad or roofed buildings or building or structures upon which a man may stand	5 meter	
11.6	Power lines (above or below)	3.5 meter	
11.7	Telecommunication lines	3.5 meter	
12.	Phase spacing	- Between phase on same side of tower 3.75 meter (minimum) - Between phase on opposite side of tower 6.0 meter (minimum)	
13.	Nominal Span	330 meter	
14.	Right of way	9 meter on each side	
15.	Shielding	With OPGW -Optical fiber based communication system	
16.	Substations /Hubs		
16.1	Damak Substation		
16.1.1	Purpose	-to connect Hydro Electric Projects (HEPs) in the Kabeli Corridor to the Integrated Nepal Power System (INPS)  -to improve distribution networks in Jhapa district (Pachgachi and Damak area) and Uurlabari of Morang District	
16.1.2	Line Bays	-four number of 132kV -two number of 33kV -four number of 11kV	

SN	Feature		Description	Remarks
	16.1.3	Transformer	-30 MVA, 132/33 kV -8 MVA, 33/11 kV	
16.2	<i>Ilam Hub</i>			
	16.2.1	Purpose	- to facilitate power evacuation from HEPs to be developed in Ilam District	
	16.2.2	Line Bays	-two number of 132kV -two number of 33kV	
	16.2.3	Transformer	-30 MVA, 132/33 kV	
16.3	<i>Phidim Hub</i>			
	16.3.1	Purpose	- to facilitate power evacuation from HEPs to be developed in Panchthar District	
	16.3.2	Line Bays	-Four number of 132kV -two number of 33kV	
	16.3.3	Transformer	-20MVA, 132/33 kV	
	<i>Kabeli Hub</i>			
	16.4.1	Purpose	Panchthar, Taplejung District	
	16.4.2	Line Bays	Two 132 kV Two 33 kV	
	16.4.3	Transformer	30 MVA, 132/33kV	

Source: Kabeli Corridor Transmission Line Survey Report, Engineering Services, NEA, 2010

## 2.3 Population of Project Affected VDCs

According to the 2001 census, the project VDCs have a total population of 168,747 constituting 13% percent of the total population of the project districts. Average household size is 5.34 with male to female ratio of 1:1.02. The figure for household size of the project VDCs is higher than those of the project districts. **Table 2.2** presents the population of the affected VDCs with respective household size, male and female population plus their ratio.

**Table 2.2: Population Distribution in the Project VDCs**

District and VDC	2001 Census Data							
	Total Population	Total HH	HH size	Male	%	Female	%	Ratio
<b>Jhapa District</b>								
Lakhanpur	13911	2723	5.11	6715	48.27	7196	51.73	1: 1.07
<b>Ilam District</b>								
Bajho	7324	1308	5.60	3717	50.75	3607	49.25	1: 0.97
Chulachuli	18176	3349	5.43	9018	49.61	9158	50.39	1: 1.02
Mahamai	10776	1964	5.49	5351	49.66	5425	50.34	1: 1.01
Danabari	12693	2400	5.29	6351	50.04	6342	49.96	1: 1.00
Chisapani	4923	935	5.27	2473	50.23	2450	49.77	1: 0.99
Soyak	3378	619	5.46	1712	50.68	1666	49.32	1: 0.97
Godak	4600	924	4.98	2338	50.83	2262	49.17	1: 0.97
Siddhithumka	3454	676	5.11	1700	49.22	1754	50.78	1: 1.03
Sangrumba	5497	1048	5.25	2739	49.83	2758	50.17	1: 1.01
Mangalbare	6799	1281	5.31	3424	50.36	3375	49.64	1: 0.99
Ektappa	4875	918	5.31	2374	48.70	2501	51.30	1: 1.05
Chamaita	6210	1082	5.74	3049	49.10	3161	50.90	1: 1.04
Phakphok	5288	906	5.84	2681	50.70	2607	49.30	1: 0.97
<b>Panchthar District</b>								
Chilinden	3918	727.00	5.39	1928	49.21	1990	50.79	1: 1.03
Pauwasartap	4322	801.00	5.40	2083	48.20	2239	51.80	1: 1.07
Imbung	2378	455.00	5.23	1144	48.11	1234	51.89	1: 1.08

District and VDC	2001 Census Data							
	Total Population	Total HH	HH size	Male	%	Female	%	Ratio
Nawamidanda	4345	797.00	5.45	2090	48.10	2255	51.90	1: 1.08
Siwa	3970	700.00	5.67	1916	48.26	2054	51.74	1: 1.07
Chokmagu	4133	744.00	5.56	1987	48.08	2146	51.92	1: 1.08
Phidim	13652	2927.00	4.66	6854	50.21	6798	49.79	1: 0.99
Bharapa	7268	1301.00	5.59	3560	48.98	3708	51.02	1: 1.04
Subhang	5316	954.00	5.57	2602	48.95	2714	51.05	1: 1.04
Amarpur	7743	1375.00	5.63	3743	48.34	4000	51.66	1: 1.07
<b>Terhathum District</b>								
Chhatedunga	3798	695	5.46	1811	47.68	1987	52.32	1: 1.10
<b>Total</b>	<b>168747</b>	<b>31,609</b>	<b>5.34</b>	<b>83360</b>	<b>49.40</b>	<b>85387</b>	<b>50.60</b>	<b>1: 1.10</b>

Source: CBS, 2001

About 40% of the total populations in the project VDCs are below 14 years of age while those above the 60 years of age constitute 6% of the total population. The population between 15 to 59 years of age constitutes 54%. The age wise distribution pattern of population in the project VDCs is similar to those of the project districts although the population of younger and older is slightly higher in the project VDCs than in the project districts (**Table 2.3**).

**Table 2.3: Population of Different Age Group and Sex, Project Affected VDCs**

District VDC	GENDER	TOTAL	AGE GROUPS											
			0-4 YEARS	%	5-14 YEARS	%	15-24 Years	%	25-49 Years	%	50-59 Years	%	Over 60	%
<b>Jhapa</b>														
Lakhanpur	Both	13911	1204	8.66	4631	33.29	3246	23.33	3334	23.97	1659	11.93	1041	7.48
	Male	6715	594	8.85	2355	35.07	1510	22.49	1525	22.71	793	11.81	532	7.92
	Female	7196	610	8.48	2276	31.63	1736	24.12	1809	25.14	866	12.03	509	7.07
<b>Ilam</b>														
Chulachuli	Both	18176	1930	10.62	5263	28.96	4147	22.82	4720	25.97	1052	5.79	1064	5.85
	Male	9018	996	11.04	2701	29.95	2032	22.53	2189	24.27	549	6.09	551	6.11
	Female	9158	934	10.20	2562	27.98	2115	23.09	2531	27.64	503	5.49	513	5.60
Chamaita	Both	6210	733	11.80	2626	42.29	1266	20.39	1433	23.08	539	8.68	346	5.57
	Male	3049	368	12.07	1311	43.00	570	18.69	707	23.19	279	9.15	182	5.97
	Female	3161	365	11.55	1315	41.60	696	22.02	726	22.97	260	8.23	164	5.19
Chisapani	Both	4923	545	11.07	1912	38.84	1048	21.29	1218	24.74	465	9.45	280	5.69
	Male	2473	271	10.96	951	38.46	515	20.82	619	25.03	239	9.66	149	6.03
	Female	2450	274	11.18	961	39.22	533	21.76	599	24.45	226	9.22	131	5.35
Danabari	Both	12693	1412	11.12	5220	41.13	2622	20.66	3039	23.94	1211	9.54	601	4.73
	Male	6351	693	10.91	2590	40.78	1291	20.33	1496	23.56	652	10.27	322	5.07
	Female	6342	719	11.34	2630	41.47	1331	20.99	1543	24.33	559	8.81	279	4.40
Ektappa	Both	4875	556	11.41	1900	38.97	1017	20.86	1140	23.38	457	9.37	361	7.41
	Male	2374	272	11.46	971	40.90	473	19.92	523	22.03	218	9.18	189	7.96
	Female	2501	284	11.36	929	37.15	544	21.75	617	24.67	239	9.56	172	6.88
Godak	Both	4600	480	10.43	1665	36.20	961	20.89	1192	25.91	485	10.54	297	6.46
	Male	2338	246	10.52	861	36.83	459	19.63	612	26.18	248	10.61	158	6.76
	Female	2262	234	10.34	804	35.54	502	22.19	580	25.64	237	10.48	139	6.15
Mahamai	Both	10776	1334	12.38	4719	43.79	2234	20.73	2343	21.74	1013	9.40	467	4.33
	Male	5351	675	12.61	2346	43.84	1082	20.22	1118	20.89	554	10.35	251	4.69
	Female	5425	659	12.15	2373	43.74	1152	21.24	1225	22.58	459	8.46	216	3.98
Mangalbare	Both	6799	632	9.30	2478	36.45	1497	22.02	1719	25.28	697	10.25	408	6.00
	Male	3424	316	9.23	1278	37.32	721	21.06	842	24.59	376	10.98	207	6.05
	Female	3375	316	9.36	1200	35.56	776	22.99	877	25.99	321	9.51	201	5.96
Phakphok	Both	5288	632	11.95	2141	40.49	1064	20.12	1262	23.87	492	9.30	329	6.22

District VDC	GENDER	TOTAL	AGE GROUPS											
			0-4 YEARS	%	5-14 YEARS	%	15-24 Years	%	25-49 Years	%	50-59 Years	%	Over 60	%
	Male	2681	330	12.31	1089	40.62	522	19.47	640	23.87	254	9.47	176	6.56
	Female	2607	302	11.58	1052	40.35	542	20.79	622	23.86	238	9.13	153	5.87
Soyak	Both	3378	339	10.04	1253	37.09	717	21.23	826	24.45	357	10.57	225	6.66
	Male	1712	205	11.97	655	38.26	360	21.03	408	23.83	180	10.51	109	6.37
	Female	1666	134	8.04	598	35.89	357	21.43	418	25.09	177	10.62	116	6.96
Siddhithumka	Both	3454	364	10.54	1279	37.03	736	21.31	860	24.90	326	9.44	253	7.32
	Male	1700	190	11.18	641	37.71	349	20.53	421	24.76	171	10.06	118	6.94
	Female	1754	174	9.92	638	36.37	387	22.06	439	25.03	155	8.84	135	7.70
Sangrumba	Both	5497	634	11.53	2150	39.11	1136	20.67	1284	23.36	562	10.22	365	6.64
	Male	2739	314	11.46	1077	39.32	547	19.97	640	23.37	282	10.30	193	7.05
	Female	2758	320	11.60	1073	38.91	589	21.36	644	23.35	280	10.15	172	6.24
<b>Panchthar</b>														
Chilinden	Both	3918	569	14.52	1741	44.44	670	17.10	901	23.00	362	9.24	244	6.23
	Male	1928	294	15.25	884	45.85	305	15.82	427	22.15	180	9.34	132	6.85
	Female	1990	275	13.82	857	43.07	365	18.34	474	23.82	182	9.15	112	5.63
Pauwasartap	Both	4322	593	13.72	1860	43.04	853	19.74	935	21.63	427	9.88	247	5.71
	Male	2083	308	14.79	940	45.13	384	18.43	410	19.68	212	10.18	137	6.58
	Female	2239	285	12.73	920	41.09	469	20.95	525	23.45	215	9.60	110	4.91
Imbung	Both	2378	311	13.08	982	41.30	444	18.67	510	21.45	262	11.02	180	7.57
	Male	1144	168	14.69	479	41.87	208	18.18	251	21.94	114	9.97	92	8.04
	Female	1234	143	11.59	503	40.76	236	19.12	259	20.99	148	11.99	88	7.13
Nawamidanda	Both	4345	499	11.48	1195	27.50	913	21.01	1095	25.20	265	6.10	378	8.70
	Male	2090	238	11.39	591	28.28	440	21.05	522	24.98	116	5.55	183	8.76
	Female	2255	261	11.57	604	26.78	473	20.98	573	25.41	149	6.61	195	8.65
Siwa	Both	3970	509	12.82	1646	41.46	784		865	21.79	433	10.91	242	6.10
	Male	1916	246	12.84	801	41.81	365	19.05	393	20.51	229	11.95	128	6.68
	Female	2054	263	12.80	845	41.14	419	20.40	472	22.98	204	9.93	114	5.55
Chokmagu	Both	4133	569	13.77	1721	41.64	789	19.09	883	21.36	431	10.43	309	7.48
	Male	1987	292	14.70	856	43.08	366	18.42	399	20.08	215	10.82	151	7.60
	Female	2146	277	12.91	865	40.31	423	19.71	484	22.55	216	10.07	158	7.36
Phidim	Both	13652	1579	11.57	5279	38.67	3043	22.29	3563	26.10	1169	8.56	598	4.38
	Male	6854	787	11.48	2669	38.94	1419	20.70	1836	26.79	618	9.02	312	4.55

