



Social Action Plan (SAP) of Kabeli-A Hydroelectric Project

MAY 2011

Submitted to
WORLD BANK

Submitted by
KABELI ENERGY LIMITED
Buddha Nagar, Kathmandu, Nepal

Prepared by
HYDRO CONSULT PRIVATE LIMITED
Buddha Nagar, Kathmandu, Nepal

Table of contents

	Page No.
EXECUTIVE SUMMARY	2
1 PROJECT INTRODUCTION	11
1.1 Project proponent.....	11
1.2 Organization Responsible for Preparing the Report.....	11
1.3 Project Location.....	11
1.4 Project features.....	12
1.4.1 Headworks.....	12
1.4.2 Waterways.....	13
1.4.3 Powerhouse and tail race.....	13
1.4.4 Access road	13
2 PLANNING APPROACH AND METHODS	16
2.1 Literature review.....	16
2.2 Field research	16
2.2.1 Household questionnaire survey.....	16
2.2.2 Cadastral survey	17
2.2.3 Assets inventory	17
2.2.4 Focus Group Discussion.....	17
2.2.5 Formal and informal consultations and discussions	18
2.2.6 Field observation	18
2.2.7 Workshop/interaction	18
2.3 Preparation of SAP.....	18
2.4 Study team.....	19
3 DESCRIPTION OF THE SOCIO-CULTURAL ENVIRONMENT	21
3.1 The project VDCs.....	21
3.1.1 Settlement patterns	21
3.1.2 Demography	22
3.1.3 Literacy	23
3.1.4 Economy, livelihood patterns and practices	24
3.1.5 Cultural background of the project VDCs.....	24
3.2 Profile of surveyed households	25
3.2.1 Demography	25
3.2.2 Literacy and education.....	27
3.2.3 Religion and language.....	27

3.2.4 House-ownership and kind of house occupied.....	28
3.2.5 Household economy and livelihood practices.....	29
3.2.6 Access to facilities	35
3.3 Development and challenges	38
3.3.1 National development priority.....	38
3.3.2 Local development and challenges	39
3.4 Adivasi Janajati	41
3.4.1 Definition of <i>Adivasi Janajati</i> (Indigenous Peoples)	41
3.4.2 National legal and policy framework	42
3.4.3 International legal and policy framework	43
3.4.4 Socioeconomic status of <i>Adivasi Janajati</i>	43
3.4.5 <i>Adivasi Janajatis</i> in the project VDC.....	44
3.5 Gender, disadvantaged and vulnerable groups	49
3.5.1 Vulnerable communities in Nepal	49
3.5.2 Vulnerable communities in the project area.....	49
4 PROJECT IMPACT AND IMPACT ANALYSIS	53
4.1 Project impact zones	53
4.2 Project adverse impacts	54
4.2.1 Impact on land.....	54
4.2.2 Possible loss of access to NTFP.....	55
4.2.3 Impacts on fishing	55
4.2.4 Impact on physical cultural resources	55
4.2.5 Construction related/contractor operation related impacts.....	56
4.2.6 Impacts on <i>Adivasi Janajati</i> and disadvantaged groups.....	56
4.3 Impact analysis.....	56
4.3.1 Impact on land.....	56
4.3.2 Possible impact on access to NTFP	59
4.3.3 Impacts on fishing downstream.....	59
4.3.4 Impact on physical cultural resources	59
4.3.5 Construction related/contractor operation related impacts.....	59
4.3.6 Impact on <i>Adivasi Janajati</i> and disadvantaged groups.....	59
5 POLICY FRAMEWORK	62
5.1 Summary of legal framework.....	62
5.1.1 Government of Nepal laws and policies on Land Resettlement.....	62
5.1.2 GoN Policies on Indigenous Peoples and other Vulnerable Communities.....	64
5.1.3 World Bank Policy Guidelines	66
5.2 Project policy framework.....	67

5.3	Project entitlement matrix	68
6	RESETTLEMENT COMPENSATION AND LIVELIHOOD ASSISTANCE PLAN	73
7	VULNERABLE COMMUNITY DEVELOPMENT PLAN	78
7.1	Defining vulnerable communities.....	78
7.2	Vulnerable communities in the project area.....	78
7.3	Relevant policies on Indigenous Peoples and other vulnerable communities.....	78
7.4	Generic measures for enhancement of vulnerable group	79
7.4.1	Agriculture support program	79
7.4.2	Skills training related to construction works.....	80
7.4.3	Preferential employment strategy	80
7.4.4	Drinking water, health and sanitation support programs.....	80
7.4.5	Capacity building programs.....	81
7.5	Specific measures for vulnerable community development	81
7.5.1	Women focused programs	81
7.5.2	Indigenous People focused programs	82
7.6	Strategy for vulnerable people's participation	82
8	HEALTH AND SAFETY MEASURES.....	85
8.1	Staff health and safety measures	85
8.1.1	Occupational health and safety measures	85
8.1.2	Health facilities.....	85
8.1.3	Drinking water and sanitation facilities and solid waste management.....	85
8.1.4	Awareness raising programs and trainings	86
8.2	Public health measures	86
8.2.1	Health facilities.....	86
8.2.2	Drinking water supply and sanitation	86
8.2.3	Awareness raising programs and trainings	86
9	BENEFIT SHARING MEASURES	88
9.1	Resettlement and rehabilitation actions.....	88
9.2	Project level measures	88
9.2.1	Access roads.....	89
9.2.2	Health facilities.....	89
9.2.3	Employment.....	89
9.3	CSR activities	89
9.4	Support to local development.....	90
9.4.1	Strengthening of local economy.....	90
9.4.2	Drinking water	91

9.4.3 Rural electrification.....	91
9.4.4 Training and financial services	91
9.4.5 Education.....	91
9.5 National level benefits	91
10 PUBLIC CONSULTATIONS	93
10.1 Introduction	93
10.2 Objectives	93
10.3 Consultations during planning stage.....	93
10.3.1 Stages and levels of consultation	93
10.3.2 Tools for consultation.....	93
10.4 Consultation strategy during implementation.....	95
10.4.1 First round of consultations.....	95
10.4.2 Second round of consultations	95
10.4.3 Third round of consultations.....	95
10.4.4 Continued Participation.....	95
11 COMMUNICATION STRATEGY	98
11.1 Project stakeholders identification.....	98
11.2 Mechanisms for stakeholders' participation.....	98
11.3 Communication tools.....	99
11.4 Information discloser and dissemination	99
11.5 Communications activities	99
12 IMPLEMENTATION ARRANGEMENTS	102
12.1 Institution arrangement.....	102
12.1.1 Central level arrangement.....	103
12.1.2 Project level arrangement	103
12.2 Grievance redress mechanism	104
13 MONITORING AND EVALUATION	107
13.1 Internal.....	107
13.2 External.....	107
13.3 Panel of expert.....	109
13.4 Implementation schedule.....	109
14 COST AND BUDGET	112
14.1 Cost estimation.....	112
14.1.1 Permanent loss.....	112
14.1.2 Cost estimated for mitigation measures of loss of access to NTFPs	112
14.1.3 Cost estimated for mitigation measures for loss of fishing.....	113
14.1.4 Cost estimated for mitigation measures of socio-cultural impacts.....	113

14.1.5 Construction related impacts.....	113
14.1.6 Cost estimated for capacity and skill development programs to PAFs and affected communities.....	113
14.1.7 Cost estimation for VCDP	113
14.1.8 Cost estimation for community development initiatives.....	113
14.1.9 Cost estimation for monitoring and evaluation	113
14.1.10 Total cost estimation.....	114
BIBLIOGRAPHY	115

List of Annexes	No. of pages
ANNEX A PROJECT LOCATION MAP	1
ANNEX B PROJECT LAYOUT MAP	1
ANNEX C SALIENT FEATURES OF THE PROJECT.....	4
ANNEX D SUMMARY OF FOCUS GROUP DISCUSSIONS.....	36
ANNEX E LIST OF PARTICIPATIONS IN CUNSULTATIONS/FGDS	12

List of tables

Page No.

Table 2-1: Study team for SA/SAP.....	19
Table 3-1: Demographic characteristics of the project affected VDCs	22
Table 3-2: Age structure of the population of the project affected VDCs	23
Table 3-3: Literacy population (6 years and above) of project VDCs.....	23
Table 3-4: Population by mother tongue and religion of the project VDCs	24
Table 3-5: Demographic features of surveyed households.....	25
Table 3-6: Educational status of population (six years and above).....	27
Table 3-7: Households by religion and mother tongue	27
Table 3-8: Type of house by ethnicity	28
Table 3-9: Surveyed households by occupation.....	29
Table 3-10: Households by land holding sizes	29
Table 3-11: Total landholding by caste/ethnic groups in surveyed households	30
Table 3-12: Rented-in and Rented-out land by cast and ethnicity.....	30
Table 3-13: Livestock ownership by caste/ethnic groups.....	31
Table 3-14: Average annual household income by caste/ethnic groups.....	31
Table 3-15: Annual expenses on different items by caste/ethnic groups.....	32
Table 3-16: Households by source of loan by caste/ ethnicity.....	33
Table 3-17: Households food sufficiency by caste/ ethnicity	33
Table 3-18: Distribution of migrants of surveyed HHs by destination and VDC.....	34
Table 3-19: Household population by skill and caste/ethnicity	34
Table 3-20: Desired/preferred skill trainings by households	35
Table 3-21: Affected HHs by sources of drinking water and caste/ethnicity.....	35
Table 3-22: Households by toilet facility and caste/ethnicity.....	36
Table 3-23: Households by source of lighting by caste/ ethnicity.....	36
Table 3-24: Households by mode of communication and VDC	37
Table 3-25: Households by occurrence of diseases during previous year	37
Table 3-26: Households by health seeking behaviors and VDC	37
Table 3-27: Households preference over maternity health care by VDC	38
Table 3-28: Classification of <i>Adivasi Janajatis</i>	43
Table 3-29: Indigenous Population in the project VDCs, 2001	44
Table 3-30: Cultural and archaeological sites of <i>Adivasi Janajati</i> located in the project VDCs	48
Table 4-1: Settlements in the direct impact area and associated impact.....	53
Table 4-2: Settlements in the indirect impact area	54
Table 4-3: Land required for construction of the project (in ha).....	54
Table 4-4: Land loss percentage of Affected Households	57
Table 4-5: Land loss by land type	57

Table 4-6: Land loss percentage, employment, and income structure of the affected households due to permanent land acquisition.....	58
Table 5-1: Key Policy/Law/Regulations of Nepal	62
Table 5-2: Entitlement matrix for KAHEP	69
Table 6-1: Resettlement compensation and livelihood assistance plan of KAHEP	73
Table 11-1: Public Consultation and Information Dissemination for KAHEP	100
Table 13-1: SAP monitoring framework.....	108
Table 14-1: Estimated cost for private land	112
Table 14-2: Estimated cost of loss of trees in Private land	112
Table 14-3: Cost estimated for mitigation measures of possible loss of access to NTFPs.....	113
Table 14-4: Total cost estimation for SAP implementation.....	114

List of photos	Page No.
Photo 1: Proposed headworks area	12
Photo 2: Proposed powerhouse location at right bank of Piple <i>Khola</i> near the confluence with Tamor River	13
Photo 3: Kabeli Bazar on the left bank of Kabeli River	21
Photo 4: Jgidanda downstream settlement.....	21
Photo 5: A <i>Kachhi Majhi</i> House in Majhitar, Pinasi.....	28
Photo 6: A <i>Rai</i> woman fetching water from natural well (<i>Kuwa</i>).....	36
Photo 7: A <i>Dhami</i> in Majhitar, Pinasi.....	38
Photo 8: <i>Limbu Adivasi Janajaiti</i>	45
Photo 9: <i>Tamang Adivasi Janajati</i>	46
Photo 10: <i>Srijanga</i> script	47
Photo 11: Interaction with <i>Dalits</i> at Amarpur-4, Bhaluchowk.....	50

Lists of chart	Page No.
Chart 3-1: Family structure of the surveyed households.....	26
Chart 3-2: Household strategy to food sufficiency.....	34

List of figure	Page No.
Figure 12-1: Organization chart for planning and implementation of EMP and SAP	103

List of abbreviations and acronyms

AP	Affected Person
ARI	Acute Respiratory Infections
BOOT	Build, Own, Operate and Transfer
BP	Bank Procedure
BPC	Butwal Power Company
CA	Constitutional Assembly
CBD	Convention on Biological Diversity
CBO	Community Based Organizations
CBS	Central Bureau of Statistics
CCV	Community Consensus Valuation
CDMA	Code Division Multiple Access
CDO	Chief District Officer
CF	Community Forest
CFC	Compensation Fixation Committee
CFUG	Community Forest User Group
cm	Centimeter
CPR	Common Property Resource
DDC	District Development Committee
DFO	District Forest Office
dia	Diameter
DoED	Department of Electricity
DWSS	Drinking Water Supply Schemes
EDR	Eastern Development Region
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPA	Environmental Protection Act
EPR	Environmental Protection Rules
FGD	Focus Group Discussion
FPIC	Free Prior Informed Consent
GAD	Gender Approach to Development
GESI	Gender Equality and Social Inclusion
GoN	Government of Nepal
GRC	Grievances Redress Committee
GRO	Grievance Redress Officer
Ha	Hectare

HCPL	Hydro Consult Private Limited
HH	Household
hrs	Hours
IEE	Initial Environmental Examination
ILO	International Labour Organization
IP	Indigenous People
ISRSC	Informal Sector Research and Study Centre
KAHEP	Kabeli-A Hydroelectric Project
KEL	Kabeli Energy Limited
kg	Kilogram
km	Kilometer
kV	Kilovolt
kW	Kilowatt
kWh	Kilowatt hour
LAA	Land Acquisition Act
LACFC	Land Acquisition and Compensation Fixation Committee
LF	Leasehold Forest
LFUG	Leasehold Forest User Group
LGCDP	Local Government and Community Development Program
LRA	Land Reform Act
LRO	Land Revenue Office
m	Meter
m/s	Meter per second
m ²	Square meter
m ³ /s	Cubic meter per second
masl	Meter above sea level
MoLD	Ministry of Local Development
MoEn	Ministry of Energy
MT	Metric ton
MW	Mega Watt
NCDN	National Committee for Development of Nationalities
NEA	Nepal Electricity Authority
NEFIN	Nepal Federation of Indigenous Nationalities
NFDIN	National Foundation for the Development of Indigenous Nationalities
NGO	Non-Governmental Organization
NHRC	National Human Rights Commission
NPC	National Planning Commission
NTFP	Non Timber Forest Product

OP	Operational Policy
PAF	Project Affected Family
PCPD	Public Consultation, Participation and Disclosure
PDA	Project Development Agreement
PPE	Personal Protective Equipments
PRO	Project Relation Office
PRoR	Peaking Run-of-the-river
PRSP	Poverty Reduction Strategy Paper
R&R	Resettlement and Rehabilitation
SA	Social Assessments
SAP	Social Action Plan
SCP	Safe Construction Practices
SIA	Social Impact Assessment
SLC	School Leaving Certificate
STD	Sexually Transmitted Disease
ToR	Terms of Reference
UNDP	United Nations Development Program
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
VCDP	Vulnerable Community Development Plan
VDC	Village Development Committees
WID	Women in Development
WN	Ward Number

Definition of the Nepali terms

<i>Abal</i>	In Nepal, land are classified into four major categories viz. <i>Abal</i> , <i>Doyam</i> , <i>Sim</i> and <i>Chahar</i> according to the productivity of the land. According to this classification <i>Abal</i> land is the best quality of land with good and moist soil. The entire plot can be irrigated by means of irrigation canal or other means and where water used once stay for three to four days.
<i>Adivasi Janajati</i>	A tribe or community having its own territory, own mother tongue, traditional rites and customs, distinct cultural identity, distinct social structure and written or unwritten history (NFDIN Act 2001). It is further divided into Hill <i>Adivasi Janajati</i> and Terai <i>Adivasi Janajati</i> .
<i>Ardha-pakki Ghar</i>	A semi-permanent house. Central Bureau of Statistics (CBS) Nepal defines it as a category of house where either the wall or the roof is constructed with permanent construction materials and other is constructed with temporary materials.
<i>Aushi</i>	New moon day.
<i>Bari</i>	These are the un-irrigated lands where the cultivation of rain-fed crops like maize, millet and pulses is done.
<i>Brahmin (Bahun)</i>	Highest caste of the four major castes of Hindu caste system.
<i>Chahar</i>	Land which cannot be irrigated by means of irrigation channels and is dependent upon rainfall and water does not stay at all.
<i>Chhetri (Kshatriyas)</i>	The second highest caste of the four major castes of Hindu caste system.
<i>Dalit</i>	<i>Dalit</i> is a self-designation for a group of people traditionally regarded as untouchables. The <i>Dalits</i> are a mixed population which are divided into two major groups, i.e. Hill cast <i>Dalits</i> (<i>Kami</i> , <i>Sarki</i> , <i>Damin</i> , <i>Gaine</i> and <i>Badi</i>) and Terai cast <i>Dalits</i> (<i>Tamata</i> , <i>Khatwe</i> , <i>Cahamar</i> , <i>Dushad</i> , <i>Mushaha</i> , <i>Batar</i> , <i>Dhobi</i> , <i>Dom</i> and <i>Halkhor</i>).
<i>Dhami/Jhakri</i>	Traditional shamanic healers who are supposed to exort evil spirit from the body of sick people.
<i>Doyam</i>	Good quality land with moist soil. Only 3/4th of the plot can be irrigated by means of irrigation canal or other means and water used once, stays on the land for 2-3 days.
<i>Ganga</i>	A Hindu holly River.
<i>Ghat</i>	Hindu cremation place.
<i>Guthi</i>	Refers to the land allocated for the purpose of covering certain religious, charitable and cultural or social function.
<i>Halliya</i>	Agricultural bounded labourer who works on another person's (<i>Jamindar</i>) land. It is officially abolished but still exists in the western part of Nepal.