District VDC	GENDER	TOTAL	AGE GROUPS											
			0-4 YEARS	%	5-14 YEARS	%	15-24 Years	%	25-49 Years	%	50-59 Years	%	Over 60	%
	Female	6798	792	11.65	2610	38.39	1624	23.89	1727	25.40	551	8.11	286	4.21
Bharapa	Both	7268	930	12.80	3093	42.56	1419	19.52	1649	22.69	645	8.87	462	6.36
	Male	3560	434	12.19	1508	42.36	722	20.28	788	22.13	319	8.96	223	6.26
	Female	3708	496	13.38	1585	42.75	697	18.80	861	23.22	326	8.79	239	6.45
Subhang	Both	5316	608	11.44	2171	40.84	1037	19.51	1180	22.20	491	9.24	437	8.22
	Male	2602	324	12.45	1114	42.81	482	18.52	543	20.87	234	8.99	229	8.80
	Female	2714	284	10.46	1057	38.95	555	20.45	637	23.47	257	9.47	208	7.66
Amarpur	Both	7743	1033	13.34	3351	43.28	1450	18.73	1724	22.27	645	8.33	573	7.40
	Male	3743	531	14.19	1647	44.00	690	18.43	818	21.85	315	8.42	273	7.29
	Female	4000	502	12.55	1704	42.60	760	19.00	906	22.65	330	8.25	300	7.50
<b>Terhathum</b>														
Chhatedunga	Both	3798	455	11.98	1473	38.78	744	19.59	859	22.62	376	9.90	346	9.11
	Male	1811	221	12.20	722	39.87	339	18.72	403	22.25	180	9.94	167	9.22
	Female	1987	234	11.78	751	37.80	405	20.38	456	22.95	196	9.86	179	9.01

Source: CBS, 2001

### 3.0 Social and Environmental Requirements and Objectives of This Report

As per amendments of EPR schedules on January 27, 2010 (refer EPR, Schedule 1, Uu.Uu.1), the KCTLTP is required to conduct Initial Environmental Examination (IEE) study and its approval from the Ministry of Energy (MoEn). However, it will also have to comply with the provisions of **Guidelines to Permit Forest Land for Other Purpose (2006)** of the Ministry of Forest and Soil Conservation. The NEA has conducted the IEE study of the above project and already received approval on IEE study on September 2010.

Since the NEA is seeking financial assistance from the World Bank, all the Operational Policies of World Bank have to be complied prior the initiation of the project. It is in this context, the World Bank has requested the NEA to prepare the **Social Impact Assessment Report, Social Management Framework, and Resettlement Action Plan of Angle Tower** of the 132 kV KCTLTP. Through competitive bidding process, NESS has secured this consulting assignment through NEA.

### 3.1 The Assignment

This assignment is to develop social aspects of the project preparation in compliance with relevant Nepali domestic laws, policies and World Bank operational policies. Its scope of work is as follows:

- Develop a socioeconomic profile of the project area and highlight key social, economic, cultural, ethnic and political features of the project areas, as well as key issues that should be considered under the project preparation;
- Identify broadly adverse social impacts under the project and determine which World Bank policies are triggered under the project and recommend the approach for planning as required by the **Government and World Bank policies**;
- Develop the required planning instruments to meet the World Bank requirements for appraisal, particularly on involuntary resettlement and indigenous people; and
- Carry out public consultations in the project areas to feed their concerns and recommendations into the project design.

### 3.2 Project Management

Understanding the objectives and scope of works, the consultant started the services with the following management approaches:

- Selection of those methods and technologies that have been tested and proven to be optimum and successful in ongoing and past projects.
- Socially and culturally acceptable grassroots level planning.
- Close contact and effective co-ordination with the client and with all concerned authorities.
- In-depth knowledge of technical, financial management and accounting, gender and social development and institutional aspects.
- Full use of available and applicable reports, guidelines, standards, maps and drawings, other relevant information that are found to be useful for execution and completion of the proposed services in accordance with accepted professional standards and practices.
- Selection and timely mobilization of appropriate project team members.
- Clear distinction of roles and responsibilities for each members of the team under strict adherence to the work schedule.
- Strict adherence to the work schedule.
- Work product of high quality to meet the study objectives.
- Systematic monitoring of both process and performance.



- Completion of the proposed services within the stipulated time.
- Sufficient flexibility to respond to desired changes and direction.
- Enhancement of environmental qualities and environmental protection at all times during works

Additionally, for quality assurance of the project works, the consultant has established backstopping with technical and administrative support to the consulting team. The objective of such backstopping support is to assist in maintaining a quality assurance system, provide required facilities and support to the team, establish an expert mechanism for solving problem, audit performance and take preventive and corrective measures aimed for quality performance. The field survey team, their areas of expertise and other details are given in **Annex 2** of this report.

The team leader of the study was in constant contact with all the team members during the survey. The team was briefed every morning and progress was debriefed in a regular interval. The team leader was in regular contact with NEA focal person during the study. The approach followed included:

- Frequent, effective co-ordination and communication with the client.
- Effective co-ordination and interaction with the team members.
- Good and reliable management of the field logistics, equipment and other support facilities.
- Careful management of the movement to and fro from the field site.
- Use of standard formats and questionnaires for ensuring to the point, objective and uniform data collection and collation.

### 3.3 Communication and Consultation with Stakeholders

The project involves multiple stakeholders of different interests. Without a close consultation, cooperation and participation of these stakeholders the objectives of the SIA study could not be realized. Thus, a mechanism of maximization of consultation and cooperation of the stakeholders were followed during the entire period of study. Awareness building of the stakeholders and use of multiple participation approaches were key focus area for realizing wider participation of the stakeholders in all stages of the SIA studies.

During the study period, the concerns and suggestions of stakeholders were collected, reviewed and incorporated in the SIA reports.

The project stakeholders were involved at three different stages. In the *initial stage*, primary focus of the plan was to introduce the project and its likely implication to the people at the local level and seek information and concerns of the people on the project and/or identify issues that are not well understood and need further investigation to understand their implications. The *second stage* of the Plan was to seek information on the baseline conditions of various resources at local level, their use, their importance, critical factors that govern the existing baseline etc. The *third stage* of the Plan was to seek information on the programs and measures and their adequacy to avoid, minimize, and compensate the adverse **social impacts** of the projects and maximize the **social benefits**. The findings from stakeholder discussions and interviews are presented succinctly in §4 below (and in more detail in **Annex 4**).

Various tools, methods and means can be utilized to involve the people in the project decision making process particularly related to social aspects. **Public Notification, Distribution of Brochures, Rapid Rural Appraisal, Participatory Rural Appraisal, Informal Focus Group Discussions (FGD), Interviews with Key Informants, Census Social Survey of the Affected Populations**, etc., were applied depending upon local conditions. The FGD checklist for women, Adivasi/Janajati, Dalit is included in **Annex 3** of this report.

### 3.4 SIA Fieldwork

The study team members have interacted with the local government, organizations, institutions, NGOs, CBOs and the members of civil societies to actively take part in the SIA, RAP and SMF studies. During the course of study, the consulting team members have noted the views and ideas of the stakeholders and encourage them to provide further input for successful completion of the study and implementation of the project.

**The SIA, RAP and SMF requirements mentioned in OP of World Bank and GoN requirements were taken as a reference during the entire study period.** It is widely agreed that for the project to be feasible for implementation it should be technically feasible, financially viable and socio-economically and environmentally acceptable.

The study team of NESS has used "*already available information*" for the SIA study and analysis so as to minimize time for the study accomplishment. Primary information was sought only in cases where there were complete gaps.

For the SIA study, the contractor mobilized a multidisciplinary team of 10 specialists, proceeding in five groups of two specialists each, to conduct the fieldwork along the KCTLP TL corridor across the four project affected districts in eastern Nepal. Ultimately, the entire TL right-of-way, Angle Tower (AT) sites and Power Sub-Station (PS/S) sites were covered.

Each team first read all available reports and details of the project to become familiar with the project site. In the field, selected portions of relevant reports were carried for reference, along with maps with tower/corridor details. A detailed questionnaire was prepared to be administered to those householders whose land has been selected for angle tower or sub-station construction, And, focus group discussions (FGDs) were held with a sampling of Adivasi/Janajati, Dalit, and Women's groups from the VDCs affected by the KCTLP (**Annex 3**).

During the 10 days of fieldwork, the following specific tasks were accomplished:

1. Conducted a desk review of available information from previous surveys (IEE) and secondary data from the districts and VDCs concerned.
2. Reviewed GON and WB legal and policy frameworks, focusing on the key social, economic, cultural, ethnic and political characteristics of the project area, including socio-political, environmental, socio-economic, and employment and livelihood patterns of the local people.
3. Identified and interviewed landowners of the pre-selected AT and PS/S construction sites with a predesigned questionnaire. Data were collected on their demographics, socio-cultural features, livelihood and employment patterns, use of natural resources, association or participation in formal and informal institutions, and their relationships/interactions with other ethnic groups. The affected sites include private land (where private landowners were interviewed), community forest (where community forest user group members were interviewed), and government land (government agencies were consulted at the DDC level).
4. Screened for the presence of Indigenous Peoples (Adivasi/Janajati) and Vulnerable Groups (Dalit, Women) residing under or within 250 meters of the proposed transmission line corridor, and focus group discussions (FGDs) were held with a representative sample of such groups. Altogether 53 FGDs were conducted (**Table 3.1**). These discussions were designed to determine ethnic identity markets such factors as (a) self-identification and recognition of the identity by others, (b) collective attachment to geographically distinct habitats or ancestral territories and associated natural resources, (c) presence of distinct customary cultural, economic, social or political institutions, and (d) indigenous languages. Data were collected on demographics, socio-cultural features, livelihood and employment patterns, use of natural resources, formal and informal institutions, and their relationships/interactions with other ethnic groups.
5. Note that all consultations, interviews and discussions (in both #3 & 4, above) focused on the impacts on people and communities of land acquisition for Angle Towers, impacts on local livelihood patterns due to TL construction, general resource use in the communities (including both common natural and cultural resources used), and the presence and significance of other religious, cultural and/or historical resources. For further discussion see **Annex 4**.
6. Other project-affected individuals, communities and groups, and other stakeholders were also identified and interviews/discussions were carried out, including with local government bodies/agencies (DDCs, VDCs, DFOs, CBOs/NGOs, ethnic and caste group associations, and

forest user groups), to assess their views, concerns, expectations and advice regarding the project.

**Table 3.1 Focus Group Discussions (FGDs) with Indigenous Ethnic Groups and Vulnerable Groups (Dalits and Women)**

District	VDCs		Ward	Settlement	Ethnic Groups	Vulnerable Groups		Total FGDs
Terathum	1.	Chattedhunga	8,9	Tudikhel	Tamang	Dalit	Women	3
Panchthar	2.	Amarpur	9	Pinasighat	Majhi	--	Women	2
	3.	Subhang	2	Chautara	Limbu	--	Women	2
	4.	Bharapa	9	Simkharka	Tamang	Dalit	Women	3
	5.	Phidim	4	Dandagaun	--	--	Women	1
	6.	Chokmagu	5	Maidane	--	--	Women	1
	7.	Siwa	1	Siwa	Limbu	--	Women	2
	8.	Nawamidanda	4	Pattlebhanjyang	--	--	Women	1
	9.	Imbung	1	Sisuwa	Limbu	--	Women	2
	10.	Pauwasartap	2	Sartap	Limbu	--	Women	2
	11.	Chilingden	2	Chaplung	Limbu	--	Women	2
	Ilam	12.	Phakhok	5	Simkharka	Rai	--	Women
13.		Chamaita	9	Phalate	Rai	--	Women	2
			9	Simsara	--	Dalit	--	1
14.		Ektappa	1	Metalung	Gurung	Dalit	Women	3
15.		Mangalbare	7	Sunwargaun	Sunwar	--	--	1
			5	Sabjung	--	--	Women	1
16.		Sangrumba	9	Talkharka	Tamang	--	--	1
			9	Jitpure Bazaar	--	--	Women	1
17.		Siddhithumka	6	Gorkhegaun	Limbu	--	--	1
			4	Khandrung Panchami	--	Dalit	Women	2
18.		Soyak	6	Yannang	--	Dalit	--	1
			7	Nawami	--	--	Women	1
19.		Godak	3	Bhandaribesi	Magar	Dalit	Women	3
20.		Chisapani	9	Aapdanda	Limbu	--	Women	2
21.	Danabari	9	Saduadanda	Rai	--	Women	2	
22.	Mahamai	5	Tamakhe	--	Dalit	Women	2	
23.	Bajho	2	Jhilke	Rai	--	Women	2	
24.	Chulachuli	5	Sarkitar	Rai	--	Women	2	
Jhapa	Lakhanpur	1	Geuriya	--	--	Women	1	
		1	Sabitrachok	--	Dalit	--	1	
<b>Totals:</b>			<b>32</b>		<b>19</b>	<b>8</b>	<b>25</b>	<b>53</b>

The data collected in the field, from discussions, interviews and observations, have been compiled, collated and processed as appropriate, with special attention to stakeholder perspectives, needs, observations, issues and suggestions. They are presented here succinctly in the body of the report, with supporting tables and further details presented in **Annex 4**.

## Chapter 4: SUMMARY FINDINGS

### 4. Summary Findings

#### 4.1 Overview of the Project VDCs1

##### 4.1.1 Physical Characteristics

Twenty five VDCs in four districts are directly impacted by the KCTL Project. Three districts are in the hills (*Pahad*): Terathum, Panchthar and Ilam; and one is in the lowland *Terai*: Jhapa. Of the 51 power line angle towers (AT) sited along the TL corridor, 47 are located in the three hill districts -- Terathum: 1, Panchthar: 17 and Ilam: 28 and four in the terai district (Jhapa). There are also three power substation (PS/S) sites, two in the hills at Phidim VDC (Panchthar District) and Godak VDC (Ilam District), and one in the terai at Lakhanpur VDC (Jhapa District).

The transmission lines cross land that is generally rural, agricultural and relatively well populated, including cultivated (private) land, community forest land, government forest land, and barren land (and a few villages). For AT site numbers and location by VDC, ward and settlement, see **Table 4.1**.

**Table 4.1 Angle Towers (AT) and Power Substations (PS/S) in Project Affected VDCs**

	VDC	Ward	Nearest Settlement	Infrastructure		Land Type	Remarks
				AT	PS/S		
<b>TERHATHUM DISTRICT (1 AT)</b>							
1.	Chhatedhunga	7	Bokre	AP-1		Private land, cultivated	
<b>PANCHTHAR DISTRICT (19 AT, 1 PS/S)</b>							
2.	Amarpur	8	Pinaseghat	AP-0		Private land, cultivated	
3.	Subhang	2	Chulidanda, Siruwani	AP-2		Government land, barren	
4.	Subhang	2	Dabaltar	AP-3		Government land, barren	
5.	<i>Bharapa</i>			--		<i>(transmission lines pass over VDC, but no angle tower)</i>	
6.	Phidim	4	Dangalgaun		✓	Government land, barren land	Numbered AP-4
7.	Phidim	4	Gadgidanda	AP-5		Private land, cultivated	
8.	Chokmagu	1	Dangalgaun	AP-6		Government land, barren	
9.	Chokmagu	8	Jorkulo	AP-7		Private land, cultivated	
10.	Chokmagu	6	Gauthali	AP-8		Private land, cultivated	
11.	Chokmagu	7	Maidane	AP-9		Private land, cultivated	
12.	Siwa	5	Maluwa	AP-11		Private land, cultivated	
13.	Siwa	4	Siwa	AP-12		Private land, cultivated	
14.	Siwa	4	Magar	AP-13		Private land, cultivated	
15.	Siwa	4	Srimantar	AP-14		Private land, cultivated	
16.	Siwa	4	Khamladin	AP-15		Private land, cultivated	
17.	Nawamidanda	4	Patalebhanjyang	AP-16		Private land, cultivated	
18.	Imbung	8	Hongue	AP-17		Private land, cultivated	
19.	Imbung	1	Panitankyadanda, Sisuwa	AP-18		Private land, cultivated	
20.	Pauwasartap	2	Sartap	AP-19		Private land, cultivated	
21.	Chilinden	2	Lukuwa	AP-20		Private land, cultivated	
22.	Chilinden	3	Kamerudanda, Deurali	AP-21		Government land, barren	
<b>ILAM DISTRICT (26 AT, 1 PS/S)</b>							

1. This SIA report focuses largely on the socio-economic situation in the population of the 25 project-affected VDCs. For further district level data, see the IEE Report §6.3.1: Project Districts.

23.	Phakphok			--		(transmission lines pass over VDC, but no angle tower)	
24.	Chamaita	9	Simsara	AP-22		Private land, cultivated	
25.	Ektappa			--		(transmission lines pass over VDC, but no angle tower)	
26.	Mangalbare	5	Sabjung	AP-23		Private land, cultivated	
27.	Mangalbare	2	Dandagaun	AP-24		Private land, cultivated	
28.	Mangalbare	4	Surkedanda, Panitar	AP-25		Government land, other	National Tea Development Board
29.	Siddhithumka	?	Buddhachowk, Kalsing	AP-26		Private land, cultivated	
30.	Siddhithumpka	4	Khandrung, Panchami	AP-27		Private land, cultivated	
31.	Siddhithumpka	3	Chuligaun	AP-28		Government forest	
32.	Sangarumba			--		(transmission lines pass over VDC, but no angle tower)	
33.	Soyak	7	Nawamidanda	AP-29		Private land, cultivated	
34.	Soyak	7	Dhode	AP-30		Private land, cultivated	
35.	Soyak	9	Bikramdanda, Sirkot	AP-I 5		Private land, cultivated	
36.	Soyak	6	Tamakipa, Bahana	AP-I 6		Private land, cultivated	
37.	Chisapani	9	Lamudanda, Borung	AP-I 7		Private land, cultivated	
38.	Chisapani	9	Karkidanda	AP-I 8		Private land, barren	
39.	Danawari	9	Hangrayo, Bhalukhop	AP-I 9		Private land, cultivated	
40.	Danawari	9	Hatikharka	AP-I 10		Private land, barren	
41.	Mahamai	5	Tamakhe	AP-I 11		Private land, cultivated	
42.	Mahamai	5	Sanguri	AP-42		Private land, cultivated	
43.	Mahamai	5	Sanguri	AP-43		Community Forest	
44.	Bajho			--		(transmission lines pass over VDC, but no angle tower)	
45.	Chulachuli	5	Beteni	AP-44		Government land, barren	
46.	Chulachuli	5	Beteni	AP-45		Government forest	
47.	Chulachuli	5	Sarkitar	AP-46		Private land, cultivated	
48.	Chulachuli	4	Budhikhola	AP-D6		Private land, cultivated	
49.	Chulachuli	3	Barhagothe, Siran	AP-D5		Private land, cultivated	
50.	Soyak	1	Balase	AP-I 3		Private land, cultivated	
51.	Chisapani	4	Rangapani	AP-I 2		Government land, barren	
52.	<b>Godak</b>	<b>3</b>	<b>Setuwabesi</b>		✓	<b>Government land, barren</b>	<b>PS/S has no AP number</b>
53.	Godak	3	Danawaribesi, Bhandaribesi	AP-I 1		Private land, cultivated	
54.	<b>JHAPA DISTRICT (5 AT, 1 PS/S)</b>						
55.	Lakhanpur	3	Ratuwa Mai	AP-D4		Government land, barren	
56.	Lakhanpur	1	Rangathko Tuppa	AP-D3		Government land, barren	
57.	Lakhanpur	1	Rangathko Tuppa	AP-D2		Government land, barren	
58.	Lakhanpur	1	Geuriva	AP-D1		Government land, barren	
59.	Lakhanpur	1	Pathibharachowk,	AP-D0		Government land, barren	
60.	<b>Lakhanpur</b>	<b>1</b>	<b>Damak</b>		✓	<b>Government land, barren</b>	<b>PS/S has no AP number</b>

Source: NEA

All three Power Sub-Stations are located on government land (barren), but the Angle Towers are sited on a variety of land types (Table 4.1). See Table 4.2 for the total number of Angle Towers by land type for each district.

**Table 4.2 Number of Angle Towers by Land Type by District**

Land Type	Terathum	Panchthar	Ilam	Jhapa	Totals
• Private land, cultivated	1	15	18	--	<b>34</b>
• Private land, barren	--	--	2	--	<b>2</b>
• Community forest	--	--	1	--	<b>1</b>
• Government forest	--	--	2	--	<b>2</b>
• Government land, barren	--	4	2	5	<b>11</b>
• Government land, other	--	--	1	--	<b>1</b>
<b>Totals</b>	<b>1</b>	<b>19</b>	<b>26</b>	<b>5</b>	<b>51</b>

Source: NEA

## 4. 2 Population

The Initial Environmental Examination (IEE), corroborated by the findings of this SIA Report, indicate that the 25 project VDCs through which the transmission lines pass have a total population of 168,747 (13% of the total population of the four districts), based on the 2001 census. The average household size is 5.34, with a male:female ratio of 1:1.02 (49.40% male to 50.60% female) (Ref. **Table 4.3**)

**Table 4.3 Demographic Characteristics of the Project Districts**

District	Jhapa	Ilam	Panchthar	Terhathum	Total of Project Districts
Total Population	688,109	282,806	202,056	113,111	1,286,082
Male Population	341,675	142,434	99,042	54,932	638,083
Female Population	346,434	140,372	103,014	58,179	647,999
Male : Female ratio	1.01	0.99	1.04	1.06	1.02
No. of Households	137,301	54,565	37,260	20,682	249,808
Average Household Size	5.01	5.18	5.42	5.47	5.15
Area in sq. Km.	1,606	1,703	1,241	679	4,550
Population Density Person/sq.km.	428	166	163	167	283

Source: CBS, 2001

About 40% of the population of the project-affected VDCs is below 14 years of age, 54% is between the ages of 14 and 60, and 6% is above 60 years of age (IEE §6.3.2.1: Population).