<i>Hat Bazar</i>	Temporary markets that are opened on the particular week or days or occasions (national and local festivals).
<i>Hill Adivasi Janajati</i>	<i>Hill Janajati</i> includes 24 caste groups, which are <i>Bankariya, Hayu, Kusbadiya, Kusunda, Lepcha, Surel, Baramu, Thami (Thangmi), Chepang, Bhujel, Dura, Pahari, Phree, Sunuwar, Tamang, Chantyal, Gurung (Tamu), Jirel, Limbu (Yakthumba), Magar, Rai, Yakkha, Hyolmo</i> and <i>Newar</i> .
<i>Jamindars</i>	The local landlords.
<i>Kacchi Ghar</i>	A temporary house. CBS Nepal define it as a type of house that is made with non durable materials like wooden flake, bamboo, straw/thatch, mud. Unbaked bricks are mainly used in walls and roof.
<i>Kharbari</i>	A marginal land that is used to grow grasses and fodder trees.
<i>Khet</i>	These are the irrigated lands, where paddy is the primary crop.
<i>Kipat</i>	Traditional land tenure system. In this system, a <i>Kipat</i> owner derives rights by virtue of his membership in a particular ethnic group, and/or its location in a particular area.
<i>Kipatiya</i>	Individual or community holding <i>Kipat</i> .
<i>Kirat</i>	<i>Kirat</i> or <i>Kirati</i> (also spelled as <i>Kirant</i> and <i>Kiranti</i>) are indigenous ethnic groups of the Himalayas (mid-hills).
<i>Kirat religion</i>	Religion by <i>Kirat</i> people which is based on shamanism.
<i>Kuse Aushi</i>	A religious festival that falls in new moon day of 5 th month, <i>Bhadra</i> (August/September) of the Nepali Year. This festival is observed in the commemoration and respect of the Father.
<i>Makar Sakaranti</i>	A religious festival that falls on the first day of the 10 th month i.e. <i>Magh</i> (15 th January) of the Nepali Year. <i>Sankranti</i> is the Sanskrit word in Nepalese and Indian Astrology and refers to the transmigration of the Sun from one <i>Rashi</i> (sign of the zodiac) to another. <i>Makar Sankaranti</i> refers to the transition of the Sun from <i>Dhanu Rashi</i> (Sagittarius) to <i>Makar Rashi</i> (Capricorn).
<i>Matatirtha Aushi</i>	Festivals that falls on the new moon day of the first month i.e. <i>Baisakh</i> (April/May), of the Nepali Year. This festival is observed in the commemoration and respect of the mother.
<i>Mechi Zone</i>	One of the 14 zones of Nepal that lies in the Eastern part of the country.
<i>Muri</i>	Measurement of unit of the volume of crops.
<i>Nuwagi</i>	A rituals performed during the harvesting of new crops.
<i>Pakho</i>	A generic term used to denote the <i>Bari</i> where maize and millet is cultivated.

<i>Pakki Ghar</i>	A permanent house. According to CBS Nepal, it refers to a house with walls and roof made of permanent construction material like cement, bonded bricks, concrete, stone, slate tile and galvanized sheet.
<i>Parbati</i>	Hindu Goddesses.
<i>Pati</i>	Rest house made for the traveller especially near the religious and cultural places.
<i>Raikar</i>	Land on which taxes are payable to the government and are listed in the official records. Rights on <i>Raikar</i> land are limited to occupancy rights, vis-a'-vis state. However, these rights can be freely sold or transmitted to any person. It is similar to ownership in practice
<i>Ropani</i>	Commonly used unit of measurement of area of land in the hills of Nepal. One <i>Ropani</i> is equals to 5476 square feet or 508.72 square meters.
<i>Sanasti and Dhuli Puja</i>	A rituals performed by the <i>Majhi</i> community.
<i>Shiva</i>	Hindu God also known as <i>Mahadev</i> .
<i>Sim</i>	Land where only half of the plot can be irrigated by means of irrigation channels or other means and water used once stays for only one day.
<i>Srijanga script</i>	Written script of <i>Kirat</i> language, a branch of Sino-Tibetan language family.
<i>Sudeni</i>	Local midwife.
<i>Tamor Basa</i>	<i>Majhi</i> 's deity worship during <i>Ubhauli</i> .
<i>Terai Adivasi Janajati</i>	<i>Terai Adivasi Janajati</i> includes <i>Kisan</i> , <i>Meche</i> (<i>Bodo</i>), <i>Dhanuk</i> (<i>Rajbansi</i>), <i>Jhangad</i> , <i>Santhal</i> (<i>Satar</i>), <i>Dhimal</i> , <i>Gangai</i> , <i>Rajbansi</i> (<i>Koch</i>), <i>Tajpuriya</i> and <i>Tharu</i> .
<i>Thakurani</i>	<i>Majhi</i> 's deity worship during <i>Ubhauli</i> .
<i>Tukimara</i>	<i>Tukimara</i> is an electronic torch used for lighting.
<i>Ubahuli</i>	Also known as <i>Sakela/Sakewa Ubhauli</i> , a festival celebrated during crop plantation season by the <i>Kirat</i> people of eastern Nepal.
<i>Udyouli</i>	Also known as <i>Sakela/Sakewa Udyouli</i> , a festival celebrated during crop harvesting season by the <i>Kirat</i> people of eastern Nepal.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

I DESCRIPTION OF THE PROJECT

KAHEP is a 37.6 MW peaking run-of-the-river hydropower project on the Kabeli River in Eastern Nepal that forms a natural border between the Panchthar and Taplejung districts. The project area of KAHEP covers four Village Development Committees (VDCs); Amarpur and Panchami of Panchthar district and Thechambu and Nangkholyang of Taplejung district. Hydro Consult Private Limited (HCPL) has carried out the Social Assessment (SA) in accordance with the Nepal Government's statutory framework and World Bank's Policies and Guidelines. On the basis of SA study a Social Action Plan (SAP) report is prepared.

The major project features of the KAHEP are diversion barrage, side intake, settling basin, headrace tunnel, surge shaft, surface penstock and surface powerhouse. The diversion barrage of 14.3 height with provision for ponding will be constructed at 2.5 km upstream of Kabeli Bazaar in Dhuseni village of Amarpur VDC on the left bank and Khudurke of Thechambu VDC on the right bank. The water will be conveyed by 60.2 m long pair tunnels followed by a 4326.8 m long headrace tunnel to a surface powerhouse located adjacent to the Piple Khola on the left bank of the Tamor River.

2 PLANNING APPROACH AND METHODS

Social Action Plan (SAP) has been developed using participatory planning approach which encourages participation and involvement of all key stakeholders in development planning. The process mainly involves: socioeconomic appraisal, needs identification and their development preferences.

The SAP is primarily based on the findings of Social Assessment (SA) Study. The primary data were collected through household questionnaire survey, IP survey, Focused Group Discussion (FGD), in depth interview and consultation meetings with the various stakeholders and field observation. A cadastral survey around the project impacted areas and asset inventories were carried out to identify the status extent and effect of land loss, assessed entitlements, prepare land loss records with cadastral maps and land compensation award paper. Existing policies, legislation and guidelines related to the hydropower development of Nepal and World Bank's policies and guidelines have been reviewed and documented. The Macro level demographic features were collected from secondary data published by the Central Bureau of Statistics (CBS), affected District Development Committee (DDC) and affected Village Development Committees (VDCs).

3 DESCRIPTION OF THE SOCIO-CULTURAL ENVIRONMENT

3.1 Project VDCs

Amarpur and Panchami VDCs of Panchthar district and Thechambu and Nangkholyang VDCs of Taplejung district are the project affected VDCs. Major Project structures like headwork, surge shaft, waterways and powerhouse are located in Amarpur VDC. Population of these project VDCs is 21,098 (48.1% male and 51.88% female) having sex ratio of 1:1.07. Average household size is 5.54. The project VDCs has mixed communities including various caste and ethnicities. These communities reflect a wide range of cultural, linguistic and religious background. *Adivasi Janajati (Limbu, Rai, Tamang, Newar and Majhi)* constitute about 53.38% followed by 39.47% Hindu High Caste (*Brahmin/Chettri*) and 6.13% Dalits (*Damai, Kami and Sarki*). Limbu is the dominant group in all four VDCs. Nepali, Limbu and Bantawa are the major mother languages spoken by the local population. Similarly, Hindu (53.06%), Kirat (37.05%) and Buddhism (9.52%) are the major religions practiced by the local residents. The literacy rate is 49% (55.3% male and 44.7% female). Like the project districts, the overall economic structure of these project VDCs is characterized by a mixture of farm and nonfarm activities.

3.2 Surveyed households

In total 46 households from the impact zone of three project VDCs (Amarpur 30 HHs, Panchami 2 HHs and Thechambu 14 HHs) were taken for detailed socio-economic survey. The total population of the surveyed household is 363 (51.24% male and 48.76% female) with an average household size of 7.89 that is higher than the national and project VDCs average. Majority of the households (62%)

represent joint family structure followed by nuclear (29%) and extended (9%). About 50% of the households follow Kirat religion followed by 34.78% Hindu and 15.22% Buddha religion. The literacy rate of the surveyed household is 84.39%, that is better compared to the average literacy rate of the project VDCs and districts.

About 64.46% of the populations are economically active and most of them are involved in subsistence agriculture. About 43.48% reported agriculture as their only one livelihood source whereas rest of the households are involved in secondary occupations like foreign employment, services and daily wages in addition to agriculture. The average land holding of the surveyed household is 1.59 ha that is higher than the districts (Panchthar 0.81ha and Taplejung 0.89 ha) and national averages (0.80 ha). In terms of caste and ethnicity, land holding is the highest among *Limbu* (1.74 ha/HHs) and the lowest among *Tamang* (1.24 ha/HHs). Of the total cultivated land, about 54.70% is *Khet* (irrigated land) and 45.29% *Bari* (non irrigated land). Paddy, maize, wheat, and pulses are the major crops produced in the area. Households rear cattle, goats, buffalo, pigs, duck and poultry as an important subsistence activity and source of income. The average annual income of these households is NRs. 179,457.14. It is highest (NRs 301,100.00) for *Brahmin* and lowest (NRs. 86,000.00) for *Majhi*. This average household income is better in comparison to the national figure. Even though most of the households are engaged in agriculture, remittance has the highest contribution (44.92%) in the income of these households. The average annual expenditure is NRs. 121,921.00 that is highest for *Brahmin* (NRs. 225,648.00) and lowest for *Majhi* (NRs. 77,476.00). Among the various expenditure sources, people spent highest amount on food (30.52%) followed by clothing, health and education.

The situation of sanitation in the project areas except Pinasi village is satisfactory. About 65.21% households have access to safe drinking water and about 87% of households have toilet facilities. Typhoid, asthma, anemia, blood-pressure, sugar, lung related diseases and worms are the common disease among the surveyed households. Health facilities in the project area consist of only few health post and sub-health posts. Majority of the population prefer *Dhami/Jhankri* (local healers) for treatment. Firewood is the only fuel used for cooking by all the households. Most of the households (87%) have the access to telephone/mobile service provided through various service provider companies. The Mechi Highway is the only one road network that connects the area with respective district headquarters.

3.3 Adivasi Janajati

There is a mixed community including various caste and ethnicities. *Limbu*, *Tamang* and *Majhi* are the *Adivasi Janajati* groups that are directly affected by the project activities. These communities reflect a wide range of cultural, linguistic and religious background. These, *Adivasi Janajati* groups have special relationship with the land and territory. They have their attachment to the natural resources and show a sense of ancestral territory.

3.4 Gender, disadvantaged and vulnerable groups

In the context of KAHEP vulnerability, refers to households and communities that may have considerable difficulties in participating in the livelihood restoration process and benefit sharing due to serious lack of required skills, resources, experience and organization. In the project area Indigenous Peoples, *Dalits* and women are regarded as the disadvantaged and vulnerable groups.

4 PROJECT IMPACT AND IMPACT ANALYSIS

4.1 Project impact zones

The project affected VDCs comprise Amarpur and Panchami of Panchthar district and Thechambu and Nangkholyang of Taplejung district. Based on the potential social and environmental impacts of the project, the project-affected areas are classified as direct impact areas and indirect impact areas. The direct impact area includes the dewater stretch and the areas where most of the construction activities of the project take place and high level of impacts are anticipated. The surrounding area or the indirect impact area consists of areas that will not be directly affected by the construction activities. The area consists of forest areas and settlements within 3 to 4 hours walking distance from the project site.

4.2 Project adverse impacts and impact analysis

4.2.1 Impact on land

The project will acquire 22.508 ha of land on permanent basis. However, KAHEP will not need to displace any family completely. Of the land use types acquired permanently, only 7.678 ha is agricultural land and 1.57 ha is forest land, the rest is the riverine area. The project will acquire 25.21 ha of land on temporary basis. Major part of the temporary land required (15.90 ha) lies in the riverine area being occupied by the project facilities such as quarry, muck disposal etc.

A total 13 households including 6 *Tamang*, 3 *Majhi* and 1 *Limbu*, and 3 *Brahmin/Chettri* HHs will lose 7.678 ha of their land due to permanent acquisition for construction of different project features. The detail of Project Affected Families (PAFs) is presented in following table:

Project Features	SN	Name of owner	Land loss (%)	Family size	Employed member in non-farm activities
Reservoir	1	Khadka Prasad Tamang	18.73	9	1
	2	Dilli Prasad Tamang	4.9	3	1
Permanent Camp at Head works	3	Aas Bahadur Tamang	50.49	8	2
	4	Bhim Bikram Tamang	9.34	17	3
Barrage, Operating Platform, Intake	5	Nanda Kumar Tamang	20.56	5	2
	6	Indra Prasad Tamang	33.33	12	4
Camp site at Powerhouse	7	Dilli Kumar Prasai	70.59	15	4
	8	Padam Prasad Baskota	34.95	7	-
Powerhouse, Switchyard and tailrace	7	Purna Bahadur Majhi	22.30	3	1
	9	Tika Prasad Majhi	13.17	11	-
	10	Shree Lal Majhi	6.48	5	-
	11	Padam Prasad Baskota	34.95	7	-
	12	Krishna Prasad Younghang	1.8	10	1
	13	Brishpati Upreti	-	Absent	-
Total			19.69	105	19

Among the PAFs, most of the households (8 HHs) will lose less than 25% of their land and only two household lose more than 50% of their land. Most of the affected land is low quality land from agricultural point of view. The average landholding size of the total PAFs is 3.02 ha, which is higher than the national average and district average. Out of the total family members (105) of PAFs, 19 members are employed permanently in non-farm sector indicating nonfarm employment rate of 0.875 per household.

4.2.2 Possible loss of access to NTFP

The project is only acquiring 0.59 % (0.33 ha out of total 55.5 ha) forest land of the affected Kabeli Garjite and Thulo Dhuseni Community Forests (CF) along the boundary areas. The acquisition of forest land will not create large-scale fragmentation across the core-forested area and loss of access to NTFP will be negligible.

4.2.3 Impacts on fishing

Diversion of the Kabeli River will reduce the riverine fish resources of the Kabeli from November to June for nearly 4.6 kilometers downstream of dam which might have impact on the occasional and recreational fishing activities. No professional fishermen or fishing groups were identified in the 4.6 km reduce flow zone. Fishing is not an “on the spot job” and fishing can be done either in the Tamor River area downstream (maximum 4.6 km from dam) or upstream areas of the Kabeli during dry season. During the wet monsoon, there will be enough water in the river for fishing.

4.2.1 Impact on physical cultural resources

One *Pati* (resting place) and two ritual sites of *Majhi* at the close proximity of powerhouse site will experience induced pressure during construction phase. Similarly, the Panchyan Shivalaya Temple at Kabeli Bazar and three cremation sites in the dewater zone (4.6 km) will be affected by the reduced flow. Moreover, the reduced flow might have impacts on religious practices and fish species that are used for customary and ritual practices by *Adivasi Janajati* and local population.

The *Pati* at Pinasi Ghat near the powerhouse can be relocated to an alternative site with consensus of communities if it is affected physically by the construction activities of the project. The minimum mean monthly environmental flow will minimize the impacts on the Panchayan Shivalaya Temple, cremations sites and customary use of fish.

4.2.1 Construction related/contractor operation related impacts

During construction, the increased population will create pressure on the local water supply, health, and sanitation facilities, especially around the construction camps. The construction activities may cause accidents and injuries and influx of large number of people with different social and cultural backgrounds and the sudden inflow of cash at the same time may result into social abuse such as alcohol consumption and prostitution (illegal). These impacts may lead to resentment and friction among local residents and the incoming workers that will affect the peace and harmony of the project area.

The construction related impacts mostly occur during the peak construction period when the influx of people from outside is high. The construction related impacts are inevitable and are very difficult to access and find the magnitude.

4.2.1 Impact on *Adivasi Janajati* and disadvantage groups

The project area is a mixed community where *Adivasi/Janjati* and other groups live together. The Indigenous Peoples, women, children and vulnerable groups of the project area will also experience the above-mentioned impacts, and there are no specific impacts especially for this group. However, the magnitude of these impacts for these groups might be higher because of their low marketing skills and lack of professional competencies.

5 POLICY FRAMEWORK

The policy framework is based on the principle that the affected persons will not suffer further from the hardship than they were before the project implemented. A number of legal components directly or indirectly associated with the project are discussed and reviewed as pre the requirements.

An entitlement matrix is developed as per the project resettlement framework which outlines various types of losses as the result of the project and proposes corresponding modes of compensation in accordance with the GoN and in compliance with the World Bank policies. The matrix will apply to all project components entailing resettlement impacts. If additional resettlement impacts are identified during implementation, the entitlement matrix will be updated by including provision of compensation and assistance for the additional impacts by mutual consent between local people (impacted persons) and project authority. All involuntary lands and assets acquisition will be compensated at replacement cost so that the economic and social future of affected persons/families would be better than their condition before the intervention of the project.

6 RESETTLEMENT COMPENSATION AND LIVELIHOOD ASSISTANCE PLAN

Resettlement compensation and livelihood assistance plan designed for KAHEP is based on the entitlement matrix and the KAHEP resettlement policy. This plan meets the requirements of Land Acquisition Act, 2034 (1977), the World Bank policy on Involuntary Resettlement, IP and other relevant acts, policies and guidelines related to hydropower development. KAHEP is committed to ensure that all compensation and resettlement activities associated with the project as a whole are undertaken in compliance with relevant local legislation. KAHEP has developed involuntary resettlement guidelines, as embodied in the policies of the World Bank in its resettlement program to address any gaps/limitations in the local legislation and ensure the proper restoration of affected livelihoods. For this purpose, a set of resettlement principles have been developed to guide project preparation and implementation in the SA report. The Resettlement compensation plan has been prepared based on the general findings of the SA report. Possible impacts, associated losses and corresponding procuring and delivery mechanisms have been presented in the plan.

7 VULNERABLE COMMUNITY DEVELOPMENT PLAN

The Vulnerable Community Development Plan (VCDP) is designed to ensure that vulnerable groups affected by the project are regarded as special interest groups, and that impacts on their livelihoods are minimized and addressed in a sensitive manner. The project area is a mixed type of community and there are no homogenous settlements especially for a particular group. So as part of a mosaic community, people share common approach to their economic and livelihood activities and will experience similar impacts from the project whatever be their caste and ethnicity. No specific impact is identified for the particular caste and ethnic group. Hence, a common package developed for the project impacts will be applicable to all the affected population. However, the magnitude and intensity of these impacts among these groups may vary because of their special social and occupational position.

The study has identified *Adivasi Janjati*, *Dalits* and Women Headed household as the vulnerable and disadvantage groups for the project area. Among the total 13 PAFs 10 *Adivasi Janjati* households (six *Tamang*, three *Majhi* and one *Limbu*) will lose their lands due to project intervention. However, no *Dalit* and women headed household will be directly affected directly by the project.

The VCDP includes generic and specific measures. The generic measures are applicable for all communities of the project areas irrespective of the extent of vulnerability and specific measures are targeted for specific community who are considered as vulnerable in the local context. Community groups, particularly poorer women and vulnerable IPs will be supported through grants and skill training to undertake economically viable and sustainable income/employment generating activities such as livestock, agriculture, crafts, and forestry, trade and service sectors.

The project's SAP includes a strategy for the effective participation and continuous involvement of affected people, including vulnerable groups, throughout the project cycle as an integral part of the VCDP. Core components of this strategy are (a) the representation of affected people/vulnerable groups on SAP implementation structures; (b) a grievance management system for the resolution of grievances and disputes; and (c) monitoring and evaluation mechanisms to track implementation issues. The project will adopt mainstreaming and targeted approaches to maximize the project benefits and opportunities for IPs and vulnerable communities.

8 HEALTH AND SAFETY MEASURES

8.1 Staff health and safety measures

Health centers will be established in the project area for attending health matters of workers and local population during construction phase. A 10 bed hospital will be operated in the project area for attending health matters of workers and local population during construction phase. In addition to this, the contractors will arrange adequate health services to construction workers on the site. Two health clinics will be run throughout the construction at headworks and power site each.

Project contractors in the construction phase and project operator in the operation phase will be made responsible for the occupational health and safety measures for workers and staffs. The construction contractor is responsible for all preparatory works and ensuring drinking water and sanitation facilities required for construction workers before the commencement of work. Health

awareness programs will be organized on a regular basis to provide information or instructions to construction workers on health and safety.

8.2 Public health measures

KAHEP is committed to strengthening health facilities, establishment of new water schemes in the project area. Health centers (hospital and clinics) will be established in the project area for attending health matters during construction phase. After the completion of Project, one health clinic (out of the two that will be in operation during construction), will be handed over to the community for operation. The support to drinking water scheme will have positive impacts on general public health. Health awareness programs will be organized on a regular basis to provide information or instructions to local population on health and safety.

9 BENEFIT SHARING MEASURES

9.1 Resettlement and rehabilitation actions

An adequate compensation package will be worked out for those 13 families (PAFs) whose land will be acquired. Apart from the compensation for the acquired land, they will also receive compensation for crop, tree and other assets loss, if any. In order to help the PAP recover from any loss of livelihood and also in order to help those interested in setting up additional income-generation schemes, the project will also offer training on skill development and income generation activities, scientific agriculture technologies and an improve seed program.

9.2 Project level measures

In addition to the resettlement and compensation package that each directly affected household receive, the project impacted VDCs have also been earmarked for special development assistance. The project has set Community Development Initiatives to be invested over a period of four years in infrastructure and development schemes. The implementation of the project will make available all season motorable roads for people living in remote areas where project is located and hence enhance the transportation facilities for the local people. Under social development program, the project will give high priority for the repair and maintenance of existing health posts, educational institutions and contribute to the establishment of new drinking water schemes in the area. The people from affected area stand to gain benefit in terms of job creation and income generation.

9.3 CSR activities

KEL will conduct various CSR activities as per the KEL CSR policy. The CSR Policy of KEL aims to achieve, consolidate and strengthen Good Corporate Governance including socially and environmentally responsible business practices that balance financial profit with social well being. The CSR commitment of KEL positions its social and environmental consciousness as an integral part of its business plan and its commitment to all its stakeholders including share holders, employees, local communities and the society at large. Apart from the EMP implementation, KEL will develop strategies and put CSR activities in various thematic areas like human rights, transparency and good governance, environment conservation, integrated community development, health education, vocational training, capacity building and disaster management in the project area.

9.4 Support to local development

KAHEP is committed to strengthen health, drinking water and education facilities so that the wider project-affected-population can enjoy improved health care, drinking water and educational services. KAHEP will provide training and financial services to develop and strengthen the existing cooperatives, savings, and credit association in the project area. It is expected that a minimum of 50 % of the unskilled workforce will originate from the affected villages for the construction phase of the project. KAHEP, in partnership with potential local NGOs, will develop skills refresher courses to meet the needs of interested project affected persons. The project will cause an economic spin-off in the project impact area.

The project will provide 37.6 MW of power to the much needed electricity grid of Nepal. This will have large positive impact on the macro-economic growth of the country. As per the Electricity Act,

50% of the royalty that Government of Nepal (GoN) will receive during the 30 year license period is given to the districts where the project is located that will support their development needs.

10 PUBLIC CONSULTATION AND COMMUNICATION STRATEGY

Public consultation at different levels was used as a tool to inform and educate stakeholders about the proposed action both before and after the development decisions were made. The main objective of the consultation process is to minimize negative impact of the project and to maximize the benefits of the project. The SA team performed public consultation activities according to the requirements, situations and demands of the concerned population. The local people were involved from the initial phase of SA study. The consultations were carried out during planning stage and are planned during implementation stage.

The communication strategy is guided by the concepts of Free, Prior and Informed consultation with the affected communities to enable informed participation, leading to lenders' confirmation of broad community support for the project within the affected communities. The feedback from consultations has been, and will continue to be an important component of the planning process leading to the formulation of mitigation measures and compensation plans for project affected communities. The communication strategy involves the identification of project stakeholders, mechanisms for their participation, use of effective communication tools, information discloser and dissemination.

11 IMPLEMENTATION ARRANGEMENTS

As the project authority, KEL will assume overall responsibility for the management procedures as mentioned in the SAP.

11.1 Institutional arrangements

An organizational setup for SAP implementation will be implemented at central and project level. At the central level, the KEL management will be responsible for overall project coordination and management of SAP implementation and budget arrangement. At the project level, Land acquisition and compensation will be carried out by the Land Compensation Fixation Committee (LCFC) that will be established immediately after the site mobilization. KAHEP will design plans and programs that will be implemented and monitored at project level by the Kabeli A Environment and Community Development Unit (KAECDU) after reviewed by Panel of Expert (PoE). The KAHEP will set up offices for KAECDU with required number of experienced staff to implement the planned activities and also monitor them routinely. Community Guidance Committee (CGC) will be formulated with the representatives from the project impact area.

11.2 Grievance redress mechanism

The project company will establish grievance redress mechanism to allow PAPs to appeal any disagreeable decisions, practices and activities arising from compensation for land and assets. Any grievances and objections related to land acquisition and compensation or entitlement will be referred to the Project Grievances Redress Cell and LCFC at local level, Grievances Redress Committee (GRC) at central project level and formal court of appeal system. At field project level, the project company will designate a Grievance Redress Officer (GRO) to receive routine emerging complaints of PAPs and stakeholders with clear responsibility to address their concerns.

12 MONITORING AND EVALUATION

Regular monitoring of SAP implementation will be conducted by the implementing agency as well as by an independent external monitoring and evaluation organization or individual designated by Ministry of Energy (MoEn). For the KAHEP, primary monitoring responsibility will rest with KEL. KEL will establish KAECDU to undertake social and environmental monitoring of the project.

The internal monitoring will be carried out by KAECDU in a regular basis to assess progress against the schedule of action defined in the SAP. An independent external monitoring and evaluation organization or individual designated by MoEn will carry out six-monthly review of the SAP implementation. External monitoring will be conducted during the implementation period to provide

independent verification that timely compensation payment and rehabilitation assistance are provided to those entitled, and that grievances are addressed in a prompt manner to resolve the cases.

A Panel of Experts (POE), comprising an environmentalist and sociologist is established as per the World Bank Operational Policy on Environmental Assessment, Involuntary resettlement of Indigenous people. The Panel will, *inter alia*, review, comment, provide suggestions or recommendations as it deems necessary and appropriate, or as requested by the KEL or its Consultant on any subject it considers vital to the successful completion and approval of the environmental and social studies of the project. The implementation of SAP is targeted for completion at the end of 2014. Furthermore, community related works and resolution of issues will continuously be undertaken until completion of SAP implementation.

13 COST AND BUDGET

The total cost estimated for socio-economic and cultural environmental mitigation measures, enhancement measures and monitoring and evaluation activities is NRs. 41,816,187.00 (NRs. Forty One Million Eight Hundred Sixteen Thousands One Hundred Eighty Seven Only).

CHAPTER I

INTRODUCTION OF THE PROJECT

I PROJECT INTRODUCTION

I.1 Project proponent

Butwal Power Company (BPC), a prominent hydropower company in Nepal, is promoting green energy since 1966. BPC owns and operates 12 MW Jhimruk Hydropower Project and 5.1 MW Andhikhola Hydropower Project. Moreover, BPC has 16.88 % and 60 % of shares in 60 MW Khimti Hydropower Project and 4 MW Khudi Hydropower Project respectively. In addition, BPC is developing several new projects, which are under various stages of development.

KAHEP was opened for global bidding to develop under Build, Own, Operate and Transfer (BOOT) model. A joint venture led by BPC won the bid and formed Kabeli Energy Limited (KEL) to develop the project. KEL, in the status of a Project Company, signed a Project Development Agreement (PDA) with Department of Electricity Development (DoED) for the development of KAHEP on 31 January 2010. The address of the project proponent is given below:

Kabeli Energy Limited (KEL)

Ganga Devi Marga-313, Buddha Nagar

P. O. Box: 11728, Kathmandu, Nepal

Tel: +977-1- 4781776/4784026/ Fax: +977-1- 4780994

Email: kel@bpc.com.np

I.2 Organization Responsible for Preparing the Report

Hydro Consult Private Limited (HCPL), a sister organization of BPC, has conducted the SAP of the KAHEP as a consultant. HCPL (previously BPC Hydroconsult) was established in 1986, which renders its services in many areas such as hydropower, water, irrigation, environment, road, building, landfill, project management etc. Since its inception, the firm was primarily involved in the development of hydropower projects and has long experiences in pre-feasibility study, feasibility study, detail design of hydropower projects including Social Impact Assessment (SIA), Environmental Impact Assessment (EIA) and Initial Environmental Examination (IEE). HCPL is recognized as a leading consulting organization in Nepal and is able to undertake multi-disciplinary projects. The address of the consultant is given below:

Hydro Consult Private Limited (HCPL)

Buddha Nagar

P. O. Box: 14408, Kathmandu, Nepal

Tel: +977-1-4782507/ Fax: +977-1-4785920

Email: service@bpch.com.np

I.3 Project Location

KAHEP is a 37.6 MW peaking run-of-the-river (PRoR) hydroelectric project on the Kabeli River in Eastern Nepal. The Kabeli River forms a natural border between Panchthar and Taplejung districts in the middle mountains of Nepal. Kabeli is a tributary of Tamor River which is one of the major tributaries of Kosi River system. Project area of KAHEP will cover four Village Development Committees (VDCs) namely: Amarpur, and Panchami of Panchthar district, and Thechambu and Nangkholyang of Taplejung district. The headworks of the project is located in the border of Amarpur and Thechambu VDCs. The approximate longitude and latitude of the proposed intake are 87° 44' 56" E and 27° 16' 40" N respectively. The tunnel alignment will pass through Amarpur VDC. The powerhouse is located at Pinasi village of Amarpur VDC at an approximate longitude and latitude of 87° 44' 03"E and 27° 14' 11"N respectively. Geographically, the proposed project lies between 87°45'50" E to 87°40'55" E and 27°17'32" N to 27°13'41" N.

Two construction camps, one at the headworks area near Kabeli bazaar and another one at the powerhouse area on the left bank of Tamor River and nearby the powerhouse area will be constructed. Separate permanent housings will be constructed at Pinasi village. The total length of dewater stretch from headworks to Kabeli-Tamor confluence is about 4.6 km. The left bank of the dewater zone lies in Amarpur VDC, whereas the right bank lies in Thechambu and Nangkholyang VDCs.

The project area is about 800 km away from Kathmandu. It is about 600 km by Tribhuvan, Prithvi and Mahendra Highway up to Birtamod in Jhapa district. Mechi Highway starts from Charali, located 4 km east from Birtamod Bazaar in Jhapa district along Mahendra Highway and reach Kabeli Bazaar (202 km north) on the left bank of the Kabeli River after crossing Phikkal, Ilam, Ranke, Phidim and Gopetar market areas. The 60 km Phidim-Kabeli sector of Mechi Highway is gravel road. Apart from this road, seasonal air services are available from Biratnagar to Taplejung that is further 26 km (gravel road) north from Kabeli Bazaar along the Mechi Highway. Headworks and Powerhouse are the major two sites those are to be connected by motorable roads for the transportation of construction materials. The proposed sites are presently reached by the foot trails only. Foot trail to the headworks starts at Chainage 59+900 km (Mechi Highway) at Kabeli Bazar whereas to the powerhouse starts at Mildanda (Chainage 52+000) near Singhapur village of Mechi Highway section.

1.4 Project features

The project is PRoR type with a proposed installed capacity of 37.6 MW. The gross head and design discharge of the project are estimated at 116.80 m and 37.73 m³/s respectively. Major components of the project are briefly described below. The project location map and layout map are given in ANNEX A and ANNEX B respectively. ANNEX C provides the salient features of the project.

1.4.1 Headworks

The proposed headworks site is located at an elevation of 560 masl, 4.6 km upstream of Kabeli –Tamor confluence (Photo 1). The headworks will consist of a 14.3 m high barrage, two tunnel intakes, approach tunnels, two underground stilling basins, and an access tunnel. The construction of headworks will require the diversion of the river during the construction time. Therefore, a diversion tunnel has been proposed in this design.

The diversion barrage with provision for ponding will be constructed at 2.5 km upstream of Kabeli Bazaar in Dhuseni village of Amarpur VDC on the left bank and Khudurke jungle of Thechambu VDC on the right bank. A 14.3 m high barrage with floor at 561 masl elevation with a provision for ponding will be constructed. The length of the crest at most narrow section is at least 15 m.

The peaking reservoir in this project has been designed for a total of 6 hour peaking at reduced capacity and in two slots of 4 and 2 hours. The live storage of the reservoir is 0.315 million m³. The area of the reservoir for 575.3 masl is 105745 m². Also, the minimum drawdown level has been kept at 570.5 masl which is 9.5 m above the river bed. The area of the reservoir for this level is 69234 m².

Two side intakes will directly feed two approach tunnels. Two tunnel intakes have been designed to draw 115% of the design flow from the reservoir. The intakes are on the left bank of the river and will take off at a favourable orientation with respect to the barrage axis. Two underground settling basins with two hoppers in each have been proposed on the left bank of the Kabeli River. Patented flushing system called S4 will be used. The length of flushing tunnel is 150 m. Access to the settling basin is required for scheduled and emergency monitoring and maintenance. The total length of the



Photo 1: Proposed headworks area

access tunnel is 437 m and the tunnel outlet portal is located on the downstream left bank of the barrage.

1.4.2 Waterways

Inverted D-shaped, concrete lined with 3.2 m of diameter and 60.2 m long converging pair tunnels has been proposed from the outlet of the settling basin to start of Headrace tunnel. A 4326.8 m long D-shaped headrace tunnel of internal diameter of 5.65 m has been proposed to convey the flow after the pair tunnels.