More than 70 caste and ethnic groups inhabit the project VDCs.<sup>2</sup> The *caste groups* (as distinct from ethnic groups/Indigenous Nationalities) residing in the project VDCs fall into two general categories: (a) Brahmin and Chhetri (the so-called 'advantaged', or 'upper' or 'higher' castes), and (b) Dalit (or artisan castes, the socio-economically 'disadvantaged' or 'vulnerable' groups, sometimes called 'lower' castes).

The Vulnerable Groups, as defined in GON and WB development policy, include both Dalit castes and Women (irrespective of caste or ethnicity). (See Terms and Definitions, above.) The Dalit castes found in the project area are, in order of magnitude, the Kami or Blacksmith caste (3.56%), Damai or Dholi, Tailor caste (1.69%), and Sarki or Leatherworker caste (0.47%). All other Dalits (mostly in the Terai district of Jhapa) account for less than 1% each.

At the district level, the Brahmin and Chhetri castes predominate numerically. When considered together the Brahmin/Chhetri castes total 39.51% of the population of the four districts, but at the level of the project-affected VDCs they only account for 26% of the population. By comparison, the major

2. See 'caste' and 'ethnic group' under Definition of Terms, above. Note: In some reports (including the IEE), the distinction between caste and ethnic groups is sometimes blurred. Following GON and WB policy regarding the identification of and special consideration for Indigenous Peoples, we distinguish clearly between them in this report. (See also IEE §6.3: Socio-Economic Environment, especially Table 6.3.20: Caste/Ethnic Groups in the Project VDCs; IEE Table 6.3.18: Population Distribution in the Project VDCs; and IEE Table 6.3.19: Population of Different Age Group and Sex, Project Affected VDCs.)

indigenous ethnic groups predominate numerically at the VDC level, with an overall 54% of the population.

There are ten *ethnic groups* resident in the four districts of the project. They are defined as Indigenous Nationalities (Adivasi/Janjati). (See Terms and Definitions, above.) Eight are hill ethnic groups, including Limbu, Rai, Tamang and Magar; and two are lowland (Terai) ethnic groups (Rajbansi, Santhal). The more populous ethnic groups are the Limbu, Rai, Tamang and Magar. The smaller groups include Gurung, Majhi, Sunwar, Tharu, and others.<sup>3</sup>

The Muslims resident in the project area account for only 0.02% of the population. They are found in three of the four project-affected districts: Jhapa (6.63% of the district population), Panchthar (0.57%) and Terathum (1.4%). Their percentage within the total population of the four project affected districts is 3.38%.

### 4.3 Community Groups Sample Surveys and Analysis

This section covers three specially targeted populations resident in the Project VDCs which are potentially affected by the KCTL Project: Indigenous Groups (§4.3.1); Vulnerable Groups: Dalit (§4.3.2); and Vulnerable Groups: Women (§4.3.3).

Each section concludes with an Analysis relevant to KCTL Project impact mitigation.

#### 4.3.1 Indigenous Groups (Adivasi/Janjati)

Indigenous Groups in Nepal are known by several interchangeable terms: as ‘Indigenous Peoples’, ‘Indigenous Nationalities’, ‘Ethnic Groups’, and/or as ‘Adivasi/Janajati’.

Taken together all ethnic groups represent slightly over half of the population of the four project districts.

Focus Group Discussions were held with representative groups of seven Indigenous Peoples/Ethnic Groups (Table 4.4).

**Table 4.4: Ethnic Groups and their Populations in the Four Project Districts**

Ethnic Group	Total Population in Project VDCs	Ethnic Group	Total Population in Project VDCs
Limbu	42,925 (24%)	Gurung	1,647 (0.93%)
Rai	7,045 (3.99%)	Majhi	714 (0.40%)
Tamang	10,613 (6%)	Sunwar	1,416 (0.80%)
Magar	29,250 (16.61%)		

Source: Central Bureau of Statistics 2001, Nepal

Within the Project affected VDCs, considering all Ethnic Groups (Indigenous Peoples) a total of 1,428 households were recorded, with a total population of 9,092, of which 4,063 (44.5%) are male and 5,052 (55.5%) are female. The male to female ratio is 1: 1.24 (Annex 4, Table 4.5.)

#### 4.3.1(a) Summary of Findings

In the following summary of findings, a number of significant points are made including factors relating to ethnic identity and cultural heritage and specific or unique identifying cultural markers, their place in the larger society, ethnic group livelihoods and lifestyle (e.g., traditional cultural attributes, and contemporary conditions including group health, education and employment), their relative level of achievement, and perceptions of the project and of issues or needs arising. (For more detailed data by individual group, see Annex 4.)

3. For details, see IEE Table 6.3.20: Caste/Ethnic Groups in the Project VDCs. For comparative district-level data see Table 6.3.3: Ethnic Composition of the Project Districts. Note that the latter table includes some caste groups.

## **(1) Ethnic History, Origins and Identity**

The project districts (Terathum, Panchthar, Ilam and Jhapa) are four among the districts of eastern Nepal. Traditionally, this region of east Nepal (*Arun purba*; lit. 'East of the Arun river') has been known as Limbuwan, literally 'Land of the Limbus' (from which the contemporary Limbuwan political movement takes its name). The Limbu and Rai Indigenous Peoples are often lumped together and called, collectively, the Kiranti ethnic people. (Sometimes Sunwar are included in the list of Kiranti people). The Kirant, or Kiranti, are the true indigenous peoples of eastern Nepal. Other ethnic groups such as Tamang, Magar, and Gurung have migrated into the eastern hills only in recent generations from ancestral homelands farther west in the hill districts of central and western Nepal.

The Limbus of the project VDCs have especially strong self-identity, which is maintained through several local ethnic and cultural groups. Other groups, like the Gurung of Ektappa VDC and the Sunwar of Mangabare VDC are in the process of reclaiming their traditional ethnic and cultural identity.

## **(2) Language and Oral Tradition**

Only a few of the Indigenous Peoples of the project area speak indigenous local languages. Most have no unique language other than Nepali, the national language, which all speaks. The Kiranti ethnic groups (Limbu, Rai, Sunwar) each have their own language written in a unique Kiranti script (e.g., *Yakthumba* or *Kiranti* among the Limbu; *Wantawa* among the Rai; and *Sunwar* among the Sunwar). In addition, some Tamang and Magar speak their own language. In some locales there is a contemporary attempt to revitalize linguistic tradition by introducing it as a subject in school (e.g., Limbu and Rai).

## **(3) Folk Tales, Song and Dance**

Each ethnic group has its own traditional folk tales, songs and dances; with accompanying instruments. Most also practice Pan-Nepali folk music traditions. Indigenous folk music is typically heard during festivals that are unique to each ethnic group, and it is at these times that unique ethnic forms of dress are worn.

## **(4) Festivals**

While all celebrate the Pan-Nepali festivals of Dashain, Diwali (Tihar), Sankranti, and various seasonal or calendrical events, some have their own unique traditional celebrations. Sometimes ethnic names are given to national festivals (e.g., Limbu call Diwali as *Yumasam*). The most popular seasonal festivals are *Ubhauri*, a spring festival prior to the cultivation of the rice crop, and *Udhauri*, a fall harvest festival.

A main value of celebrating traditional festive events is to maintain cultural identity, mutual relationships and social order. In a few instances, locals are attempting to revive ancient and traditional festival events, including the wearing of ethnic costume and the recitation and singing of folk tales and songs (e.g., Gurung of Ektappa VDC, Sunwar of Mangalbare VDC).

## **(5) Religion, Ritual Observances and Sacred Sites**

### **• Religion, ritual occasions and sacred sites**

The ethnic groups practice Hinduism, Buddhism and/or forms of Animism or Shamanism -- sometimes combined in such ways that they are hard to separate. Tamang, and some Magar, for example, are Buddhist and observe the Buddhist New Year (*Lhosar*) and Buddha's Birthday (*Buddha Jayanti*). Limbus and Rais practice local Kiranti religions (*Manghim* or *Mangdhan* to Limbus) which have a strong Nature worship orientation, recognizing sacred ground, stones, trees and water sites. Certain water sites (rivers, ponds) are especially sacred to one or another of the ethnic groups, including the Mai Khola (river) and others. All riversides and river waters are sacred to the Majhi, a fisherman group.

Some sacred sites are quite near the Angle Tower sites, but no AT is sited directly on recognized sacred ground.



- **Funerary practice and burial sites**

Both cremation and burial are practiced, and for some groups there are designated burial grounds, usually in association with a sacred grove or forest. The Limbu, for example, have well known cemeteries where they erect elaborate monuments in memory of the dead. The Majhi, unique among the ethnic groups, bury their dead on the river bank. No Angle Tower is known to be sited on a burial or cremation ground.

## **(6) Life Crisis/Life Cycle Events**

The main life crises events are birth (and accompanying naming ceremonies), marriage (arranged, or love marriage and, in some instances, marriage by an older custom of capture or kidnapping), and death rituals (followed by burial or cremation). The wedding events (*bibaha*) are quite similar to those observed across Nepal, with a wedding party (*janti*), gift giving, and the like, following a patrifocal system (where the bride lives in the groom's house, with his extended family).

## **(7) Other Aspects of Cultural Heritage**

- **Distinct style of dress**

Uniquely distinctive styles of dress, for men and for women, are common, although modern forms of dress have overtaken these traditions (especially among youth). Ethnic dress is typically seen during local cultural events and festival celebrations.

- **Distinctive instruments, tools, ornaments and weaponry**

Most instruments, tools, and ornaments are Pan-Nepali, though in a few instances unique and usually ancient ethnic variations are seen.

## **(8) Socio-Cultural and Political Organizations**

- **Socio-cultural and political associations**

The larger and, therefore, socially more obvious ethnic groups (and settlements) tend to have established socio-cultural organizations for purposes of social cohesion and maintenance of ethnic traditions, and for promoting specific socio-cultural, political, judicial (dispute settlement), economic, sports and entertainment, education, welfare, environment, or development (especially health-associated) agendas (e.g., local youth groups or *Yuva Samuha*, mother's groups or *Aama Samuha*, and others).

The various community-based organizations (CBOs) are useful contact points during project implementation.

- **Involvement in public decision making**

Most of the Janjati households (adult men and women) surveyed are actively involved in one or more organizations, and in community decision-making. (**Annexe 4, Table 4.27**)

## **(9) Land and Natural Resources**

- **Overview**

Private land holdings are the norm. In the past, however, a system of communal tenure known as *Kipat*, was practiced especially among the Limbu of eastern Nepal. In 1947 AD, however, *Kipat* was abolished and *Kipat* landholdings were converted to private holdings.

As elsewhere in Nepal, some local lands are designated as *Guthi*, or religious trust lands. None are known to be associated with Angle Towers on the TL corridor.