An underground surge shaft is proposed at Pinasi village of Amarpur VDC on the left bank of the Tamor River (Photo 2). The topmost part of the surge shaft will be exposed at ground. Surge shaft of the project is 51.7 m high with 10 m diameter. Outlet portal of the tunnel is proposed in rock outcrop on the right bank slope of the Piple Khola.

The penstock alignment entails 223.3 m long penstock pipe from the tunnel outlet portal to bifurcation, and 27.2 m long pipe from bifurcation to powerhouse. The internal diameter of pipe is 3.55 m with different thicknesses (10 mm-20 mm) at different sections between tunnel outlet portal to bifurcation point and varies thereafter. The penstock starts at the tunnel outlet portal at an elevation of 539.7 masl (centre level of penstock at tunnel outlet portal) and passes through the hill slope and terminates at the connection to the turbine at an elevation of 457.6 masl. The penstock will be buried in trench. Landscaping of the surface will be carried out after backfilling.

1.4.3 Powerhouse and tail race

The proposed powerhouse is semi underground located on almost flat alluvial deposit on the right bank of the Piple Khola (left bank of the Tamor River), Ward number 9 at Amarpur VDC, Panchthar district (Photo 2). The outside dimension of powerhouse is 34.8 m long and 18.6 m wide. Protection of the Piple Khola and some scaling to hill slope is required. The outdoor switchyard with 55.4 m x 38.75 m area is located close to the powerhouse at an elevation of 472.6 masl.

Since the area available for powerhouse is narrow and very close to seasonal tributary the Piple Khola, it is necessary to train the Piple Khola by pushing it on left side. Two long retaining walls are proposed to channelize the Piple Khola longitudinally on both sides. The width of the Piple Khola varies along its longitudinal profile. While it is narrow gully at upper stretch, it widens at lower stretch adjacent to the Tamor River. Likewise, it is necessary to train the Tamor River to prevent powerhouse from flooding even though it lies at safe location on the leeward side of a hill ridge. The earthen bund will be constructed along left bank of the Tamor River from the end of hill ridge-line down to Tamor River to protect powerhouse area from flood.

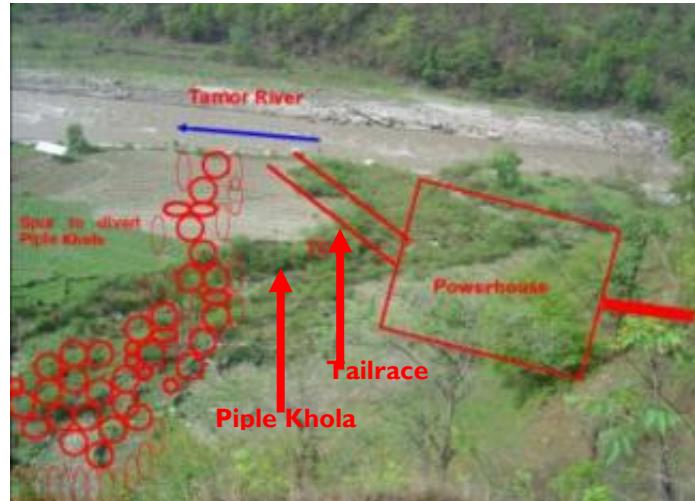


Photo 2: Proposed powerhouse location at right bank of Piple Khola near the confluence with Tamor River

The water will be discharged back to the Tamor River at Pinasi through a 93.1 m long rectangular box culvert type tailrace. Tailrace canal passes through the active channel of the Piple Khola. Shifting of the Piple Khola along left bank by emplacement of spur with the tunnel muck will allow the space for tailrace canal.

1.4.4 Access road

The project will not construct the access road on its own. The tracks that are under construction by the participation of the local people will be used as access roads to the headworks and the

powerhouse. These tracks (about 12.2 km for powerhouse and about 7 km for headworks) from the Mechi Highway will be upgraded to access the powerhouse and the headworks area. The upgradation activities for the track roads will include backfilling, drainage maintenance, construction of protecting walls etc.

Access road to headworks

The track alignment for headworks branches from Mechi Highway near Bijulibhanjyang (Faudarpati) of Amarpur VDC along the left bank of the Kabeli River with an approximate length of 7 km. After completion of the opening of the track by the local people, the project will upgrade the track to access the headworks area.

Access road to powerhouse

The track alignment to powerhouse takes off from Mildanda near Singhapur bazaar (around 52 km from Phidim) of Mechi Highway with estimated length of 12.2 km to powerhouse area. This track seems to be promising from all aspects and has been considered as the project road to powerhouse area. After completion of the opening of the track by the local people, the project will upgrade the track to access the powerhouse area.

CHAPTER 2

PLANNING APPROACH AND METHODS

2 PLANNING APPROACH AND METHODS

Social Action Plan (SAP) has been developed using participatory planning approach. The approach encourages participation and involvement of all key stakeholders in development planning. The process mainly involves: socioeconomic appraisal, needs identification and their development preferences. It encourages planning to be socially adaptable, culturally acceptable and environmentally viable.

The SAP is primarily based on the findings of Social Assessment (SA) Study. Methods in social assessment of KAHEP were primarily focused around delineating impact areas and identifying project affected individuals, families, communities, and then investigating potential social effects and issues related to these. Accordingly, the SA study adopted an approach of systematic collection of information, both quantitative and qualitative. Both macro (regional/district/VDC) and micro (household) level data were collected from both primary and secondary sources. Therefore, the SAP is based on the firsthand data collected through field study and the data generated through desk study by reviewing of available and relevant literatures. The socio-economic survey was conducted in September-October 2010. Based on socio-economic survey, the assets inventory was carried out in December 2010 and final asset inventory was carried out in March 2011. The final inventory has been considered as cut-off date for the survey.

In order to prepare SAP, baseline socioeconomic information of project-affected households, their needs, priorities, interests and perspectives were collected through the review of literatures and field survey, using the data gathering techniques described below.

2.1 Literature review

The review of literatures was mainly concentrated to the past similar studies related to social and environmental assessment of hydropower development. Existing policies, legislation and guidelines related to the hydropower development and World Bank's policies and guidelines have been reviewed and documented. Similarly, available published literature, documents and maps (topographic maps, land use maps, aerial photographs and cadastral survey maps etc.) related to the project have been reviewed and documented. Macro level demographic data on the various ethnic/caste groups, including demographic information on vulnerable groups, were collected from secondary data published by the District Development Committee (DDC) of the affected Districts. Publications of the Central Bureau of Statistics (CBS) in Kathmandu were extensively used to establish baseline information of the project districts and VDCs.

2.2 Field research

Required firsthand data for SAP study were collected through various field methods usually employed in social and biological science researches adopting a participatory approach. The main tools of field research included household survey questionnaire, Indigenous Peoples (IPs) survey questionnaires, Focus Group Discussions (FGDs), formal and informal discussions, field observation, and interactions and workshops.

2.2.1 Household questionnaire survey

A semi structured interview schedules have been prepared and administered to the sampled households (affected households who will lose their physical assets and properties as per 2010 Engineering Design due to the proposed project activities) to get in-depth responses about demographic and socioeconomic data, physical properties and assets to be acquired by the project, preferred mode of compensation and rehabilitation, agricultural practices, use of natural resources, energy use, agricultural production and sell, health and sanitation, information related to project and perceptions towards the project. The questionnaire also included various gender aspects to analyze the status of women, their attitude towards the project and possible impacts on women due to the implementation of the project. The objectives of the household survey were to prepare profile of affected persons, assess income and expenditures, identify productive activities and plan income restoration. The Household questionnaire (which was translated into Nepali) covered the following topics:

- Household information (details of household head and location of household);
- Household composition and demographic characteristics (household population by age, gender, education, migration status, skills; male-female ratio; household size; student population);
- Household assets (buildings; land holdings; land sales, leasing/renting, etc.);
- Household utilities and services (water, sanitation and energy sources; access to health and educational facilities);
- Land tenure and agricultural activities;
- Types and numbers of livestock;
- Fishing;
- Income and expenditure; and
- Resettlement and compensation preferences.

Similarly the IPs survey interview schedule was administered to collect responses about the identities and cultures of Indigenous Peoples, their attachment and relation to the land, natural resources and territory, likely impacts from the projects, including loss of identity, culture, and customary livelihoods, as well as exposure to disease and other risks.

2.2.2 Cadastral survey

A cadastral survey around the project impacted areas has been conducted under the leadership of cadastral surveyor from the District Land Survey Office, Panchthar. This survey identified the extent and effect of land loss, assessed entitlements, prepare land loss records with cadastral maps and land compensation award paper. The technique of the survey was field survey using cadastral survey equipment and review of land record and ownership in the office.

2.2.3 Assets inventory

After socio-economic survey of September-October 2010, first asset inventory was carried out in December 2010 and final asset inventory was carried out in March 2011 after the adoption of alternative headwork access road alignment to prepare a complete inventory of households affected by the project construction. This inventory also records the ownership status of the affected persons such as legal titleholders, non-title holder, encroachers and squatters. The final inventory identified 13 HHs who will lose their assets permanently.

2.2.4 Focus Group Discussion

The FGDs were organized by giving a prior verbal notice and written letter through a runner to the entire project affected VDCs. 14 FGDs have been conducted with the local people in different locations of the project areas to identify the various issues related to the hydropower project development and its socioeconomic consequences and corresponding mitigation measures. 251 individuals representing different impact areas and groups such as dam site, dewatering zone, access road, powerhouse site, Community Forest User Groups (CFUG), Leasehold Forest User Group (LFUG), *Dalit*, IPs and women participated in the FGDs. Out of the 14 FGDs, 2 were with women, 1 with *Dalit*, 3 with IPs, 1 with Kabeli Concern Committee, 1 with CFUG, 1 with LFUG, 1 with local school teachers and the rest 4 FGDs were conducted with mixed group comprising of male, female, IPs, *Dalit*, Bahun, Chhetri and so on. The purposes of the FGDs were:

- To provide factual information on the project location, particularly the main project structures such as dam, tunnel, adit portals, powerhouse, surge tank, tailrace and the project access roads besides tentative locations of the quarry sites, construction camps and operation camps of the project;
- To clarify the objective of the SAP and its implementing procedures;

- To discuss on the likely potential impacts of the project from technical considerations during project construction and operation in the project area's physical, biological, social, socio-economic and cultural domain;
- To collect information related to socio-economic and cultural environments of the project areas;
- To collect opinion, perception and attitudes of the people towards KAHEP;
- To get feedback on the likely impacts of the project from local people's perspective particularly on the cultural traditions, customary practices, self identity and attachment to the land and territory, social norms and values of the indigenous people and other groups of the project areas;
- To get baseline information on the cultural, religious, recreational and livelihood dependence of the local people on the dewater stretch of the Kabeli River and corresponding likely impacts due to project development;
- To solicit opinion of the local people on the alternative mitigation measures to abate, or avoid the potential impacts; and
- To solicit opinion of the local people regarding the development aspiration of the project.

Land acquisition and mode of compensation, livelihood related issues due to loss of land, dewatering, prior information dissemination practices, International Labour Organization (ILO) 169 and rights of the IPs, rural electrification, current uses of Kabeli river, perceptions towards project, socio-cultural practices associated with River Kabeli, local development needs, likely impacts due to the various project structures and corresponding mitigation measures were the major issues discussed during the FGDs.

2.2.5 Formal and informal consultations and discussions

Informal discussion with local stakeholders and people of different backgrounds and social identities have been conducted to identify key actors and agents associated with various issues of the project and explored the underlying socioeconomic, cultural and political situation that have shaped the life circumstances of the communities of the project areas. These discussions were helpful to recommend community participation, consultation policy, and institutional arrangement for project implementation and to suggest grievance hearing mechanism. These discussions were also helpful to identify roles and responsibilities of different stakeholders to develop equitable benefit-sharing mechanisms.

2.2.6 Field observation

The SAP study team of experts observed and recorded what they saw and hear at the project sites. Site observations were made to obtain supplementary information on different socio-economic and cultural activities in the dam site, dewater stretch, access road, tunnel alignment and power house site. This included recording of physical surroundings, religious sites/structures, ongoing cultural religious activities, processes, and discussions.

2.2.7 Workshop/interaction

The SAP team debriefed the preliminary findings with the stakeholders at different level. The comments and suggestions gathered during the workshop have been utilized to prepare the report.

2.3 Preparation of SAP

The data collected through various tools and sources have been analyzed by a team of experts and used to develop the SAP that includes the set of mitigation, monitoring, and institutional measures to be taken during construction and operation to eliminate adverse social impacts, offset them, or reduce them to acceptable levels. The SAP spells out detail program activities along with corresponding budget to minimize any potential adverse impact as well as to maximize the positive

benefits resulting from the implementation of the project. The SAP also include the actions needed to implement these programs along with program schedules, types of monitoring and agencies (project proponent, contractor etc.) responsible for implementing the mitigation plan and other necessary support services including tentative costs to carry out the mitigating measures.

2.4 Study team

An interdisciplinary core team of experts comprising of Senior Anthropologist/Resettlement Expert, Socio-Environmentalist, Indigenous People Specialist, Anthropologist, carried out the SA/SAP study. In addition, the environmentalists have contributed their expertise for the finalization of SA/SAP report (Table 2-1).

Table 2-1: Study team for SA/SAP

S N	Name	Expertise
1	Pranav Acharya	Team Leader
2	Hari Prasad Bhattarai	Senior Anthropologist/Resettlement Expert
3	Amrit Poudel	Task Manager/Socio-Environmentalist
4	Hom Prasad Yamphu (Rai)	Indigenous Peoples Specialist
5	Prakash Poudel	Anthropologist
6	Krishna Das Shrestha	Public Relation Officer
7	Balram Bhattarai	Environmentalist
8	Pradip Gautam	Environmentalist
9	Enumerators for Socio-economic household survey	

CHAPTER 3

DESCRIPTION OF THE SOCIO-CULTURAL ENVIRONMENT

3 DESCRIPTION OF THE SOCIO-CULTURAL ENVIRONMENT

3.1 The project VDCs

3.1.1 Settlement patterns

The settlements of the project VDCs are scattered in the various locations ranging in the size from as small as two houses to more than 30 houses. The harmony and peace between various caste and ethnic group within these settlements shows the characteristic of the mixed type communities.

The houses are made of mud and stone with stone/slate, corrugated/non corrugated metal sheets and thatched roofs. However, there are few concrete houses in the market areas of Kabeli Bazaar, Singhapur and Bhalu Chowk with more population concentration than other areas. *Dhusenni, Rajabesi and Kabeli Bazaar* are the nearest settlements from the headworks having *Limbus, Tamangs, Brahmins* and *Chhetries* as the major inhabitants. Similarly, *Majhis, Limbus, Tamangs, Brahmins* and *Chhetries* are the major inhabitants of *Majhitar (Pinasi)* and *Kodekpa*; the nearest settlements from the powerhouse area. Likewise, *Jogi Danda (Bhadure)*, *Khalte*, *Chipewa*, *Kharelgaun*, *Khaharegaun* and *Myakha* are the nearest settlement in the downstream areas.



Photo 3: Kabeli Bazaar on the left bank of Kabeli River



Photo 4: Jogidanda downstream settlement

3.1.2 Demography

Demographic characteristics of the project affected VDCs is presented in Table 3-1.

Table 3-1: Demographic characteristics of the project affected VDCs

VDCs	Population						Total HH	Average HH Size	M:F			
	Total	Sex		Ethnicity								
		Male	Female	Hindu high Cast	Adivasi Janajati	Dalits						
Nangkholyang	4015	1941 (48.34)	2074 (51.66)	741 (18.45)	2965 (73.84)	244 (6.08)	65 (1.62)	730	5.33	I:I.06		
Thechambu	3772	1796 (47.61)	1976 (52.39)	1690 (44.80)	1843 (48.86)	233 (6.18)	06 (0.16)	698	5.23	I:I.10		
Amarpur	7743	3743 (48.34)	4000 (51.66)	3457 (44.65)	3658 (47.42)	512 (6.61)	116 (1.50)	1375	5.63	I:I.07		
Panchami	5568	2669 (47.93)	2899 (52.07)	2439 (43.80)	2796 (50.21)	304 (5.46)	29 (0.52)	1000	5.57	I:I.09		
Total	21098	10149	10946	8327	11262	1293	216	3803	5.54	I:I.07		

Source: CBS, 2001

Note: The figures in parentheses are percentages.

Note: Dalits includes Biswakarm, Dholi (Damai) and Sarki. Likewise, High Caste group includes Hill Brahmins, Chhetri, and Sanyasi (Jogi) in above table.

Total population ethnicity and household size

The project VDCs have a population of 21098 with various caste/ethnic groups (Table 3-1). Amarpur VDC has the highest population (7743) followed by Panchami VDC (5568), Nangkholyang VDC (4015) and Thechambu VDC (3772). Among the various ethnic groups, Adivasi Janajati constitute 53.38% of total population of the project VDCs. Among the Adivasi Janajati, Limbus are the dominant group in all the project VDCs. Rai, Tamang, Newar, Gurung, and Majhi are the remaining Adivasi Janajati groups present in the project VDCs. Similarly, Hindu High Caste (Brahmin and Chhetri) constitutes about 39.47% of the total population. 'Dalits'¹ constitute about 6.13% of the total population. Among the VDCs, Nangkholyang is overwhelmingly dominated by Adivasi Janajati (73.84 %) followed by Panchami (50.21 %), Thechambu (48.86 %) and Amarpur (47.42 %). The average household size for the project VDCs is 5.54 (CBS, 2001) which is slightly higher than the national average which is 5.44 in CBS 2001.

Sex structure

The total population of the project VDCs is 21098 out of which 10,149 (48.10 %) are males and 10946 (51.88 %) are females. The average male/female sex ratio is I:I.07 which is lower than the district and the national averages. Among them, Thechambu VDC is the lowest in terms of sex ratio (I:I.10) (Table 3-1).

¹ Dalits of the Project Area includes Sarki, Kami and Damai

Age structure

Table 3-2: Age structure of the population of the project affected VDCs

Districts	VDCs	Population				Total
		< or 9 years	10-14 years	15-59 years	60 or < years	
Taplejung	Nangkholyang	1554	172	684	86	2496
	Thechambu	1075	529	1859	309	3772
Panchthar	Amarpur	2216	1135	3737	573	7661
	Panchami	1424	828	2915	401	5568
	Total	6269	2664	9195	1369	19497
	Percentage	32.15	13.66	47.16	7.02	100.0

Source: CBS, 2001 and District Profiles of Taplejung and Panchthar

Table 3-2 shows the age structure of the project affected VDCs. The children population (below 15 years of age) constitutes 45.81 % that is higher than the national average (39.4 %). Likewise, elder population (60 and above) constitutes 7.02 % of the total population, which is also higher than the national average (6.5 %). The working age population (15-59) is 47.16 %. The analysis of age composition of the project VDCs shows that the dependency ratio² of total population regardless of caste/ethnicity is 112.04 that is higher than the national average (84).

3.1.3 Literacy

Table 3-3 provides the detail of the literacy status of the project affected VDCs.

Table 3-3: Literacy population (6 years and above) of project VDCs

Project VDCs	Can't read and write			Can read only			Can read and write			Not stated		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Nangkholyang	1336	349 (26.1)	787 (73.9)	230	89 (42.6)	132 (57.4)	2021	1153 (57.0)	867 (42.9)	17	08 (47.1)	09 (52.9)
Thechambu	1015	307 (30.2)	708 (69.7)	129	93 (72.1)	36 (27.9)	2091	1147 (54.8)	944 (45.1)	08	-	08 (100)
Amarpur	2529	1018 (40.2)	1511 (59.7)	466	240 (48.5)	226 (51.5)	3302	1768 (53.5)	1534 (46.5)	09	-	09 (100)
Panchami	1784	559 (31.3)	1226 (68.7)	507	338 (66.7)	168 (33.3)	2568	1449 (56.4)	1119 (43.6)	-	-	-
Total	6664	2233 (33.5)	4431 (66.5)	1332	769 (57.7)	563 (42.3)	9982	5517 (55.3)	4464 (44.7)	34	08 (23.5)	26 (76.5)

Source: CBS 2001

Note: The figures in parentheses are percentages

² Dependency ratio is defined as the number of people in “dependent ages” of young ages (0-14) and old ages (60 years and above) per hundred people in “economically active ages” of 15-59 years.

In the project affected VDCs, male and female literacy rate for population of six years and above (Can Read and Write) stands at 55.3 % and 44.7 % respectively. The male literacy rate for the project VDCs is lower than the average national literacy rate of male (65.5 %), but the female literacy rate is slightly higher than the average national literacy rate (42.8 %). Among the project VDCs, Nangkholyang has the highest proportion of male literates (57.0 %) and Amarpur has the lowest proportion (53.5 %). Similarly, Amarpur has the highest proportion of female literates (46.5 %) and Nangkholyang has the lowest percentage (42.9 %) (Table 3-3).

3.1.4 Economy, livelihood patterns and practices

Like the project districts, the overall economic structure of the project districts is also characterized by a mixture of farm and nonfarm activities. Farm activities include agriculture and livestock raising that are subsistence in nature and are characterized by fragmented land-holding and low inputs. Foreign employment, seasonal migration, small trade and businesses, agro and forest based micro-enterprises and daily wages are the major non-farm activities of the project VDCs. Remittance from Gulf countries like Saudi Arabia, Qatar, UAE, and Malaysia and salary and pension from the armed forces in Britain and India are the major household income sources of the project VDCs. Engagement in Indian and British Army, and Singapore Police are popular especially among the *Adivasi Janajati* groups (*Rai* and *Limbu*) of the project VDCs.

3.1.5 Cultural background of the project VDCs

Table 3-4: Population by mother tongue and religion of the project VDCs

Population		Project VDCS				Total
		Amarpur %	Panchami %	Thechambu %	Nangkholyang %	
Religion %	Hindu	61.78	52.96	(53.10)	(36.34)	53.06
	Kirat	24.85	42.76	(41.30)	(48.67)	37.05
	Buddha	12.86	4.02	5.33)	(14.62)	9.52
	Christian	0.48	0.23	0	(0.20)	0.28
	Others	0.03	0.02	0.27	(0.17)	0.09
Mother tongue %	Nepali	62.4	53.1	53.1	33.1	50.4
	Limbu	20.1	38.1	38.7	18.8	28.9
	Bantawa	3.8	3.2	1.1	22.8	7.7
	Tamang	12.5	0.4	0.9	1.2	3.7
	Gurung	0	0	4.2	10.1	3.6
	Others	1.2	5.2	2.0	14	5.6

Source: CBS, 2001

Mother tongue

Nepali is the mother tongue of more than 62 % of the total population in Amarpur VDC which is one of the most affected VDCs by the Project. Likewise; Nepali is the mother tongue of more than 53 % of the total population in Thechambu and Panchami VDCs. The languages reported as mother tongue in the affected VDCs are presented in Table 3-4.

Nepali is used as a lingua franca. Besides, the *Adivasi Janajati* groups use their respective mother tongue to communicate with the other members of their groups. Most of these indigenous languages are in oral traditions. Each of them has a rich oral heritage of traditional folk stories and songs handed down from generation to generation. *Limbu* language has its own script known as *Kirati*

Srijanga script. These indigenous languages are categorized as 'The Safe³ Indigenous Language of Nepal' (ibid pp 29).

Religion

According to the CBS 2001, Hindu (53.06 %), Kirat (37.05 %) and Buddhist (9.52 %) represent the major religions practiced by the people of the project VDCs (Table 3-4). The VDC wise distribution of population by religion is different. The project VDCs, except Nangkholyang, are dominated by Hindus; Amarpur (61.78 %), Thechambu (53.10 %) and Panchami (52.96 %). However, Nangkholyang is dominated by Kirat (48.67 %) followed by Hindu (36.34 %) (Table 3-4).

3.2 Profile of surveyed households

All the households that are likely to experience physical impacts due to the project as per the Engineering Design of 2010 were selected purposively and interviewed using a structure questionnaire to understand the demographic, economic and cultural environment of the affected families, their perception regarding the project, expected compensation for the lost property, types of resettlement package desired etc. The households included for the survey were taken from the direct impact areas of the project. The direct impact area includes villages where most of the project activities will take place, thus high level of impacts is anticipated (Table 4-1).

A total of 46 households from the project affected VDCs are selected for socio-economic survey. The majority of the households are located in Amarpur VDC (30 HHs) followed by Thechambu VDC (14 HHs) and the remaining (2 HHs) are located in Panchami VDC.

3.2.1 Demography

The demographic features of the surveyed households are presented in Table 3-5.

Table 3-5: Demographic features of surveyed households

Caste ethnicity	Household			Population			Average HH size	Age Groups			
	Total	M. Head	F. Head	Total	M	F		0-4	5-14	15-59	60 above
Limbu	23	22	1	177	90	87	7.69	8	35	114	20
Brahmin	5	5	0	47	23	24	9.4	3	4	33	7
Chhetri	6	6	0	46	25	21	7.66	2	8	29	7
Majhi	5	3	2	32	19	13	6.4	1	9	18	4
Tamang	7	7	0	61	29	32	8.71	7	11	40	3
Total	46	43	3	363	186	177	7.89	21	67	234	41
%	100	93.48	6.52	100	51.2	48.76		5.80	18.45	64.46	11.29

Source: Field Survey, 2010

Total population and household size by caste/ethnicity

The total population of the surveyed household is 363 which includes 74.38% Adivasi Janajati having population of 270 (177 Limbu, 61 Tamang and 32 Majhi) and 25.61% Brahmin/Chhetri with population of 93 (47 Brahmin and 46 Chhetri). The average household size of the surveyed household is 7.89. The highest household size is recorded for Brahmin (9.4) followed by Tamang (8.71), Limbu (7.69),

³ According to the criteria set to assess the state of language endangerment in Nepal, proposed by an International Expert meeting at a UNESCO program, 'Safeguarding of the Endangered Languages', March 10-12, 2003 safe language refers to the languages with little danger of being lost.

Chhetri (7.66) and *Majhi* (6.4) respectively (Table 3-5). The average household size for the surveyed households is higher than the national and project VDCs average of 5.44 and 5.54 respectively.

Sex structure

Out of the total population of the surveyed household, there are 186 (51.24 %) male and 177 (48.76%) female. In terms of the caste and ethnicity, the *Majhi* have the higher proportion of male population whereas the *Tamang* have the higher proportion of female population. The sex ratio of the surveyed household is 1:0.95 which is higher than average of the project VDC (1:1.07) and project districts (1:1.03). Out of 46 surveyed households, 43 households (93.48%) are male-headed and only 3 households (6.5%) are female-headed (Table 3-5).

Age structure

Total population of the surveyed households is divided into four age categories (Table 3-5). Among age categories, 15-59 years age group (economically active population) has the highest proportion (64.46%). The dependent population (below 15 years and above 60 years of age) is 35.52 %. The proportion of below 15 year age group (24.23%) is lower than the national average (39.4 %) and estimated average of the developing countries (35-40%). The lower rate of the population growth of the project districts (1% for Taplejung and 1.45% for Panchthar in 2001) supports these findings.

Family structure

Three types of family structure are prevailing in the surveyed households; nuclear, joint and extended family. Nuclear family is a family that consists of parents and their unmarried children sharing common kitchen. Similarly, joint family consists of grandparents, parents and their children who share common kitchen. Extended family includes three generations living together sharing common kitchen. The findings from the household survey suggest that the majority (62 %) households have joint family structure followed by nuclear (29 %) and extended (9 %). This indicates the domination of subsistence economy, which demands constant family labor supply. Chart 3-1 shows the family structure of the surveyed households.

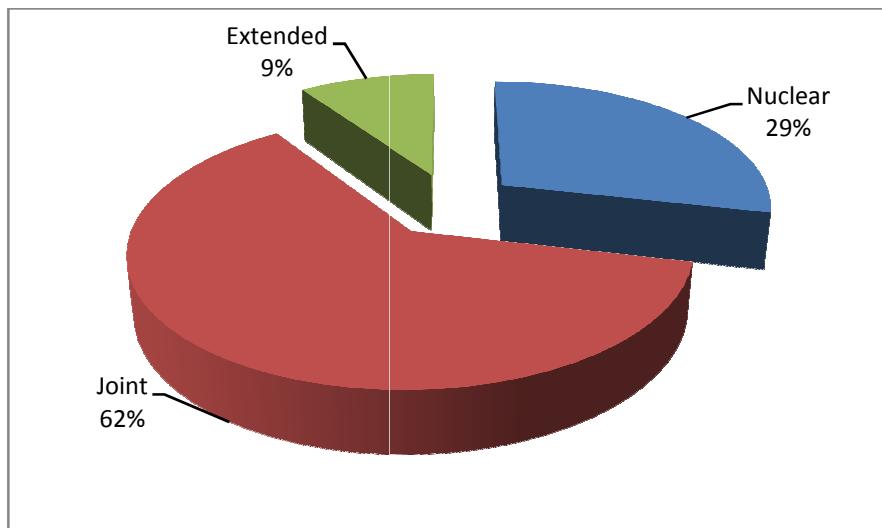


Chart 3-1: Family structure of the surveyed households

3.2.2 Literacy and education

Table 3-6: Educational status of population (six years and above)

VDC	Population									Total	
	Illiterate	Literate (informal education)	Literate (Formal Education)								
			Primar y)	Lower Sec)	Sec.	SLC Passed	P+2/ PCL assed	Bachelor Passed	Master Passed		
Amarpur	37	29	44	27	32	25	18	2	1	215	
Panchami	2	0	5	1	2	0	3	0	0	13	
Thechambu	13	12	17	27	20	7	7	2	0	105	
Total	52	41	66	55	54	32	28	4	1	333	
Percent	15.61	12.31	19.82	16.52	16.22	9.61	8.41	1.20	0.3	100	

Source: Field Survey, 2010

Table 3-6 presents the distribution of educational attainment of the population aged 6 years and above by VDCs. Among the total population of the surveyed households, about 15.61% are illiterate and rest 84.39% are literate. Out of total literate populations, 41 are literate through informal education whereas 240 are literate through formal education system. The overall literacy of the surveyed household is higher than the VDCs, districts and national average.

3.2.3 Religion and language

Table 3-7: Households by religion and mother tongue

Religion	Mother tongue				Total
	Nepali	Limbu	Majhi	Tamang	
Hindu	16	0	0	0	16
Buddha	0	0	0	7	7
Kirat	1	22	0	0	23
Total	17	22	0	7	46

Source: Field Survey, 2010

Kirat (50.0%) is the dominant religion among the surveyed household followed by Hindu (34.78%) and Buddhist (15.21%). Similarly, *Limbu* language is the mother tongue of 47.82% surveyed population followed by *Nepali* (36.95%) and *Tamang* (15.21%). The surveyed *Majhi* households reported that they are using *Nepali* as the mother language instead of the *Majhi* language (Table 3-7).

3.2.4 House-ownership and kind of house occupied

The CBS Nepal has divided the housing unit into four categories⁴; *Pakki* (permanent), *Ardha-Pakki* (semi-permanent), *Kachhi* (temporary) and others. However, for this study, the housing units of the surveyed households are divided into two major categories; *Pakki*⁵ (permanent) and *Kachhi*⁶ (temporary) according to the construction material used in wall and roof. The owner of *Pakki* house is considered well off compared to other types. About 52.17% of the surveyed houses are *Pakki* (permanent) whereas the rest 47.83 % are *Kachhi* (temporary), which is higher than the Eastern Development Region (EDR) average for *Pakki* house (24.1%).



Photo 5: A *Kachhi Majhi* House in Majhitar, Pinasi

Table 3-8: Type of house by ethnicity

Type of House	Caste/Ethnicity					Total
	Limbu	Majhi	Tamang	Brahmin	Chhetri	
Made with Mud & Wood (<i>Kachhi</i>)	13	2	4	1	2	22
Made with Mud, Cement, Stone, Concrete or Brick (<i>Pakki</i>)	10	3	3	4	4	24
Total	23	5	7	5	6	46

Source: Field Survey, 2010

Table 3-8 shows that, 16 households out of 35 households (45.71%) of *Adivasi Janajati* and 8 households (72.73%) of *Barhmin/Chhetri* are *Pakki* houses.

⁴According to CBS, Nepal has categorized houses into four categories according to the construction material used in wall and roofs of the residential house. *Pakki* (permanent) house refers to a house with walls and roof made of permanent construction material like cement, bonded bricks, concrete, stone, slate tile and galvanized sheet. *Ardha Pakki* (semi permanent) house belongs to the category where either the wall or the roof is constructed with permanent construction materials and other is constructed with temporary materials. In *Kachhi* (temporary house) non durable materials like wooden flake, bamboo, straw/thatch, mud and unbaked bricks are mainly used in walls and roof. Final category includes a very temporary type of residential unit that is made with non-durable materials. These housing units are made with plastic sheets, bamboo and straw/thatch. For this research purpose, the Permanent and Semi permanent house are grouped under *Pakki* house whereas the temporary and final category is grouped under *Kacchi* house.

⁵ Include Pakki(permanent) and Ardha-Pakki (Semi-Permanent) types of housing unit according to CBS

⁶ Includes *Kachhi* (temporary) and other types of housing units according to CBS definition

3.2.5 Household economy and livelihood practices

Occupation

Table 3-9: Surveyed households by occupation

Occupation	Name of VDC			Total
	Amarpur	Panchami	Thechambu	
Agriculture	14	2	4	20
Trade	1	0	0	1
Foreign Employment and Agriculture	9	0	8	17
Service and Agriculture	3	0	0	3
Wages and Agriculture	3	0	0	3
Trade and Agriculture	0	0	0	1
Total	30	2	14	46

Source: Field Survey 2010

The occupation in the surveyed households is a mixture of farm and non-farm activities similar to project districts and VDCs. Of the total surveyed households 45 HHs are engaged in agriculture. However, among them 24 HHs are also engaged in other occupations such as trade, foreign employment and services. One household is engaged in trade only (Table 3-9).

Although large number of household are involved in farm activities, agriculture is not a significant contributor to the household economy (Table 3-14). The major part of the household income is derived from nonfarm activities.

Land holdings

Table 3-10: Households by land holding sizes

Total area of own land in Hectare	Caste/Ethnicity					Total	%	Cumulative %	
	Limbu	Majhi	Tamang	Brahmin	Chhetri				
Bari	Bari Landless	2	0	1	0	0	3	6.52	6.52
	< 0.50	11	3	2	2	5	23	50.0	56.52
	0.50 – 1.0	8	0	3	2	0	13	28.26	84.78
	1.0 – 1.50	0	1	1	1	1	4	8.70	93.48
	1.5 – 2.0	1	-	-	-	-	1	2.17	95.65
	>2.0	1	1	-	-	-	2	4.35	100
	Total	23	5	7	5	6	46	100	
Khet	Khet Landless	9	2	1	1	-	13	28.26	28.6
	< 0.50	5	3	1	2	3	14	30.43	58.69
	0.50 – 1.0	5	0	3	1	1	10	21.74	80.43
	1.0 – 1.50	1	-	1	-	-	2	4.35	84.78
	1.5 – 2.0	1	-	1	1	1	4	8.70	93.48
	>2.0	2	-	-	-	1	3	6.52	100
	Total	23	5	7	5	6	46	100	

Source: Field Survey, 2010

Table 3-10 provides the landholdings of the surveyed households. The cultivated land is divided into two categories viz. *Bari*⁷ and *Khet*⁸. The data (Table 3-10) reveals that out of total 46 households, 3 households do not own *Bari* land and 36 households own *Bari* land less than 1 ha. Only 8 households own the *Bari* land more than 1 ha. Similarly, for the *Khet* land, 13 households do not own *Khet* land and 24 households own *Khet* land less than 1 ha. Only 9 households possess *Khet* land more than 1 hectare.