Private forest lands are common among the ethnic groups, and are used for a variety of purposes: e.g., fuelwood and fodder collection, building materials, for collection of herbs and ayurvedic and medical plants and wild foods (nuts, berries, tubers, etc.), and for grazing livestock. And, in some communities, there are community forests (*Samudayik Ban*) with participatory Community Forest User Groups (CFUGs).

The vast majority of Angle Towers are sited on private, cultivated land, and secondly on barren government land. Several others are sited on government land and in government forests, and one on community forest land. **See Tables 4.1 and 4.2**, above, for details of Angle Tower and Power Sub-Station locations.

- **Forest**

In most settlements, most households have their own private forest, which makes it relatively easy to collect fuelwood, fodder and timber as and when needed. Those households without private forests can buy from those who do (trees: NRs 5,000 + the tractor to deliver it: NRs 5,000), or they have access to nearby community forest resources. Some forms of natural resource collection from the forests are done seasonally; mostly winter and spring months. Some villagers also use government forests (usually 30 to 60 minutes walk from the village) for the collection of fuelwood, although it is illegal (**Annex 4, Table 4.24**)

- **Animal Grazing**

Most settlements surveyed lack special lands for grazing, but depend heavily on nearby private and/or forest and community forest for this. In most cases they collect the needed fodder and grasses from the forests, and stall feed their livestock. Collection of fodder/grasses from government forest is common, though illegal. (**Annex 4, Table 4.25**)

- **River**

In most settlements located near rivers, the local people use the rivers for transportation, animal watering, washing utensils and clothes, fishing, and swimming. In some locals there is also extraction of sand and stone from the river, which is then sold or used for construction purposes. Some villagers also worship local rivers or streams (e.g., Phakphok khola, Mai khola, Taramai khola, Hongmai khola) and perform ritual activities there, such as bathing and cremation (on the river banks). (**Annex 4, Table 4.26**)

## **(10) Energy Sources**

- **Cooking**

Fuelwood is the major source of energy for cooking, with kerosene and biogas as secondary fuel sources. (**Annex 4, Table 4.14**)

- **Lighting**

Almost 48% of the households surveyed use electricity for lighting, followed by kerosene (32.5%), solar (9%), battery light (almost 9.5%) or wick lamp (*diyoo*) (slightly over 1%) (percentages rounded). Several communities do not have rural electricity, and use solar or other sources for lighting. (**Annex 4, Table 4.15**)

## **(11) Modes of Livelihood**

Agriculture and livestock rearing and foreign employment are the major sources of income for the ethnic group households. A few households are also involved in other occupations, including small business, services, daily wage labor, or fishing.

- **Food Sufficiency**

Although agriculture is the main economic activity among the Indigenous Groups, food production is generally not sufficient for an entire year. Food sufficiency varies greatly among households; at one extreme 39% of the households have food enough only for three months, compared with 37% for six months, 15% for nine months and only 5% for 12 months. The latter depend almost exclusively on unskilled daily wage labor to provide enough food to their households for the entire year.

At the settlement level, out of 19 settlements surveyed six settlements were food sufficient for only 3 months of a year, five settlements for six months, and two for nine months. The situation is dire in some settlements; for example, in the village of Aapdanda, Chisapani VDC (Ilam District), 65% of the households depend on daily wage labor to support their families. (**Annex 4, Table 4.8**)

### **(11) Land Ownership**

The average land ownership status of the Indigenous Ethnic Groups is shown on **Annex 4, Table 4.7**, ranging from 7.42 to 33.16 *ropani* (1 hectare = 19.64 *Ropani*) in the VDCs surveyed. The Janajatis of Pauwasartap and Sangrumba of Panchthar District and Mangalbare of Ilam District have the highest land holdings, while those of Amarpur, Imbung and Bharapa (in Panchthar) and Sangrumba and Banjho (in Ilam) have the lowest average landholding status (among the VDCs surveyed). Some land holdings are less than two *ropani* (0.10 hectare) per household.

### **(12) Literacy, Education and Skill Training**

- **Literacy**

The educational status of Indigenous Groups is quite good. In all VDCs surveyed, the literacy rate is 69.41% (higher than the national average of 54.1%), with illiteracy at 30.64%. (**Annex 4, Table 4.9**).

- **Educational Institutions and Access to Schools**

Most settlements surveyed had schools, but it was determined that the total number of schools is insufficient for the population. In those few settlements with no local schools, or without schools at all levels of education, the school children often have to walk long distances for their further education, ranging from a 30 minute walk up to six hours walk daily. (**Annex 4, Table 4.18 and 4.19**).

### **(13) Employment**

Of the population surveyed, slightly over 2% are formally employed (besides household agriculture and livestock rearing), mostly in government services, or the Nepal Army, police, or as school teachers. Some also work in private offices, in the Indian Army, in NGOs and as health workers. The main reason for such a low incidence of off-farm employment is illiteracy and lack of special skill training.

- **Skill /Training**

Slightly over 3% of the Janajati population possesses skills like sewing, midwifery, knitting, basket making, carpentering, animal raising, electricity, and sericulture. There is a significant lack of opportunity for skill training. The greatest amount of skill training recorded is in knitting and basket making (*nanglo, doko*). Training for these skills is provided by the Gharelu Sana Bikas Kendra (Ilam). Other trainings noted were in sericulture (provided by JICA and UNDP). Villagers, who work in the tea gardens, are trained by the tea garden owners. Those who have participated in one form of training or another are using their skills to supplement their household incomes. (**Annex 4, Table 4.10 and 4.11**).

### **(14) Health and Sanitation**

- **Incidence of Disease**

Gastric ailments including diarrhea, along with back problems, Tuberculosis, cholera, skin allergies, uterine problems (in women), skin allergies, Typhoid, and respiratory diseases are some of the major ailments reported during the field survey. Most of these ailments are related to water or air pollution. Lack of education and awareness of personal hygiene, average to low quality of drinking water, and unhygienic cooking methods are the main causes. (**Annex 4, Table 4.13**).

- **Drinking Water**

Approximately 60% of the households surveyed have access to piped water; other sources include *kuwa* (spring) (c.19%), wells (slightly over 5%) *kholsi* (stream water), or bamboo pipe (c.8%) (all percentages rounded). Piped water means that the village has access to a nearby water tap, or in some instances one tap for an entire community. In most settlements the main water source (*mul pani*) is open and unprotected. As a result, the quality of drinking water ranges from average to poor. During the dry season, many water sources go dry and villagers have to go far to fetch water. Some householders boil their water before drinking, though most drink it directly without treatment (leading to illnesses). Lack of awareness about safe drinking water is a serious problem in the villages. (**Annex 4, Table 4.16**).

- **Sanitation**

Slightly over 70% of the households surveyed have some kind of toilet, while the remainder (almost 30%) defecates in open areas or in the forest. Approximately 51% of households have temporary toilets (pit latrines), while only about 12% have permanent toilets. Thus, the sanitary condition of the settlements surveyed ranges from average to poor. Lack of awareness and financial considerations are the cause of poor sanitation conditions in the communities. (**Annex 4, Table 4.17**)

- **Health institutions**

Two of the communities surveyed have government sub-health posts, and two have full government health posts, both types usually within 15 to 20 minutes walk. From the remaining settlements without health facilities, the residents have to walk from 30 minutes up to six hours to reach help in case of illness or other health emergency. Some residents also use ayurvedic and/or private clinics. Because health posts and private clinics have only minimal facilities, for more serious problems village have to go to the nearest hospital, usually in the district headquarters town (**Annex 4, Table 4.20 and 4.21**)

### **(15) Security and Social Services**

Security and social services are generally lacking in most communities (**Annex 4, Table 4.22**). Thus, when disputes arrive, villagers attempt to resolve them through consensus and/or with the assistance of local political leaders. In case of serious crimes, they must go to the closest security center, in a nearby settlement or to the district police office. (**Annex 4, Table 4.23**). In many communities, the Aama Samuha (the local Women's Association) helps resolve disputes or otherwise assist the women in the population, and in the case of communal problems For security and social services for women, see §4.3.4, below.

### **4.3.1(b) Analysis, by Ethnic Group**

This section addresses three key issues relevant to KCTL Project impact mitigation:

#### **(1) Use of Natural Resources (especially Land and Forest).**

Forest lands in particular are highly utilized in the Project area (a) for the collection and processing/value added of forest resources – i.e., fuelwood, fodder, timber, and non-timber forest products (NTFPs, also known as alternative forest resources) -- as well as (b) for grazing livestock. Some forests, or parts of forests, also have sacred/religious value to nearby residents and communities.

All villagers in the project area make extensive use of forest resources for the purposes noted above. And residents in the lower valleys make extensive use of river/water resources, especially the Majhi fisherfolk. The original indigenous ethnic groups of the eastern hills (Kirat: Rai, Limbu, Sunwar) have a long-standing relation to both land and forests first established under the traditional *kipat* system of communal land tenure. *Kipat* was abolished in 1947 AD, when *kipat* lands were converted to private holdings, but strong sentiment towards land and forest previously under *kipat* is still evident among these ethnic groups.

With the abolishment of *kipat*, other ethnic groups (e.g., Tamang, Magar, Gurung), more recently settled in the eastern hills have gained access to land and forest resources on both a private and/or communal basis (as with Community Forests), and to government forests as well.

Ethnic group dependency on forests, in particular, is high; but not to the exclusion of the caste groups, for all villagers must have access to forest resources to fulfill their economic survival needs for fuelwood and other resources/products of the forest.

The Majhi ethnic group, on the other hand, is focused primarily on riverine resources, as a traditional fisherman group. From observations and discussions during the survey, it is clear that the Majhi are among the most poor and deprived of the seven ethnic groups most prevalent in the Project districts (Table 4.4).

Above all, however, the most severely marginalized and deprived among the residents of the Project area are the poor Dalits (§4.3.2 below), and the very poor of all social groups (caste and ethnic, alike). Therefore, it is important for the Project to note the disparities that occur in the communities over access to and use of natural resources, particularly of the forest. Even where Community Forest User Groups (CFUGs) are functioning, the poorest members of the society (of any ethnicity or caste) are the least likely to participate.

Finally, the burden of collecting and processing of forest resources falls most heavily upon the women of any social group or community. They are the most responsible for gathering fuelwood and fodder, and for collecting and processing medicinal plants and other alternative (non-timber) forest resources. Men, however, are the most responsible for timber extraction from the forests.

Special consideration must be taken by the project in mitigating impacts of transmission lines and towers over or on private and community forest land. And, where project infrastructure impinges on government land and community forest land, the District Forest Office and other local authorities must be closely involved.

### **(2) Economic Livelihood Patterns (especially employment/income structure and sources).**

The basis of the rural economy in the Project area is agriculture, including farmlands for standard crops (rice, millet, maize, etc.), for extensive tea plantations and for lands where cash crops (cardamom, broom grass) and handicraft resources (bamboo) are grown.

The greatest disparity ethnic-wise among the key groups in economic livelihood patterns, employment and income generation are between (a) the more well-off and privileged caste (Brahmin-Chhetri) and ethnic groups (Rai, Limbu, Tamang, Magar, Gurung, etc.) on the one hand, and (b) the poorer, more marginalized castes (especially Dalit) and ethnic (e.g., Majhi) groups on the other.

In terms of social standing, economics, health, education and political involvement, the most vulnerable – Dalits and women – and the poor in general suffer the greatest marginalization. Those from these groups who are most affected by the project (e.g., whose land may be acquired by the Project) should receive the highest attention in terms of mitigation and entitlement. (See the separate report *Social Management and Entitlement Framework* for details.)

### **(3) Special Measures for Livelihood Assistance by the Project**

The special measures to be taken for livelihood assistance by the project are closely related to, and well spelled out in, the separate *Social Management and Entitlement Framework* report. Within that framework, the most seriously Project affected families/households and communities, especially those which are poor and/or otherwise marginalized, should be given the highest priority development assistance. Their participation should be actively solicited and supported by the Project.

Since the poorest members of the society, and the Vulnerable Groups: Dalit and Women, tend to suffer the most in terms of access to natural resources and their ability to make a relatively decent living economically, they should be given some measure of greater attention in terms of livelihood assistance (employment, training, and health and educational services) over other groups. In this regard, the more assistance that can be targeted to Women in the communities, the more of a positive impact it will have on whole families and entire communities (as discussed under §4.3.3, below).

## **4.3.2 Vulnerable Groups: Dalit**

**Dalits** are members of **traditional artisan castes** of Nepal who live typically disadvantaged lives both socially, economically and politically. **Vulnerable Groups** in general (both Dalits and Women) are defined as disadvantaged peoples who are marginalized socially, economically and politically since

ages past by more privileged castes (the erstwhile ‘upper’ or ‘higher’ castes) and by Adivasi/Janajati ethnic groups.

In this report, a representative sample of several hill Dalit groups were contacted by interview and focus group discussion to determine the relative impacts of the KCTL Project on them.

Focus Group Discussions and interviews were held with representatives of the Dalit communities in 9 settlements of the VDCs within the Project area (**Annex 4, Table 4.28**). Dalit castes were not differentiated, and both men and women participated in the discussions and interviews.

### 4.3.2(a) Summary of Findings: Dalits

#### (1) Group History, Origins and Identity

Dalit origins are unclear. They have lived as minority artisans and craftsmen in Nepalese villages under (until recent historic times) traditional patron/client (*jajmani*) relationships linking them in a form of servile dependency to the more dominant Hindu caste and ethnic populations. For the most part, however, those old *jajmani* ties no longer exist, and while many Dalits continue to pursue their inherited artisan occupations (e.g., tailoring, leather working, metal working, and other), many others have taken up occupations such as field labors or in industry. Some have been fortunate to pursue higher education. Most, however, live in poverty and are marginalized socially, economically and politically.

In modern Nepal, caste biases against Dalits are eroding (especially in urban environments), but exist and persist in many of the more conservative rural communities.

#### (2) Language

Mother tongue: Nepali.

#### (3) Education and Literacy

In Nepal’s nationwide attempt to achieve ‘Education for All’ many Dalit families have been encouraged to place their children in local government schools. Nonetheless, the majority of Dalits continue to suffer educational marginalization. In the majority of Dalit communities surveyed, educational attainment to the Primary level ranges around 23% average, though in two unique communities they were found to be as high as 45% and 60% of the population. Secondary school level education and the successful attainment of a School Leaving Certificate (SLC) are both extremely low (averaging less than 3% of the Dalit population). No Dalits in the survey had attained graduate (Bachelor level) or post-graduate (Masters level) degrees (**Annex 4, Table 4.32**).

Coupled with their low levels of educational attainment, the Dalits suffer seriously low literacy rates compared with ‘higher’ castes and with Nepal’s ethnic groups (Indigenous Peoples).<sup>4</sup> Dalits fall well below the average Nepal national adult literacy rate (which by one estimate is only 54.1%),<sup>5</sup> although in recent years the education of Dalit children has begun to change affect this statistic in their favor. In the communities surveyed for this study, Dalit literacy ranged from as low as 9%, 10% and 15% to as high as almost 40%, with two communities registering encouragingly (but unusually) high rates of 75% and 99% literacy, respectively. (**Annex 4, Table 4.32**).

#### (4) Economics and Livelihood

The Dalits communities are, generally, the poorest residents (as a group) in the Project area. They own the least land, and have the poorest access to most resources. And those who are the most

4. Dahal, D. R., ‘Social composition of the population’, pp.87-135 in *Population Monograph of Nepal*, v.1, Kathmandu: Central Bureau of Statistics (2003).

5. MOES, *Analytical Description of Educational Indicators of Nepal 1997-2001*, Kathmandu: Ministry of Education and Sports (2004); and see: MOES, *National Curriculum Framework for School Education in Nepal*, Sanathimi (Bhaktapur), Nepal: Ministry of Education and Sports, Curriculum Development Center (2005).

Project-affected (by giving up land to the Project, for example) are the most likely to suffer the most negative impacts. Most Dalits survive on marginal land holdings coupled with wage labor work. Their traditional artisan and craft works have suffered in recent decades from changes in the overall regional and national economies, and they no longer maintain longstanding patron-client relationships. And, because they have the lowest literacy rates and least educational attainment, their livelihoods are precarious at best. **See (Annex 4, Table 4.32)** for further data on their economic situation.

#### **(5) Religious Observances and Festivals**

Dalit religious predilections are the same as for Hindu caste groups in the communities. Dalits are invited to festivals and other ceremonies of other castes, but are placed and treated separately. According to tradition, some Dalit castes are expected to play musical instruments at certain life-cycle events of the higher castes (e.g., weddings).

#### **(6) Cultural Heritage and Livelihoods**

Dalit livelihood choices are traditionally inherited. In recent years, however, many Dalits have taken advantage of educational opportunities and of a gradual reduction of socio-cultural bias against them (as so-called 'lower' castes) and have been able to raise their standard of living and lifestyles. Some have entered politics, although they remain in the extreme minority. As a group, Dalits are classed as a 'Vulnerable group' because of their continued marginalization in socio-cultural, economic and political spheres.

#### **(7) Use of Land and Natural Resources**

Unlike some Ethnic Groups (e.g., the Kirat groups of Limbu and Rai), no natural resources (e.g., communal lands of forest) are specifically associated with Dalit communities. Their land holdings are typically small or nil; hence, they tend to exist in a condition of extreme poverty and economic deprivation and marginalization, generally lacking the means to pursue educational and/or political opportunities.

Within the rural communities, some Dalits, participate as members (and sometimes as officers) in Community Forest User Groups (CFUGs), though their involvement is often minimal, given their low economic level which does not allow for much time for contribution to or participation in civic or public affairs. Some, like Blacksmiths who still practice the metal working trades depend upon the forests for resources such as like charcoal for their forge fires and hardwood for tool handles, but they have considerable difficulty in the face of discriminatory rules and regulations governing the harvesting of forest resources.

#### **(8) Dalits in the Public Arena/Involvement in Public Decision Making**

For many of the reasons already noted, above, most Dalits cannot afford the time or other investment in social programs and village development activities. In some instances, their participation is neither expected, appreciated nor taken seriously by 'higher' caste villagers (especially in the most conservative rural areas), and they are not often very well informed about development works in the villages. Note, however, that modest improvement has been indicated in some communities where the Maoist insurgency has encouraged socio-economic changes in favor of the poor and marginalized, including Dalits.

#### **(9) General Perception and Understanding of Local Development Needs/Issues**

Dalits are generally aware that the KCTLP may be able to help with community and personal self-improvement through targeted activities and programs such as (but not limited to) these:

- poverty alleviation programs,
- social development and welfare programs,
- skill training,
- livestock training programs,
- agriculture development programs, and
- fisheries training (in riverside Dalit

- literacy education, communities).

#### **(10) Attitudes Toward the Project and Perceived Likely Impacts**

Dalits generally see the KCTLTP as important for encouraging national development, and as a possible source of employment during project implementation.

#### **(11) Expectations from the Project**

Besides the sorts of community and self-development initiatives notes above (#8), the Dalits interviewed hope to see the following special considerations for their homes and communities:

- providing electricity connections,
- adequate compensation for land, trees, and other assets acquired by the project,
- employment during implementation, and
- provision of health and sanitation programs in their communities.

#### **(12) Identification of Needs and Priority within Scope of the Project**

- Employment of Dalit young adults on transmission line construction and installation works, along with
- training related to electricity maintenance.

#### **(13) Modes of Implementation of Social Development Program**

The Dalits indicate that they wish to see implementation of social programs through local community-based organizations, targeted to the Dalit communities, with open and transparent public hearings and discussion, and regular monitoring and evaluation of the results.

### **4.3.2(b) Analysis of Findings: Dalits**

The Dalits in the Project area are, by and large, among the poorest and most marginalized peoples in terms of social, educational/literacy, economic and political measures. They have very little voice in local affairs, and many in the society (of so-called 'higher' social standings, both caste and ethnic groups) tend not to expect much from them. Most Dalits are poor to very poor, with little access to viable land holdings; many depend upon daily wage labor for their livelihoods. Most use local resources (forests) only marginally, and most are not involved very deeply in local resource management. Their educational attainment is low, and literacy rates are (with a few notable exceptions) quite low, compared with the national average.

Compared with Indigenous Peoples and other Vulnerable peoples (Women), the Dalits are in the most difficult, underprivileged and destitute position, and need special attention re: mitigation of Project affects and entitlements.

### **4.3.3 Vulnerable Groups: Women**

Focus Group Discussions (FGDs) and interviews were held with a total of 25 Women's groups across the 25 VDCs of the Project Area (see Table 3.1 in §3.4: SIA Fieldwork, above). Women's responses to the issues discussed reveal much more than the position of women in the society. Given women's crucial and sustaining roles in both household and community life and welfare, their responses say a great deal about the conditions and quality of life of entire communities -- women, men and children, alike. The situations of women in the communities surveyed provide a snapshot of generalities applicable to the social, economic and political circumstances of the entire Project area.

While the summary below shows certain indicators, see the tables (**Table 4.51 to 4.74**) in Annex 4 for more information.

#### **4.3.3 (a) Summary of Findings: Women**

##### **(1) Background**



*The majority of the poor everywhere... are women and children.  
The 'rules' that result in impoverishing and exploiting women are made by men...*<sup>6</sup>

The marginalization and vulnerability of women and girls is deeply engrained in traditional caste society; somewhat less so among the ethnic groups. The double truism quoted above has encouraged the national government and development aid agencies and NGOs to seek to bring women to a position of equity with men, and most aid agencies, programs and projects have policies that promote Gender Equity in Development.

The World Bank's policy on gender issues is clear and progressive. It argues for a three-party strategy for promoting gender equality:

- "Reform institutions to establish equal rights and opportunities for women and men. Reforming legal and economic institutions is necessary to establish a foundation of equal rights and equal opportunities for women and men... Legal reforms are needed, particularly in family law, protection against violence, land rights, employment, and political rights.
- "Foster economic development to strengthen incentives for more equal resources and participation. Rising income and falling poverty levels tend to reduce gender disparities in education, health, and nutrition.
- "Take active measures to redress persistent disparities in command over resources and political voice..."<sup>7</sup>

Among some of the issues that the World Bank policy on women raises are these (for example):

- "Unequal rights and poor socioeconomic status relative to men limit women's ability to influence decisions in their communities and at the national level. Women remain vastly underrepresented in national and local assemblies... [and in] ministerial positions...
- "Gender inequalities impose large costs on the health and well-being of men, women and children, and affect their ability to improve their lives. In addition to these personal costs, gender inequalities reduce productivity in farms and enterprises and thus lower prospects for reducing poverty and ensuring economic progress...
- "Gender disparities embodied in institutions, household decisions, and economic policy stand in the way of transforming relations between females and males..."<sup>8</sup>

There are many other issues associated with Gender Equity and Inequity, but these few set the stage for the discussion of women as a Vulnerable Group in Nepal.