The main irrigated crops grown are paddy (rice) in the wet season, followed by wheat in the dry season. The main rain-fed crops grown are maize and millet in the wet season along with wheat and barley in the dry season. The intercropping of rain-fed wheat and barley with mustard; and maize with black gram/ soybean/ beans/pigeon peas is also practiced.

Table 3-11: Total landholding by caste/ethnic groups in surveyed households

Caste/ethnicity	Khet (ha)	Bari (ha)	Total (ha)	Average land Holding (ha)
Limbu	24.92	15.10	40.02	1.74
Majhi	1.38	6.62	8.0	1.60
Tamang	4.11	4.57	8.68	1.24
Brahmin	3.66	4.47	8.13	1.63
Chhetri	5.99	2.41	8.40	1.40
Total	40.06	33.178	73.23	1.59

Source: Field Survey, 2010

Table 3-11 shows that the average land holding of the surveyed household is 1.59 ha that is higher than the national average (0.8 ha) and district averages (0.81 ha for Panchthar and 0.89 ha for Taplejung). In terms of caste and ethnicity, the average land holding is the highest for *Limbu* (1.74 ha) and lowest for *Tamang* (1.24 ha). Similarly according to the land types, the surveyed HHs own an average of 0.88 ha of *Khet* land and 0.72 ha of *Bari* land. The *Limbu* have the highest *Khet* land holding (1.08 ha/HH) whereas the *Majhi* have the lowest *Khet* land Holding (0.27 ha/HH). However, in the case of *Bari* land, *Majhi* have the highest land holding (1.32 ha/HH) and *Chhetri* have the lowest average land holding (0.37 ha/HH).

Table 3-12: Rented-in⁹ and Rented-out¹⁰ land by cast and ethnicity

Caste/Ethnicity	Rented in land			Rented out land		
	Khet	Bari	Total	Khet	Bari	Total
Limbu	3.20	0.68	3.88	2.59	0	2.59
Majhi	0.40	0	0.40	0	0	0
Tamang	1.01	0.51	1.52	0	0	0
Brahmin	2.64	0	2.64	0	0	0
Chhetri	1.68	0	1.68	0.66	0	0.66
Total	8.39	1.19	9.58	3.25	0	3.25

Source: Field Survey, 2010

⁷ These are the unirrigated lands where the cultivation of rain-fed crops like maize, millet and pulses is done.

⁸ These are the irrigated lands, where paddy is the primary crop.

⁹ Rented-in land is taken by a household/individual on rent from the land owner on an annual basis

¹⁰ Rented-out land is given to a household/individual on rent by the land owner on an annual basis for cultivation.

Table 3-12 shows that households have rented their land (both in and out renting) for cultivation purpose. The surveyed households have rented-in a total 9.58 ha (8.39 ha *Khet* land and 1.19 ha *Bari* land) land for cultivation purpose on an annual basis. In terms of caste and ethnicity, the *Brahmin* have the highest proportion of rented land whereas the *Majhi* posses the lowest proportion. The data in the table also suggest that in comparison to the rented-in lands, very few households have rented-out their land to others for cultivation. Only *Chhetri* (0.66 ha) and *Limbu* (2.59 ha) have given their land to others on the rent for cultivation.

Animal husbandry

Table 3-13: Livestock ownership by caste/ethnic groups

Caste/Ethnicity	Cattle	Buffalo	Chicken	Goat	Pigs	Duck	Others	Total	Average per HH
<i>Limbu</i>	63	12	19	93	44	3	8	242	10.52
<i>Majhi</i>	17	4	36	7	4	0	0	68	13.6
<i>Tamang</i>	23	9	70	52	0	0	0	154	17.42
<i>Brahmin</i>	17	5	33	34	0	0	0	89	17.8
<i>Chhetri</i>	28	5	23	30	2	0	6	94	15.66
Total (number)	148	35	181	216	50	3	14	647	14.07
Average animals per HH	3.22	0.76	3.93	4.70	1.09	0.07	0.30	14.07	

Source: Filed Survey 2010

Surveyed households rear cattle, goats, buffalo, pigs, duck and poultry. Cattle and buffalo are kept for milk, ghee and manure, while goats, pigs and chicken are kept for meat and income generation. The average livestock size is 3.22 for cattle, 0.76 for buffalo, 4.70 for goat, 3.93 for chicken and 0.07 for pig. The total animal holding size is the largest for *Brahmin* (17.8 animals) and the lowest for *Limbu* (10.52 animals). *Brahmin* and *Chhetri* own more big animals (cow, buffalo) compared to the *Adivasi Janajati* groups. *Adivasi Janjati* own more small animals (chicken, pig, goat, and duck) primarily to meet their food habits. Livestock ownership pattern among the surveyed households is presented in Table 3-13.

Income

Table 3-14: Average annual household income by caste/ethnic groups

Caste/ Ethnicity	Annual Average Income in NRs.						Total	Total HHs	HHs Average Income
	Agri & Livestock	Trade & Business	Service/ Pension	Wages	Remittance	Loan ¹¹ / Interest /Others			
<i>Limbu</i>	228280 (7.8)	196000 (6.7)	854000 (29.1)	124000 (4.2)	1340000 (45.7)	192120 (6.5)	2934400	23	127,582.00
<i>Majhi</i>	3000 (0.7)	0	0	0	168000 (38.8)	262000 (60.5)	433000	05	86,000.00
<i>Tamang</i>	160000 (9.40)	60000 (3.53)	996000 (58.52)	90000 (5.29)	200000 (11.75)	196000 (11.51)	1702000	07	243,142.86
<i>Brahmin</i>	151500 (10.1)	34000 (2.3)	60000 (3.9)	0	1260000 (83.7)	0	1505500	05	301,100.00
<i>Chhetri</i>	161000 (16.7)	3300 (0.3)	80000 (8.3)	300000 (31.2)	418000 (43.4)	0	962300	06	160,383.00
Total	703780 (9.33)	293300 (3.89)	1990000 (26.40)	514000 (6.82)	3386000 (44.92)	650120 (8.62)	7537200	46	179457.14

Source: Filed Survey, 2010

¹¹ Loan borrowed within the last year is taken as the income

Average annual income from farm and off-farm sources is summarized in Table 3-14. Agriculture and livestock contribute 9.33 %, service/job/pension 26.40 %, remittance 44.92 %, wages 6.82 %, trade/business/industry 3.89 % and others 8.62 % to the average annual household incomes.

Although the agriculture is the basic activity of the 46 surveyed households (Table 3-9), the nonfarm activities play significant role in the household economy that contributes 90.67 % of the surveyed households income. If we exclude the loan and other items from the non-farm income sources, the actual contribution of non-farm activities in the household economy is about 82.03 % only.

The average annual household income of the surveyed households is calculated as NRs. 179,457.14. In terms of caste/ethnicity, the average annual household income of *Brahmin* is the highest (NRs. 301,100.00) followed by *Tamang* (NRs. 243,142.86), *Chhetri* (NRs. 160,383.00), *Limbu* (NRs. 127,582.00) and *Majhi* (NRs. 86,000.00). The per capita income for the surveyed population is NRs. 20,763.64 which is higher than the national per capita income of NRs. 15,000.00 (UNDP 2009). In terms of caste/ethnicity, *Brahmins* have the highest (NRs 32,031.91) per capita income followed by *Tamang* (NRs. 27901.63), *Chhetri* (NRs. 20,919.56), *Limbu* (NRs. 16,578.53) and *Majhi* (NRs. 13,531.25).

Expenditure

Table 3-15: Annual expenses on different items by caste/ethnic groups

Caste/ Ethnicity	Annual expenditure in NRs.								Total	Average HHs Expenditure
	Food	Clothing	Education	Health	Transp.	Ritual/ and festival	Loan payback/ Interest ¹²	Others		
Limbu	1054338 (46.1)	202900 (8.9)	79000 (3.5)	40000 (1.8)	53000 (2.3)	154000 (6.7)	468000 (20.5)	233685 (10.2)	2284923	99,344
Majhi	174310 (45.0)	36500 (9.4)	17500 (4.5)	19000 (4.9)	2000 (0.5)	25000 (6.5)	28800 (7.4)	84270 (21.8)	387380	77,476
Tamang	230000 (23.11)	90000 (9.04)	320000 (32.16)	120000 (12.06)	35000 (3.52)	100000 (10.05)	60000 (6.03)	40000 (4.02)	995000	187142.85
Brahmin	139020 (12.3)	436000 (38.6)	3000 (0.3)	111000 (9.8)	69500 (6.2)	88000 (7.8)	117600 (10.4)*	164120 (14.5)	1128240	225,648
Chhetri	114020 (14.0)	40000 (4.9)	25000 (3.2)	176000 (21.7)	4000 (0.5)	7000 (0.9)	100500 (12.4)*	346290 (42.6)	812810	135,468
Total	1711688 (30.52)	805400 (14.36)	444500 (7.93)	466000 (8.31)	163500 (2.92)	374000 (6.67)	774900 (13.82)	868365 (15.48)	5608335	121921

Source: Filed Survey, 2010

* The expenditure on payback of loan and interest for *Brahmin* and *Chhetri* household is for the outstanding loan of previous years because these groups did not borrow any loan within the last year (Table 3-14)

The expenditure of the surveyed households is grouped broadly into two categories: food items and non-food items. Non-food items include expenditures on education, health, transportation, clothing, loan pay back and interest and festivities. The annual average expenditure of the surveyed household is NRs. 121, 921.00 (Table 3-15).

The share of expenditure of the surveyed household on food and non food items consists of 30.52% and 69.48% respectively. The expenditure on food items seems relatively high. This might be because of excessive use of food grains for brewing local liquor among the *Adivasi Janjati* groups.

The non-food expenditure items include clothing (14.36%), education (7.93%), health (8.31%), transportation (2.92%), rituals and festivals (6.67%), payback of loan and interest of borrowed loan (13.82%) and others (15.48%). Similar to the income, the average expenditure is also recorded highest among the *Brahmin* households (Table 3-15).

¹² This includes the payback of the last year loan and outstanding loan, if any

Loan borrowing

Table 3-16: Households by source of loan by caste/ ethnicity

Source of loan	Caste/Ethnicity					Total
	Limbu	Majhi	Tamang	Brahmin	Chhetri	
Local Money Lenders	13	2	3	2	0	20 (57.14)
Relatives/ Neighbors	6	1	2	2	2	13 (37.14)
Finance/Bank	1	0	1	0	0	2 (5.72)
Total	20	3	6	4	2	35

Source: Field Survey, 2010

Local money lenders and neighbors/relatives are the major sources of loan of the surveyed households (Table 3-16). A total of 35 households has borrowed loan from different sources that includes the loan taken last year and years before that. Among them, 20 HHs has borrowed from local money lenders; 13 HHs from relatives and neighbors; and only 2 HHs have borrowed from financial institution. The borrower households have to pay 24 to 36 % annual interest for the loan taken. People prefer borrowing from local money lenders and their relatives/neighbors instead of financial institutions because of easy access.

Food Sufficiency from Self-production

Table 3-17: Households food sufficiency by caste/ ethnicity

Food secured months	Caste/Ethnicity					Total
	Limbu	Majhi	Tamang	Brahmin	Chhetri	
1-3 Months	5	2	0	0	0	7
3-6 Months	12	3	2	1	2	20
6-9 Months	3	0	2	0	1	6
Total	20	5	4	1	3	33

Source: Field Survey, 2010

For the purpose of this study, the household whose own agricultural production is adequate for their annual household food demand is considered as the food sufficient household. Only 13 HHs are food sufficient from own agricultural production. Table 3-17 shows that among the total surveyed households, 33 HHs responded that their own production is not sufficient for their annual food demand. Among those, 7 HHs reported that they produce food for one to three months followed by 20 HHs for 3-6 months and 6 HHs for 6 - 9 months. In terms of caste/ethnicity, 7 HHs of *Janajati* sustained for one to three months; 17 HHs sustained up to 6 months; and 5 HHs sustained for 9 months. On the other hand, only 4 HHs (36.4 %) of *Brahmin/Chhetri* reported food deficiency. Excessive use of food grains for brewing local liquor might be one of the reasons for food deficiency among the surveyed *Janjati* households.

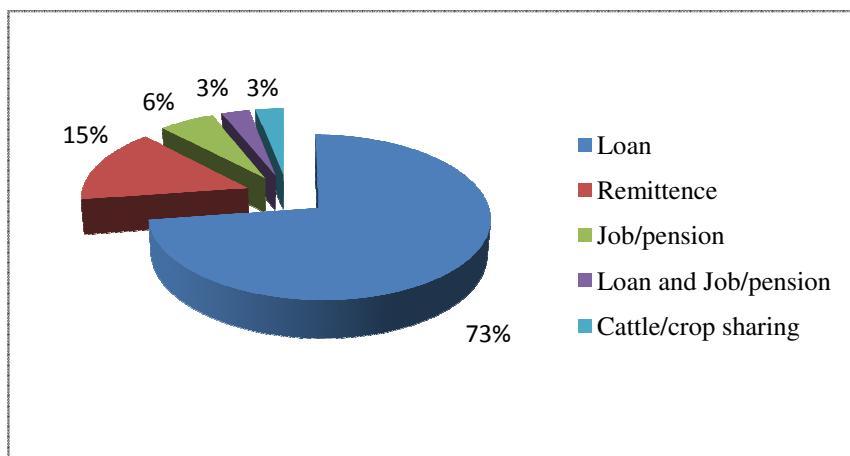


Chart 3-2: Household strategy to food sufficiency

People usually buy extra food from local market to meet their food demand. The most common strategy adopted to cope with the food shortage is borrowing loan. The survey data show, 24 households (73.0%) borrowed loan to buy food (Chart 3-2).

Migration

Table 3-18: Distribution of migrants of surveyed HHs by destination and VDC

Name of VDC	Total	Percent	India	Overseas
Amarpur	16	45.5	1	15
Thechambu	18	54.5	1	17
Total	34	100	2	32

Source: Field Survey, 2010

The Household survey data shows that 34 individuals from the surveyed households left the country for seeking employment in India and overseas. The out migrant population constituted 9.37 % of the total population of the surveyed households. This is higher than the national percentage (6.6 %) of out-migration.

Skill level

Table 3-19: Household population by skill and caste/ethnicity

Skill Type	Number of persons					Total
	Limbu	Majhi	Tamang	Brahmin	Chhetri	
Plumbing	1	-	-	-	-	1
Carpentry	3	-	-	1	1	5
Electrical	-	-	-	-	1	1
Health sector	2	-	2	-	-	2
Driving	1	1	5	1	-	8
Sewing and stitching	2	-	-	-	1	3
Handicrafts	1	-	-	-	-	1
Construction	2	-	1	-	-	2
Others	-	1	3	6	1	9
Total	12	2	11	8	4	37

Source: Field Survey, 2010

Out of 234 economically active individual (15-59 years age group) from surveyed households, only 37 people have acquired skills of different kinds (Table 3-19). The most commonly reported skills amongst male population are driving and carpentry. Skills recorded amongst female population are sewing, stitching and weaving.

Table 3-20: Desired/pREFERRED skill trainings by households

Desired/ preferred skill trainings	Caste/Ethnicity					Total
	Limbu	Majhi	Tamang	Brahmin	Chhetri	
Agro based	1	1	1	1	1	5 (10.9)
Cottage industry	1	1	0	0	1	3 (6.5)
Carpentry	2	0	0	0	2	2 (4.3)
Sewing & Stitching	0	0	0	1	1	2 (4.3)
Electrical	15	1	4	0	3	23 (50.0)
Plumbing	4	2	2	3	0	11 (23.9)
Total	23	5	7	5	6	46

Source: Field Survey, 2010

Table 3-19 shows that most of the individuals of the surveyed households are unskilled. They showed their willingness for skill trainings from KAHEP during its construction and operation. The preferred trainings are electrical and plumbing (Table 3-20).

3.2.6 Access to facilities

Drinking water and water Sources

Table 3-21: Affected HHs by sources of drinking water and caste/ethnicity

Source of drinking water	Caste/Ethnicity					Total
	Limbu	Majhi	Tamang	Brahmin	Chhetri	
Piped water	9	5	7	4	5	30
Spring	10	0	0	1	1	12
Well/ dug well	4	0	0	0	0	4
Total	23	5	7	5	6	46

Source: Field Survey, 2010

Piped water, springs and wells are the major sources of drinking water for the surveyed households. The surveyed families manage drinking water locally by individual or communal initiatives. From the field study, it is clear that there is no role of the Kabeli River for the drinking water purpose. Considering access to Tap/Pipe and Tube-well as equivalents, 30 households (65.21%) have access to piped water, while 12 (26.09 %) fetch water from nearby springs and rest 4 (9.5%) from well (Table 3-21). In terms of caste and ethnicity, higher proportion of

Brahmin/Chhetri (81.8% of total Brahmin/Chhetri) than the Adivasi Janajati (60.0% of the total Janajati households) has piped water facility.

Irrigation facilities

Most of the cultivated land in the project area is rain fed and the springs and rivulets located within the vicinity are the main source of irrigation in the project area. Most of the springs and rivulets remain dry in the winter season and irrigation from these sources is only during the monsoon season. Although there are few individually constructed temporary irrigation channels in the project area, no systematic irrigation canals can be seen during this study. This shows the poor irrigation condition of the project area. Water from Kabeli River is not considered suitable for irrigation because there is a common belief that the water of the Kabeli River does not allow the crops especially paddy to mature. In addition, the level of water is below than the agricultural fields and it is not possible to irrigate from Kabeli River especially in the project area.

Sanitation facility

Table 3-22: Households by toilet facility and caste/ethnicity

Toilet facility	Caste/Ethnicity					Total
	Limbu	Majhi	Tamang	Brahmin	Chhetri	
Yes	22	1	7	5	5	40
No	1	4	0	0	1	6
Total	23	5	7	5	6	46

Source: Field Survey, 2010

Household survey data shows that 40 (86.96%) households have toilet facility (Table 3-22). Only 6 households (13.04%) do not have toilet facility. Within Majhi, four (4) Majhi households (out of a total of five) do not have toilets. Households without toilet facility go to the nearby forests and barren lands for defecation.

Lighting and cooking facility

Table 3-23: Households by source of lighting by caste/ ethnicity

Lighting energy source	Caste/Ethnicity					Total
	Limbu	Majhi	Tamang	Brahmin	Chhetri	
Kerosene	15	3	2	1	2	23



Photo 6: A Rai woman fetching water from natural well (Kuwa)

Solar Power	8	0	5	4	4	21
Other Source	0	2	1	0	0	2
Total	23	5	7	5	6	46

Source: Field Survey, 2010

Kerosene and solar power are the major sources of the lighting energy for the surveyed households. A total of 23 households use kerosene as a source of lighting energy and 21 household have instilled solar panel for lighting (Table 3-23). Two *Majhi* HHs use *Tukimara*¹³ for lighting purpose. The HHs with solar panels are the well off HHs having better income sources compared to others. Firewood is the only fuel that is used for cooking by all the surveyed households.

Communication

Table 3-24: Households by mode of communication and VDC

Mode of communication	Name of VDC			Total	Percentage
	Amarpur	Panchami	Thechambu		
CDMA Telephone	-	-	3	3	6.5
GSM Mobile Telephone	28	2	10	36	87
Postal Service	2	-	-	2	4.3
N/A	-	-	1	1	2.1
Total	30	2	14	46	100

Source: Field Survey, 2010

The project area is not connected to landline telephone and internet facilities. Local residents use Code-division Multiple Access (CDMA) and mobile telephones for modern communication purposes. The survey data show that a total of 36 HHs (87 %) have access to mobile telephone service and only 3 HHs (6.5%) use CDMA telephone service (Table 3-24). The data (Table 3-24) indicate that all the surveyed HHs have good access to communication.

Health

Table 3-25: Households by occurrence of diseases during previous year

Suffering from any disease last year	Caste/Ethnicity					Total
	Limbu	Majhi	Tamang	Brahmin	Chhetri	
Yes	6	3	6	5	5	25
No	17	2	1	0	1	21
Total	23	5	7	5	6	46

Source: Field Survey, 2010

The household survey data shows that typhoid, asthma, anemia, blood-pressure, sugar, lung related diseases and worms are frequently occurring disease. In total, at least one member of 25 surveyed HHs (out of 46 HHs) has suffered from the disease last year. In terms of cast and ethnicity, members of 6 *Limbu*, 3 *Majhi*, 6 *Tamang*, 5 *Brahmin* and 5 *Chhetri* HHs have suffered from various kind of diseases last year (Table 3-26).

Table 3-26: Households by health seeking behaviors and VDC

Health seeking behaviors	Name of VDC	Total

¹³ *Tukimara* is a device used for lighting. It is an electronic torch that requires 3-4 dry cells of 1.5 Volts battery.

	Amarpur	Panchami	Thechambu	
Dhami/Jhakri (spiritual healer)	14	1	2	17
Local Baidya (local healer)	-	-	1	1
Health facilities	5	-	2	7
No sickness observed	10	1	10	21

Source: Field Survey, 2010

Out of 25 HHs suffering from disease previous year, 17 household first consulted local spiritual healers (*Dhami/Jhakri*) for treatment and only 7 households consulted local health post (Table 3-26). Most of the surveyed households have a preference to *Dhami/Jhakri* during the initial treatment phase.



Photo 7: A Dhami in Majhitar, Pinasi

Table 3-27: Households preference over maternity health care by VDC

Maternity Behaviors	Health seeking	Name of VDC			Total
		Amarpur	Panchami	Thechambu	
Sudeni		14	-	4	18
Local Baidya or herb specialist		2	-	-	2
Health post and hospital		10	1	10	21
Other		4	1	0	5
Total		30	2	14	46

Source: Field Survey, 2010

In contrast to the general health seeking practice, preference to the maternity health care is different. Out of 46 HHs, 21 HHs reported that they prefer to consult local health posts and hospitals, 18 households prefer local *Sudeni* (midwife) and only 2 household prefer local *Baidya* (herb specialist) for maternity health care services. Five households reported that they do not consult specialists for maternity health care (Table 3-27).

3.3 Development and challenges

3.3.1 National development priority

In the history of planned development of Nepal, the overriding objective of development efforts in Nepal is poverty alleviation. In spite of noticeable progress achieved over the past decade, there is still widespread poverty. Though poverty has always been an overriding concern of development

efforts in Nepal, it was explicitly stated as an objective only from the Seventh Plan (1985/86-1989/90) onwards. The latter, however, was the first attempt to formulate a separate plan with a long-term poverty alleviation perspective. Towards the end of the Plan period, it was derailed by the Trade and Transit crisis and the resulting economic dislocation in the late eighties. The transition to democracy in 1990, by raising popular expectations and aspirations, gave a new impetus to poverty reduction. The development plans which were formulated subsequently—the Eighth Plan (1992-1997), the Ninth Plan (1997-2002), the Tenth Plan (2002-2007) and the Interim Plan (2007-2010)—specifically had poverty reduction as their main objective. The Ninth Plan also established long-term targets and development indicators for all sectors based on their potential for alleviating poverty.

Hydroelectricity

It is evident that Nepal is experiencing a serious situation of power shortage that resulted more than 16 hours load shedding per day in dry season which is ridiculous. The national economic loss due to prolonged load shedding is not yet calculated.

On the other hand, national development has always been equated with the economic growth that will be achieved through the use of natural resources in Nepal. Particularly, hydro-electricity has been regarded as the backbone of the economic growth of Nepal. It is believed that the investment in hydro would boost economic strength of Nepal. There had never been any precedent of informing the people beforehand about impending potential adverse impacts.

The changing context

By 1980s, it became apparent that many development projects have not fulfilled their promise. The economics of projects and the neglect of social, cultural, and environmental dimensions were criticized. Top down approaches were questioned because they generally imposed programs of social change which did not take into consideration the culture and social structure of specific populations. As in most development projects, the failure of hydro-project/dam projects was attributed to the lack of consideration of the social and cultural dimensions. New concerns and approaches came to replace earlier approaches. Concepts such as local knowledge, equity, accountability, participation, human rights, and sustainable development now dominate the interactions of all stakeholders involved in development practices which can be taken as today's values.

A series of transformations at the global, national, and local levels accompanied the democratization processes of the 1990s, many of which had an effect in the way social and environmental impacts are negotiated and assessed. Some of these transformations led some stakeholders involved in the dam projects to take steps in the right direction regarding issues of equity and distribution of costs and benefits

3.3.2 Local development and challenges

It is observed that progress in essential infrastructure, such as road and telephone to the local communities are made to some extent. Progress in rural electricity generation, irrigation and supply of drinking water are yet to be made. Most of the people do not have easy access to the basic civic amenities like safe drinking water, link roads and transportation, schools, and health services because of difficult terrain. In some areas, community is actively involved in road construction utilizing the District and Village governmental grants from the central government. However, the quality of construction of these roads linking Mechi Highway are weak and if appropriate measures are not taken to improve quality, there is a danger of increasing environmental problems.

Health and sanitation facilities

Most common diseases in the project area are Diarrhea, Intestinal Worms, Sore eye, Gastritis, Acute Respiratory Infections (ARI) (District Profile and FGD). Diarrhea due to bacteriological contamination of water and food is probably more common in the hot, humid period of the year. Infections of the upper respiratory tract (coughs, colds and runny nose) and ARI are at their peak during the cold season in the project area.

There are midwives "Suden" in the villages and traditional healers. The former have a limited knowledge about delivery and postnatal care and cannot deal with serious or complicated cases. Since most of these midwives are elderly, they would not be suitable to be trained as paramedics. Many healers have no apprentices and few practice on a regular basis. It seems that the introduction of medicines, even though on a limited scale, has weakened peoples' beliefs in traditional healing practices.

Health facilities in the project area consist of only few health posts and sub-health posts. For example, the closest health post located at Amarpur-6 and one sub-health post is located at Singapur serve a total population of 7,304 and 1, 64,27,315 m² area. It is important to note that, the ratio of one doctor to population is 1:47000 in Panchthar district (CBS, 2001 and District profile Panchthar 2064). The health posts can be characterized as staff absentee and inadequately stocked with medicine. District hospital and health centers are only slightly better in terms of resources and staff. The nearest well equipped Hospitals are Eastern Region Hospital and BP Koirala Health Science Foundation that are located approximately 250 km by road in Biratnagar and Dharan respectively.

The situation of sanitation in the project areas except Pinasi seems quite satisfactory. In the case of Pinasi, most of the households especially *Majhi* indigenous communities have no toilet facilities. Sanitation condition in and around the proposed intake area is found satisfactory. Most of the household have toilet facilities. However, sanitation condition in and around the powerhouse area is not good. There is lack of toilet facilities. These households practice open defecation in nearby open areas.

Drinking water facilities

Villagers fetch water directly from the streams and creeks. These water resources are located at a distance and time consuming. There is little understanding of the potential health problems of drinking water and the primary concern is whether the water appears clear without sediment. Some elites have managed water supply in their own cost. Most of the villagers have no access to safe drinking water.

Education facilities

There are primary, secondary and higher secondary schools that are functioning properly. But, they are not well equipped and lack essential infrastructures like library, playground, proper building and classroom, teaching materials and refreshment training to the school teachers. A few students from project areas have to walk for two/three hours daily to attend their classes. For example, the students of Rajabesi have to walk for 2 and half hours to attend their class in Amarpur Higher Secondary School. Villagers have understood the importance of education. Therefore, Amarpur Higher Secondary School is financed by the VDC budget and villagers themselves through household contribution since the local government had neither the funds nor could it provide for teachers. For the higher education, villagers send their children to Panchthar, Ilam, Jhapa, Biratnagar, Kathmandu and even Darjeeling in India, which is very costly.

Transportation and communication

The project area is located in four VDCs of Taplejung and Panchthar. It has been nearly 22 years that Panchthar and Taplejung districts was linked with Birtamod by Mechi Highway. But, still all the stretch of Highway is not yet black topped. Surrounding villages/settlements are also not adequately linked with link roads and tracks. Though these districts are linked by Mechi Highway, the rural VDCs are remote and inaccessible. The availability of communication facilities (telephone, postal services etc) is limited and mostly concentrated in the market areas like Kabeli Bazaar, Singhapur etc. However, the local people have access to CDMA of Nepal Telecom and NCell mobile services.

Cooking and lighting energy

The area is not connected with the national electricity grid. Some well-off households have installed their own solar panels for lighting purpose. Majority of the households utilize kerosene lamps for lighting purpose. Fuel wood is the major cooking energy used by all households irrespective of ethnicity and caste. Improved cooking stove has been recently introduced in the project area.

Lack of good governance

Another challenge is the result of a top-down approach within the government resulting in the lack of meaningful consultation and participation of local peoples. This approach often does not take into consideration local needs, cultural beliefs and values, and ethnicity in relation to achieving policy and planning development projects. To ensure today's values- equity, justice, accountability, participation-while implementing KAHEP can be taken as a prime challenges for good governance.

3.4 *Adivasi Janajati*

Nepal is a country with vast cultural, linguistic, religious and ethnic diversity. People belonging to different religions, races, speaking more than 92 languages have been residing in this land for centuries (Dahal, 2003). Diversity gives Nepal her unique character, both in terms of its cultural wealth and complex web of social problems. Another important feature of Nepali society is its stratified structure which is based on the caste groups. The caste system divides and organizes the society in hierarchic caste groups, membership of which is solely determined by birth. Traditionally, indigenous peoples of Nepal have been outside the purview of the Hindu caste system. Indigenous communities interacted with other Hindu caste communities but largely remained separated from the Hindu caste system. The *Dalits* or untouchables are the ones who were at the receiving end of the system. These communities were historically denied access to education, forced to follow occupation not adopted by most and suffered maximum injustice due to social stigma attached to their caste.

In 2001, the CBS provided data on 100 caste/ethnic groups of Nepal and cited 92 different mother tongues. Among them the National Foundation for the Development of Indigenous Nationalities (NFDIN) has classified 59 *Adivasi Janajati*. The population of *Adivasi Janajati* is estimated to be more than 37% in Nepal. CBS 2001 recorded only 43 out of the 59 groups and 16 groups are missing. This can normally be explained by either, two or more groups being lumped together, some groups being included under the category of unidentified caste/ethnic groups or by certain groups listed are not found. Consequently, the exact number of *Adivasi Janajati* is still not determined. Among them *Magar* (7.14%), *Tharu* (6.75%), *Tamang* (5.64%), *Newar* (5.48%), *Rai* (2.79%), *Gurung* (2.39%), and *Limbu* (1.58%) are the largest groups (Dahal 2003).

3.4.1 Definition of *Adivasi Janajati* (Indigenous Peoples)

By the National Foundation for the Development of Indigenous Nationalities (NFDIN) Act 2001, GoN has identified and officially recognized 59 indigenous communities referred to as *Adivasi Janajati* in Nepali and Indigenous Nationalities in English. Recently formed a High Level Taskforce for the Revision of the List of Indigenous Nationalities 2009 has updated the list of *Adivasi Janajatis* to 81 and recommended to the government for their official recognition. In Nepal, *Adivasi Janajati* means- "a tribe or community having its own territory, own mother tongue, traditional rites and customs, distinct cultural identity, distinct social structure and written or unwritten history" (NFDIN Act 2001).

The World Bank OP 4.10 does not define the term indigenous peoples or tribal people. However, it states that for the purpose of the OP, the term "indigenous peoples" refers to "a distinct, vulnerable, social and cultural group" possessing a number of characteristics in varying degrees. These characteristics include:

- self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
- collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories;
- customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and

- an indigenous language, often different from the official language of the country or region.¹⁴

In summation, the OP 4.10 specifies some characteristics of indigenous peoples that include: self-identification as indigenous peoples and recognition by others; "collective attachment" to distinct habitats or territories and the natural resources therein; the presence of "customary cultural, social, economic or political institutions" separate from those of the dominant society; and an indigenous language, often different from the national language. In this context as mentioned in the policy, World Bank's characteristics on Indigenous Peoples (OP 4.10, 2005) may be applied to the ethnic groups on the project area in the following ways:

"Thus, the *Adivasi Janajati* of the project area should be considered as 'Indigenous Peoples' according to World Bank policy on Indigenous Peoples. The ethnic groups of the project VDCs are recognized by the government. They belong to the officially recognized 59 indigenous groups."

3.4.2 National legal and policy framework

Specific policy initiatives for the advancement of indigenous peoples and other disadvantaged groups started in 1997 with the ninth and tenth national development plans. Addressing the shortcomings of earlier plans, the current plan now includes the objective of promoting the economic and cultural development of indigenous peoples by increasing their access to administrative, social and economic resources.

The National Foundation for Development of Indigenous Nationalities Act 2002 established the first comprehensive policy and institutional framework regarding indigenous peoples. The Act created the National Foundation for Development of Indigenous Nationalities as a successor to the National Committee for the Development of Nationalities of Nepal. NFDIN is a semi-autonomous body that acts as the State's focal point for indigenous policy, with a mandate to make recommendations to the Government on measures to promote the development of indigenous groups in the social, economic and cultural areas. It has the Prime Minister as its chair, the Minister of Local Development as its co-chair, and a vice-chairperson that functions as its chief executive and who is selected from among names provided by the Nepal Federation of Indigenous Nationalities, the main national collation of indigenous organizations. Also, NFDIN has a Governing Council and an Executive Committee, both composed mostly of indigenous members. Functionally, the Ministry of Local Development oversees the activities of NFDIN, and the development and execution of Government policy on matters of indigenous peoples more generally.

The current Interim Constitution of 2007 recognizes the diversity of Nepal (Article 3), and defines the country as a secular, inclusive and democratic State (Article 4). The Interim Constitution further recognizes the status of all mother tongues as national languages, enabling their use in the governmental sector (Article 5). Each community has the right to preserve and promote its language and cultural heritage, as well as to receive basic education in its mother tongue (Article 17). In addition, the document explicitly recognizes the rights of indigenous peoples to "participate in State structures on the basis of principles of proportional inclusion" (Article 21), and, further, authorizes the State to implement special measures "for the protection, empowerment and advancement of indigenous nationalities" (Article 13).