## **(2) Social Setting, General Conditions**

There are generally more women and girls in the communities of the KCTL Project area than there are men and boys. The ratio within the 25 VDCs of the Project area ranges from 41.9% to 70% women, with the majority of communities having over 50% women (average 54.7%). The main reason given for the higher number of women/girls over men/boys in many communities is that when couples bear girl children they keep having children in an attempt to assure that one or more male offspring are born.

The average of women at marriage in the communities surveyed is 19 years, and child bearing begins at age 20.

The issue of women's security and of social services focused on women is important to their overall well being. The data show, however, that security services (e.g., police, in the case of violence against women) are minimal in the communities surveyed. Police posts are generally located at some distance from most villages, and are not easily accessible in an emergency; hence many

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6. An editorial observation on the World Bank policy, in WIN, 2001, 'Women and Development: World Bank Policy Research', *Women's International Network News*; [http://findarticles.com/p/articles/mi\\_m2872/is\\_2\\_27/ai\\_75099770/](http://findarticles.com/p/articles/mi_m2872/is_2_27/ai_75099770/).

7. <http://go.worldbank.org/CQTQVF1U90>.

8. WIN News, 2001 (*op.cit.*).

responses record that “security services are very poor.” The time it takes to reach emergency social services (police) is 30 minutes to 4 hours (average time: 2.1 hours).

The women in many communities have formed *Aama Samuha* or Mother’s Associations. These associations perform a number of social and economic functions, but also deal with emergencies involving women and/or violence against women and, in some instances, with girl trafficking.

The women surveyed indicate a great need for more programs to raise awareness of women’s issues and needs in the communities.

### **(3) Education and Literacy**

The average rate of literacy among women in the communities surveyed is estimated at a low 27% (compared to the national average of persons over the age of six of 54.1%). Literacy is lowest amongst the very poor, especially among of the Vulnerable Dalit women. Overall, from the women surveyed we find those who can read and write and have achieved at least a primary school level of education averages 37.6% (ranging from 20% to 75%). At higher levels, the rate of women’s achievement drops significantly: lower secondary education: 14%; secondary education: 9%; SLC pass: slightly less than 8%; intermediate level education: less than 3.5%; graduate level (Bachelors degree): slightly over ½ of 1%; and post graduate level (Masters degree): only 0.09% (most figures rounded). Note that Dalit women rates are the lowest in all communities surveyed.

### **(4) Economics, Livelihood**

Women-headed households are not uncommon, ranging between 2% and 50% of households, with an average of 15% in the Project area. Two major reasons given for women-headed households are said to be (a) the death of the husband, and (b) the husband is away pursuing foreign employment. In a few cases, a third reason (c) was also noted: that the husband lives elsewhere pursuing agricultural employment.

Among women-headed households, some women also own land and other assets that are normally registered in the name of the man. The incidence, however, is low, averaging less than 3% of all land holdings within the communities surveyed registered to women.

Women play a significant role in the livelihood pursuits of their families. The major economic pursuit is agriculture and livestock. But the women surveyed indicate that their household economies are also influenced by foreign employment by men in the families and by family members in government service. For many if not most families in the Project area, agriculture alone is insufficient to meet annual household needs. Therefore, secondary sources of income area also pursued, in many cases by women. They include various forms of daily wage labor, fishing (among Majhi ethnic fisherfolk), cattle rearing, government service, small business (shops, tea stalls, eateries), tea plantation work, and other cash cropping (e.g., raising cardamom and/or broom grass), and making/selling handicrafts made from bamboo.

Special skills of women in the communities include sewing and knitting, midwifery, wax-making, and mat and basket weaving. Some women have had special training in teaching; sewing; improved agricultural techniques and livestock rearing; business, entrepreneurship and village banking; tea farming; sericulture; and in the collection and processing of various alternative forest resources (i.e., NTFPs). Very few local women, however, have had opportunities to be trained in health services, government services, or private office work, and only a few have been trained in school teaching.

### **(5) Public Health and Sanitation**

Women’s health issues are serious points of discussion in the communities. All across the Project area women indicated that they suffer from such health concerns and illnesses as: • women’s reproductive health problems including uterine issues (a common complaint), • diarrhea and other gastric complaints, • bone ailments, • common cold and other respiratory ailments, • Typhoid and other fevers, • Jaundice, • high blood pressure, and • skin allergies.

Access to safe drinking water for women and their families is a serious issue. The majority of households in the communities surveyed have piped water (64%), or access to spring water (14%) or to other sources (wells, river water, etc.) (5%) (percentages rounded). Water quality is said to be about average, yet the incidence of water borne diseases in the rainy season is a common complaint. During the dry season there is a general shortage of water from some sources.

Concerning sanitation less than 12% of households report having permanent toilets, while the use of pit latrines is as high as 60%. Open defecation in forests, bushes and near rivers is 27% (rounded figures). The women noted that the construction of permanent toilets is expensive, and beyond the means of many families. Poor sanitary conditions increases the incidence of communicable disease, especially among children.

Most villages in the Project area do not have local health facilities/health posts. Access to public health facilities including hospitals often requires a walk or ride (on poor roads) of from 30 minutes up to three hours distant, to facilities in larger communities or at district centers.

#### **(6) Energy Consumption for Cooking and Lighting**

House energy consumptions for both cooking and lighting is an important indicator of family and community well-being and of pressure on natural resources. Cooking is largely done using fuelwood, some kerosene, but very little use of alternative sources (e.g., LPG gas or biogas), largely due to (a) the nearness of forests for fuelwood, and (b) the high cost of the alternative sources. Hence, villagers -- i.e., the women, who do the cooking -- rely heavily on the forest. Some use of fuel-efficient wood-burning stoves was noted, but it is not widespread.

For lighting, the options are electricity (in 42% of the households surveyed), kerosene (20%), solar (13%) battery powered lights (*tuki*) (14%), and wick lamps (*djiyo*) (11%). The use of the non-electrical lighting sources is largely due to excessive electricity load-shedding (especially in winter). These communities are not exempt from the nation's widespread shortage of hydro electricity.

#### **(7) Use of Land and Natural Resources**

The forest resources near the communities surveyed are largely used as sources of fuelwood (for cooking), fodder (for livestock), and medicinals, herbs and other edibles (for sale and/or for local consumption). For these resources, the villagers (largely women and children) access private forests, community forests and government forests, sometimes up to several hours distant (but usually within 20 to 90 minutes walk).

The forests are also used for livestock grazing. Dependency of households on forest grazing and fodder collection is high.

#### **(8) Women in the Public Arena/Involvement in Public Decision Making**

Women's involvement in the public sphere is noted all communities surveyed (with least participation noted among Dalits), but mostly through local women's groups called *Aama Samuha* (Mothers Associations, described above). Because women are heavily involved in the domestic sphere (raising and education of children, family planning, marriage of younger family members, buying and selling of properties, religious activities, and agricultural and other work) their involvement in public affairs is necessarily limited.

In some discussions, women noted that their involvement in public affairs was far less than men, and that their voice remains largely unheard in decision making, but that their labor is demanded in the development works. As some pointed out, without women's participation in decisions affecting neighborhood and community life and development, the necessary work would not get done.

Some women are member of community forest user groups (CFUGs). And a number of women indicated active involvement in community religious (including church) activities.

#### **(9) Attitudes Toward the Project and Perceived Likely Impacts**

Attitudes are generally positive, though some respondents noted that while the Project has been known about for a long time, formal meetings to discuss it have not happened before. The Project should begin soon, they say. It will be good for infrastructure development, especially for increasing the electricity supply as a basic need. In a few locales, “it seems the Project doesn’t have any serious impact” (yet).

#### **(10) Expectations from the Project, Needs and Priorities**

Villagers envision that priority should be given to Project-affected families and communities, such as:

- continuous rural electricity supply
- towers should be placed for least impact on land and communities
- improved public health facilities and services, and awareness training
- construction or improvement of safe drinking water supply
- installation of improved, smokeless cook stoves (*safa chulo*)
- Repair and/or construction of rural roadways, including paving
- adult literacy and adult education training, especially for women
- training in herbal medicine, medicinal plants processing and their use
- training in improved agriculture/vegetable farming and livestock management
- awareness training re: possible impact of transmission lines, and training on mitigation in case of accidents
- new employment opportunities
- transmission lines should avoid dense population settlements
- improved sanitation facilities, toilets, etc., and awareness training
- improvement to schools; new buildings, etc., and child education programs
- bridge construction (e.g., over Purba khola to improve access llam to Jitpure Bazaar)
- Geuria river embankment development to ward off future floods (Jhapa District)
- general awareness programs re: women’s issues, including annual health check-ups
- women-focused skill development training for indoor/home-based works (sewing, knitting, photocopy machines, health worker) for livelihoods enhancement; including cottage industries
- adequate compensation for land acquisition and other impact on local people, families, and communities

#### **(11) Modes of Implementation of Social Development Program**

Project implementation, and monitoring and evaluation, should be consultative, participatory and transparent, with public hearings, and run through local NGOs/CBOs for maximum local involvement. Women’s participation should be equal to men as it is especially valuable (“[women] are more reliable than men”). Some felt that government agencies are adequate to implement social development programs, but should be corruption free.

Grievance mechanisms should be through public hearings, and results in writing.

Monitoring and evaluation should be continuous, with follow-through.

#### **4.3.3(b) Analysis of Findings: Women**

Women’s views on development associated with the KCTL Project are important and insightful in that they widely and intimately reflect family life and community circumstances. Development activities should be designed to actively and meaningfully involve women in decision-making, implementation, monitoring and evaluation. In this way whole families and communities will benefit.

Local NGOs and CBOs such as Mother’s Groups and Community Forestry Groups should be engaged in development initiatives.

Dalit women, and the poorest families in each community (of any caste or ethnicity), especially among the Project-affected families, are the least likely to become involved in community decision-making and development because of their combined social and economic situations. They are,

however, among the most likely to be impacted by the Project. Hence, special efforts are needed to address their needs and involve them in meaningful ways.

## **4.4 Anticipated Impacts and Mitigation Measures**

During the course of the SIA field research, the following attitudes, perceptions and expectations from the KCTL Project were expressed by the respondents during focus group discussions and interviews. They help form the background for the following Table 4.4: Matrix of Socio-Economic Conditions of Households and Communities in Project Affected VDCs.

### **4.4.1 Attitudes and Perceptions towards the KCTL Project**

In addition to the discussion below, the summary data directly above (§4.3.4) from the women surveyed, are especially insightful vis-à-vis attitudes and local perceptions towards the Project.

#### **(a) General Perceptions and Expectations**

Both the Kabeli hydroelectric and transmission line projects generally enjoy positive perceptions among the residents of the project affected VDCs, based on the focus group discussions held in the settlements. It is seen to have significant benefits forthcoming, both locally and nationally.

During almost every FGD, village participants/discussants listed benefits that they expect to accrue from the project(s), including most prominently the following.

- local rural electrification where it does not already exist, and enhancements to the system where it does;
- local employment on the project;
- skill enhancement training (for employment and livelihood improvement);
- introduction and training in enhanced/modern agriculture and livestock rearing practices (including hybrid seeds, and animal health improvement);
- rehabilitation and improved maintenance of rural roads;
- improved health facilities (esp. safe drinking water, and sanitation);
- enhanced educational awareness, facilities and opportunities; and
- enhanced conditions for indigenous, women's and other vulnerable groups development.

#### **(b) Modes of implementation of social development program**

From most discussions it is clear that the local people wish to see the involvement of CBOs, NGOs and national experts in the implementation of the benefits listed above. Community participation in decision-making, implementation, monitoring and evaluation are considered most valuable.

#### **(c) Mitigation measures and modes of rehabilitation or restoration**

In cases where compensation is due, the locals wish to see it in the following forms:

- Cash compensation;
- Provision of land to project affected families (PAFs); and/or
- Resettlement and rehabilitation for those PAFs displaced by the project (if any).

#### **(d) Grievance and Hearing Mechanisms**

The grievance and hearing mechanisms should be both transparent, and documented in writing.

#### **(e) Monitoring and Evaluation**

M&E should occur often, be transparent, and participatory.

#### **4.4.2 Socio-Economic and Environmental Conditions, Impacts and Mitigation Measures in Project VDCs**

Based on the SIA field research, through discussion groups, interviews and observations, and the knowledge of similar transmission line projects in Nepal, a list of existing conditions, potential impacts (direct and indirect) and of proposed mitigation measures has been developed. The findings are encapsulated in Table 4.4, below.

These findings are based on representative data collected from caste and ethnic groups, including Indigenous Groups (Adivasi/Janjati), and Vulnerable Groups (Dalit and Women), and are combined here as a general viewpoint.

**Table 4.5: Matrix of Socio-Economic Conditions, Impacts and Mitigation Measures in Project Affected VDCs**

	EXISTING CONDITIONS	ANTICIPATED IMPACTS	SUGGESTED MITIGATION MEASURES	NOTES
<b>1. ECONOMY / EMPLOYMENT</b>				
	<ul style="list-style-type: none"> <li>• Basic economy &amp; primary employment: Agriculture &amp; livestock rearing, combined with foreign employment with remittances (esp. in Gulf states) &amp; some military/police &amp; government service work. Agriculture includes standard field crops (rice, millet, corn, wheat) &amp; cash crops (esp. tea plantation &amp; <i>alaichi</i> (cardamom)).</li> <li>• Secondary employment includes daily wage labor work, carpentry, masonry, &amp; small business.</li> <li>• Dalit most seriously deprived economically.</li> <li>• Women-headed households account for approximately 15% of landholders where ATs are sited.</li> </ul>	<ul style="list-style-type: none"> <li>• Construction camp &amp; workers impact on local economy, services &amp; infrastructure.</li> <li>• Economic loss &amp; quality of life changes due to land use changes (see also below, #2).</li> </ul>	<ul style="list-style-type: none"> <li>• As far as possible employment on KCTLP will be given to local residents.</li> <li>• Skill training necessary for employment on KCTLP to be provided.</li> <li>• Women's upliftment programs to be implemented, esp. on micro-credit, village banking &amp; savings, &amp; small business operation.</li> <li>• Local employment be maximized so that impacts to local infrastructure &amp; services will be minimised.</li> <li>• Construction camps to be provisioned with separate consumer good shops to the outside workforce for consumer products which are imported to the local area.</li> <li>• Priority given to vegetables &amp; other daily consumer products grown locally for construction camp consumption.</li> <li>• The camps will be provisioned with separate communication services &amp; transport services.</li> <li>• The camps will not use the local water supply facilities but will establish own water supply system.</li> </ul>	<p>Other than a few jobs on KCTLP, little disruption to basic employment is anticipated. Previous lack of opportunity in skills training reported.</p> <p>Cash crops have proven to have great potential for raising hhs economies. Ethnic Rai informants report significant economic income from cash cropping. Data incomplete, but same anticipated for Limbu &amp; other ethnic groups.</p> <p>Close linkage here with Food Sufficiency/ Insufficiency situation under #3, below.</p>
<b>2. LAND USE, CROP LAND &amp; FOREST LAND</b>				
	<ul style="list-style-type: none"> <li>• With rare exception, land holdings are not large; many are insufficient to meet annual household needs for food production.</li> <li>• Over half the land for ATs is private, cultivated; much larger percentage under TL right-of-way between ATs.</li> </ul>	<ul style="list-style-type: none"> <li>• Project acquisition of private agricultural lands at the 34 Angle Towers (ATs).</li> <li>• Minor land use change under TLs &amp; ROW restrictions.</li> <li>• Minor built structures removal.</li> <li>• Minor discomfort to affected hhs.</li> <li>• Need to transport salvaged</li> </ul>	<ul style="list-style-type: none"> <li>• Compensation for permanently occupied lands at transmission right of way (2.821 ha), &amp; at PS/S (4.324 ha).</li> <li>• Partial compensation for temporary damage to crops/cropland &amp; for rentals during TL construction period.</li> <li>• No change in agricultural land use along Transmission Line (TL) right-of-way (ROW) between ATs.</li> <li>• Compensation to ROW restriction (89.27 ha).</li> </ul>	<ul style="list-style-type: none"> <li>• No population displacement or resettlement anticipated.</li> <li>• Need to engage locals as participants in rehabilitation program planning &amp; implementation, through NGOs &amp; CBOs.</li> </ul>

	<ul style="list-style-type: none"> <li>materials.</li> <li>• ROW restrictions on community forest lands (cut-back due to tree height restrictions); hence loss of fodder, timber, &amp; fuelwood trees.</li> <li>• Damage to standing crops along ROW during TL construction period.</li> <li>• Temporary land rental during construction.</li> </ul>	<ul style="list-style-type: none"> <li>• Compensation to built structures (23 structures).</li> <li>• Discomfort allowance to affected residential households (discomfort &amp; rentals).</li> <li>• Transportation allowances for the salvaged materials.</li> <li>• Rehabilitation programs to the seriously affected households (to be defined in cooperation &amp; with participation of local groups).</li> <li>• Compensation to community forest user groups for ROW tree height restrictions.</li> <li>• Direct Impacts on Community Forest/ Leasehold Forest Resources</li> <li>• Loss of standing trees on CF land to be compensated as per the norms of Forest Guidelines (2006) on the acquisition of forest land.</li> <li>• CFUG members to be given NTFP enhancement training programs &amp; encouraged to develop NTFP plantation along TL ROW.</li> <li>• Interested CFUG members to be given job opportunities in the compensatory afforestation programs, as per Forest Guidelines (2006)</li> </ul>	
<b>3. FOOD SUFFICIENCY</b>			
<ul style="list-style-type: none"> <li>• Insufficient food supply from hhs agriculture is the norm. Only 5% Hhs interviewed report food sufficiency for 12 months. 15% for 9 mos. 37% for 6 mos. 39% for 3 mos.</li> </ul>	<ul style="list-style-type: none"> <li>• Impact of outside construction crew influx on local food supplies.</li> </ul>	<ul style="list-style-type: none"> <li>• Compensation for loss of fruit trees &amp; agricultural production under ATs &amp; for potential restrictions under TL ROW.</li> <li>• Training in improved agricultural &amp; livestock rearing practices, &amp; in cash crop raising.</li> </ul>	Close linkage with Economy/Employment (#1), above.
<b>4. ENVIRONMENT</b>			
<ul style="list-style-type: none"> <li>• Local environment largely undisturbed government &amp; community forests.</li> <li>• Little concern for environmental issues due to low impact on the environment by local communities.</li> </ul>	<ul style="list-style-type: none"> <li>• Telephone &amp; electric lines disruption under TL during TL construction.</li> <li>• Potential environmental impacts with influx of outside workforce for TL construction.</li> </ul>	<ul style="list-style-type: none"> <li>• Telephone &amp; electricity user communities will be given prior notification regarding disruption of services. Services to be re-established as soon as the completion of the cable stringing.</li> <li>• Clearance above the telephone &amp; electrical distribution lines will be maintained in all areas.</li> </ul>	



		<ul style="list-style-type: none"> <li>• Impact on communal/ environmental resources base from construction activities.</li> <li>• Impacts to local area aesthetics &amp; tourism.</li> </ul>	<ul style="list-style-type: none"> <li>• The TL alignment avoids as far as possible community resources under the ROW.</li> <li>• Outside construction workforce will be discouraged from bringing family members to the local are (to lessen stress on environmental &amp; social services).</li> <li>• Construction camps will not use fuelwood for daily food cooking; rather, LPG or kerosiene for cooking will be provided by the project at subsidized rates.</li> <li>• Construction camps sites will be located as much as possible outside public lands or community lands.</li> <li>• Any loss to the communal resources by the project will be compensated to the communities at the market price.</li> <li>• Placement of material stockpile in closed areas not obstructing the general visual aesthetics of the stockpile area</li> <li>• Foundation excavation works be limited to the required amount &amp; placement of the material &amp; spoil in environmentally friendly manner not disturbing the local visual aesthetics</li> <li>• Stockpile the cleared vegetation (timber &amp; biomass) in specific areas not disturbing the local visual aesthetics.</li> <li>• Plantation of high growing local tree species on either side of the ROW to hide the pylons &amp; the cables at a safe distance from the cable &amp; pylon structure outside the ROW.</li> </ul>	
<b>5. HEALTH &amp; SANITATION</b>				
<ul style="list-style-type: none"> <li>• Serious community &amp; personal health &amp; sanitation issues.</li> <li>• Below average access to safe drinking water.</li> <li>• Below average access/use of &amp; Adequate &amp; safe sanitation (toilets)</li> </ul>	<ul style="list-style-type: none"> <li>• Potential disruption to drinking water systems (natural water sources &amp; piped water).</li> </ul>	<ul style="list-style-type: none"> <li>• Care to be taken not to damage water systems during TL construction.</li> <li>• Compensation for any damaged water systems (natural sources &amp; pipes).</li> <li>• TL construction workforce to be instructed &amp; monitored regularly re: occupational health risks</li> </ul>	<p>A general of awareness of basic health issues &amp; preventative measures reported in most communities.</p>	



		devices.	along ROW with instructions to safeguard populace from electrical & electromagnetic fields.	
<b>6. EDUCATION</b>				
	<ul style="list-style-type: none"> <li>• Level of educational attainment generally not high: 29% illiterate. 37% completed only primary school. 12% lower secondary. 7.5% higher secondary. Only 5.4% SLC level. Above that: negligible.</li> <li>• Educational facilities &amp; opportunities insufficient or lacking.</li> <li>• Health education lacking.</li> </ul>	<ul style="list-style-type: none"> <li>• Minimal impacts anticipated.</li> </ul>	<ul style="list-style-type: none"> <li>• Assist in upgrading local schools &amp; teacher education training, especially to most seriously affected hhs.</li> </ul>	In the short run, job skills training & enhancements to agriculture & livestock rearing practices may be more important in quickly enhancing/improving the local economy.
<b>7. SOCIAL, CULTURAL, LEGAL</b>				
	<ul style="list-style-type: none"> <li>• Traditional socio-cultural systems exist.</li> <li>• Standard rural legal &amp; security situation, largely without police presence.</li> </ul>	<ul style="list-style-type: none"> <li>• Indirect Impacts on Law &amp; Order Situation.</li> <li>• Indirect impacts on local tradition &amp; culture.</li> </ul>	<ul style="list-style-type: none"> <li>• The local law &amp; order authorities will be regularly informed about the construction planning &amp; sites of construction works &amp; activities.</li> <li>• The construction workforce will be regularly instructed to respect local people &amp; their traditions &amp; culture &amp; to avoid conflict with local people.</li> <li>• The construction workforce will be regularly instructed to remain within the camps in between 7pm to 6am daily unless required for construction works.</li> <li>• Avoid entering into private premises without informing &amp; without the permission of the property owners.</li> <li>• Contractors &amp; workforce to be instructed to honor local culture &amp; traditions, &amp; to behave with civility &amp; respect with local population.</li> </ul>	