Together with the various provisions of the Interim Constitution and the NFDIN Act, 2002 other pieces of recent legislation address specifically the situation of and call for specific measures in relation to the *Adivasi Janajati* and other marginalized groups. These include the Local Self-Governance Act (1999); the Three Year Interim Plan (2010); the 2007 amendments to the Nepal Civil Service Laws, Military Act and Police Regulation; and the Ordinance on Inclusion in Public Service (2009). The preamble to the Local Self-Governance Act, 2055 (1999) acknowledges the historical exclusion of indigenous communities and the need to incorporate them into the development process. The Civil Service Act includes a quota (reservation) system that specifies: "out of the 45 % of new recruitments reserved for various under-represented groups, 27 % are allocated to ethnic groups". The Police Regulation and the Armed Police Regulation have similar provision, in order to make the police force more inclusive. The Ordinance on Inclusion in Public Service likewise

¹⁴ World Bank's Policy on Indigenous Policy- OP 4.10

demonstrates attention to the problem of under-representation by providing a quota system that benefits indigenous peoples.

The National Human Rights Commission (NHRC), which is constituted as autonomous body, has recently started to incorporate attention to the rights of indigenous peoples within the framework of its 2008-2010 Strategic Plan, which includes a strategic area of work on "minorities". In addition, NHRC has issued recommendations in a number of specific cases and on measures for legal reform concerning indigenous peoples.

3.4.3 International legal and policy framework

International human rights regimes have made major advances in recent years to clarify what are the rights of indigenous peoples in international law. Clarifying the rights context for the proposed KAHEP will be an essential step in identifying stakeholder groups that are entitled to a formal role in the consultative process, and eventually in negotiating project-specific agreements such as project benefits, livelihood restoration, mitigation measures and compensation.

The GoN has ratified International Labor Organization Convention No.169 and supported the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) in 2007. In this regard, Convention 169 has significant legal attributes as a treaty, according to the Nepal Treaty Act. ILO 169 specifies that indigenous peoples have rights to the natural resources of their territories, including the right to participate in the use, management, protection and conservation of these resources.¹⁵ Nepal is legally bound to respect and promote and implement these rights except UNDRIP.

3.4.4 Socioeconomic status of *Adivasi Janajati*

There are disparities among different *Adivasi Janajati* groups. The *Adivasi Janajati* are a diverse group in Nepal and do not all come under one socio-economic system. While *Adivasi Janajati* groups such as *Rajis* are engaged in hunting and collecting food, *Chepangs* and *Kusundas* are occupied in slash and burn, shifting cultivation and depend mainly on natural resources. On the other hand, *Newars* and *Gurungs* are more exposed to modernity and are involved in service, industry and commerce. Thus, educational attainment and representation in Government and NGOs are not uniform among the different *Adivasi Janajati* groups.

There are disparities in terms of socio-economic standing in *Adivasi Janajati* groups. According to Nepal Federation of *Adivasi Janajati* (NEFIN 2005), 10 out of 59 *Adivasi Janajati* are "endangered", 12 are "highly marginalized", 20 are "marginalized", 15 are "disadvantaged" and 2 are "advanced" or better off on the basis of a composite index consisting of literacy, housing, land holdings, occupation, language, education, and population size (Table 3-28).

Table 3-28: Classification of *Adivasi Janajatis*

Region	Classification of <i>Adivasi Janajatis</i>				
	Endangered	Highly marginalized	Marginalized	Disadvantaged	Advanced
Mountain (18)		<i>Shiyar, Shingsawa (Lhomi), and Thudam</i>	<i>Bote, Dolpo, Larke, Lhopa, Mugali, Tokpegola, and Walung</i>	<i>Bara Gaule, Byansi (Sauka), Chhairotan, Maparphali Thakali, Sherpa, Tangbe, and Tingaunle Thakali</i>	<i>Thakali</i>
Hill (24)	<i>Bankariya, Hayu, Kusbadiya, Kusunda, Lepcha, and</i>	<i>Baramu, Thami (Thangmi), and Chepang</i>	<i>Bhujel, Dura, Pahari, Phree, Sunuwar, and Tamang</i>	<i>Chhantyal, Gurung (Tamu), Jirel, Limbu (Yakthumba), Magar, Rai, Yakkha, and Hyolmo</i>	<i>Newar</i>

¹⁵ Article 15 (2)

	<i>Surel</i>				
Inner Terai (7)	<i>Raji, and Raute</i>	<i>Bote, Danuwar, and Majhi</i>	<i>Darai, and Kumal</i>		
Terai (10)	<i>Kisan, and Meche (Bodo)</i>	<i>Dhanuk (Rajbansi), Jhangad, and Santhal (Satar)</i>	<i>Dhimal, Gangai, Rajbansi (Koch), Tajpuriya, and Tharu</i>		

Source: NEFIN, 2005

In terms of representation in Nepal's power structures, *Janajatis* other than *Newars* constitute a small percentage. However, in Constitutional Assembly (CA) member election 2008, of total 601 CA members, 36.3 % of elected members (216) are *Adivasi Janajati*. This marks a dramatic increase of *Janajati* representation in the nation's highest policy making body as compared to the 24.3 % of the House of Representative members in the 1999 election.

Nepal Living Standard Survey, 2003/04 shows that the national literacy rate (15 years and above) is 48 %. Male and female literacy rate stands at 63 % and 39 % respectively. The male and female literacy rate (6 years and above) stands at 62.1 and 37.6 in EDR. According to the Census 2001, the national average literacy rate is 53.7 %. The literacy rate varied widely among the various caste/ethnic groups in the Census 2001. While *Newar/Thakali* figured with the highest proportion of literates at 72 %; the literacy rate of *Limbu* is 59 %, *Rai* 58.8 %, *Magar* 57.7 %, *Gurung* 57.6 %, *Sherpa* 45.8 %, *Tamang* 42.0 %, and *Majhi* 37.4 %.

Poverty is rampant among *Dalits* and *Janajatis*. A high incidence of poverty is found among *Dalits* (46%) (NLSS 2003/04). During 1995/96 to 2003/04, the poverty decline occurred more than 20% among Hill *Janajati* compared to 46% Hill *Brahmin/Chhetri* (UNDP 2009).

According to the CBS 2001, the national average literacy rate for women is 42.5 %. The literacy rate for *Janajati* women is 43 %. Among the *Janajati* groups, *Newar* and *Thakali* female literacy rates stand highest at 63.4 % and 62.5 % respectively. The female literacy rate of *Limbu*, *Rai*, *Magar*, *Gurung*, *Sherpa*, *Tamang* and *Majhi* is within 25 to 50 percentages.

3.4.5 *Adivasi Janajatis* in the project VDC

The project VDCs has mixed communities. These communities reflect a wide range of cultural, linguistic and religious background.

Demography

The population of *Adivasi Janajati* is 11,262 of the project VDCs, which is 53.4 % of the total population. In the project VDCs, the distribution of *Adivasi Janajati* groups shows that there are *Nangkholyang* (73.84%) with an absolute majority of *Adivasi Janajati* followed by *Panchami* (50.21%) *Thechambu* (48.86%), and *Amarpur* (47.42%) (Table 3-29). *Adivasi Janajati* is 53.40 % of the total population of four project VDCs.

Table 3-29: Indigenous Population in the project VDCs, 2001

District	VDCs	Total VDC Population	Total Population of Indigenous Peoples*	
			Number	% of VDC Population
Taplejung	<i>Nangkholyang</i>	4015	2965	73.84
	<i>Thechambu</i>	3772	1843	48.86
Panchthar	<i>Amarpur</i>	7743	3658	47.42
	<i>Panchami</i>	5568	2796	50.21

Total	21089	11262	53.40
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Source: CBS, 2001

* Limbu, Rai, Tamang, Gurung, Sunuwar, Sherpa, Newar and Majhi

Adivasi Janajati communities

Within indigenous groups of the project affected VDCs, the first three major indigenous groups are *Limbu* (56%), *Rai* (14%) and *Tamang* (10%). Amarpur is the most affected VDC by the project activities and most of the affected households are from *Limbu*, *Tamang* and *Majhi* indigenous groups. Each of these groups is briefly described below:



Limbu

Limbus were the *Kipat*¹⁶ holders in the eastern hill district of Nepal. They occupied these areas under *Kipat* tenure by virtue of being "first settlers". The most important characteristic of this form of land tenure is the inalienability of the land: as *Kipat* land was tied to the social group, it could not be sold to immigrants by virtue of its nature (Regmi, 1978). According to the Land Evictions of the Country Code (1963), *Kipat* which lacks official documents, is equivalent to *Raikar*¹⁷ lands on which taxes can be levied. This has led to the loss of indigenous based communal ownership i.e. transforming *Kipat* land into *Raikar* land which can be used, transferred, and disposed of by anyone. Numerous linguistic relics still bear witness of the period in which the *Limbus* were the first settlers in their territory. For example, there are many places- Thechambu, Nangkholyang, Angbung (later became Amarpur) and rivers-Tawama

Photo 8: Limbu Adivasi Janajati

(later became Tamor), Kawama (later became Kabeli), Fawakhola etc were named in *Limbu* language. *Limbu* as one of the major indigenous communities of the project area, hold their ancestral lands; their languages are in common practice, their ethnological history is alive, they have their own myths, customs, rituals and the traditional socio-political institutions are still effective to some extent, and their tangible cultural heritage is still safe. The *Limbu* (they call themselves "Yakthumba") can be considered as the 'original' inhabitants of the area since all other groups have migrated to the area at a later date, according to historical evidence (Caplan, 1970). They now comprise 53.40 % of the total population of the project VDCs (Table 3-29). *Limbus* of the project areas consists of number of sub-group (*thar*) which may be referred to as sub-tribes. Some, such as *Mennyangbo* are found in the Thechambu VDC, Khimding in the Nangkholyang VDC, *Hembya* and *Lingden* in the Amarpur VDC and *Sigu* in the Panchami VDC. Many of the *Limbu* have inter-married with *Rai* and other indigenous and caste groups.

Rai

Rai is another *Adivasi Janajati* group that have migrated to the present locality from 18th century onward from Majhi Kirat (Middle Kirat region). *Rais* are viewed as the largest Kirati group. There are more than twenty eight linguistically and culturally distinct groups subsumed under the ethnonym "Rai" and numbered among the "autochthonous" inhabitants of the eastern Nepal hill area, who are generally known as Kirat (Gaenszle, 2000). It was only during the course of the past century that this title became an ethnonym for the corresponding groups (Yamphu, 2007). However, the term "Rai" is not by origin an ethnonym but a title conferred by Hindu rulers upon one segment of the tribal

¹⁶ Traditional land tenure system. In this system, "A *Kipat* owner derives rights by virtue of his membership in a particular ethnic group, and/or its location in a particular area. In contradiction to the *Raikar* system of land tenure and its derivatives, therefore, *Kipat* represents a communal form of land tenure." (Regmi 1978:534).

¹⁷ *Raikar* is a form under which the state functions as the landowner.

chieftain of East Nepal in recognition of their semi-autonomous status, but also with the idea of incorporating them into the state administrative system. *Rai* is a title conferred upon the *Jamindars* (landlords). In the project area, there are *Thulung*, *Dumi*, *Sampang* and *Chamling Rais*. These *Rai* communities are found in both upstream and downstream area of the project.

Tamang

Tamang form one of the major Tibeto-Burman speaking communities in Nepal, and maintain a belief that they originally came from Tibet (Bista, 1967). Originally, they were the inhabitants of just surrounding of the Kathmandu valley that have migrated to the present locality in 1750 BS (18th century) from Trisuli (based on local informant). Seventh generation of *Nishur Tamang* people now are living in the project area. *Tamang* living in the project area retain very little of their original culture, art, or religion. They usually adopt the cultural patterns of their immediate neighbors. There are many sub-groups (*thar*) in *Tamang* community such as *Nisur*, *Pakhrin*, *Waiba*, etc. *Tamang* of the project area are Buddhist and they have their own monastery (Gumba). Every ritual of *Tamang* is guided by Lamaism. Mostly, *Tamang* are found in the upstream area of the project.



Photo 9: Tamang Adivasi Janajati

Majhi

Majhi (traditionally known as fisherman) are one of the indigenous communities of Nepal. The main traditional occupation of the *Majhi* people is boat building and riverain transport services. The *Majhi* people are only found in Pinasi-9 of Amarpur, near the powerhouse site. The *Majhi* of Pinasi Amarpur-9 have lost their mother tongue. They are economically, socially and politically weak group. According to the NEFIN's classification, *Majhi* is defined as a highly marginalized group.

Newar

Newar are the indigenous inhabitants of Kathmandu valley. They are scattered across the country especially in every market town and village in the outlying districts, the hills and the Terai. According to the NEFIN's classification, *Newar* is defined as advantaged group. However, in the project site, *Newar* community lived in the downstream area (Ampur-7, Apegauda) and has more than 10 households. They called themselves as *Newar*, however, they have totally lost their culture and language and their traditional life style.

Self-identity

Oral literature and language

The Adivasi Janajati communities especially, Limbu are very rich in language and oral literature in the project area. Limbu language has its own script known as *Kirati Srijanga* script (Photo 10). The villages and rivers are named in Limb language which later changed with Hindu meanings. For example Amarapur (*Angbung* "L"), Kabeli Khola (*Kawama* "L"), Thechambu, Nangkholyang, Panchami (*Simbuwa* "L"), Bijuli Bhanjyang (*Khekmaukham* "L") etc. are later changed names. They have myths and mythology attached with this territory.

As reported during consultations, Amarpur was originally inhabited by *Lepcha* and *Limbu* forefathers defeated them and acquired Amarpur. Present *Sangdang*, *Sigu* and *Mayong Thebe* clans of *Limbu* were once *Lepcha*. Some historical sites of *Limbu* are also located in the project area. An historical palace is located in the top of Amarpur VDC ward no 3 where remainders of old palace are still found. According to myths, two clan groups of *Limbu*- *Thindaling Khokyang* and *Yonghyang* had fought in that place.

Adivasi Janajati communities of the project **Photo 10: Srijangi script**

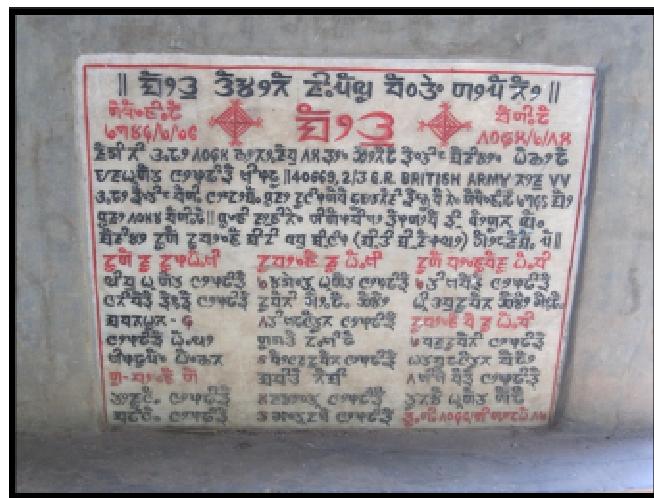
areas have practiced traditional occupation.

possessed indigenous knowledge, and preserved it for a long time. Limbu have profound attachment to their land and territory that invigorates various components of culture. Their culture, traditional customs and socio-political institutions are alive, strong and effective to a great extent because their language is alive and have their own mythology or values, norms and belief system. The Limbus as dominant group even within the *Adivasi Janajati* groups who were enjoying ethnic autonomy till some decades ago and have remained intact. In the project area, cultural enrichment does not produce racial enmity or inter-group conflicts; rather it helps to increase the feeling of brotherhood and cooperation. However, advancement in the stages of development and frequent contact with outside world may lead to cultural destruction.

In the project area, there are no cultural and archaeological sites that are directly affected and would therefore have to be moved. Based on the FGD discussions and field visit, did not encounter any items of archaeological importance. No evidence of prehistoric human habitation; no stone implements or other indications of Paleolithic or Neolithic habitation were found. However, there are some sacred places and historical sites associated with the existence of *Limbu* that are located in the near vicinity from the project area.

Kipat –Subangi

It can be argued that the *Kipat* was the basis of cultural autonomy of Limbu. *Kipat* seemed as a symbol of ethnic and political identity among the Limbu. *Kipat* was first introduced in 1774 and the government has tried to withdraw these rights by forcing the *Kipatiya* to abide by national policies and regulations that undermine the autonomy granted in the *Kipat* system (Caplan, 1970). But the emergence of *Kipat* system is not clear. In this regard, Gaenszle writes, "While the origin of the *Kipat* system is not entirely clear, it already existed under the Sen Kings in Kirat, as only those plots of land that were held in *Kipat* at the time were recognized by the Gorkhalis" (Regmi, 1978: 537, cited by Gaenszle, 2000). According to the Land Evictions of the Country Code (1963), *Kipat* which lacks official documents, is equivalent to *Raikar* lands on which taxes can be levied. This has led to the loss of indigenous based communal ownership i.e. transforming *Kipat* land into *Raikar* which can be used, transferred, and disposed of by anyone.



The main characteristic of the *Kipat* system is the inalienability of the land. The *Kipat* land was tied to the social group and in the course of time, it had become the socio-political address of the *Limbu*. *Limbu* use *Kipat* or refer to the specific plots of land they farm, the term means much more than that. Everyone can find a *Limbu* talking about *Kipat* with pride and possessiveness. *Kipat* means land their ancestors cleared and made land that they did not have to buy. *Kipat* means old thing; It counts them to past that is more glorious than that of other ethnic groups in Nepal. Only those *Limbu* who are the descendants, direct or adopted, of the original ancestors who first settled in the village can hold *Kipat* rights to the lands in *Limbuwan*. *Kipat* connects them with more than the past grandeur of their *Kiranti* ancestors. They are not like others, such as *Brahmins*, *Chhetris*, *Sherpas*, *Tamang*, *Newars* and *Gurungs*, who had moved into *Limbuwan* after the unification of the Kingdom. *Kipat* draws a conceptual boundary between those who are footed in the land and history of *Limbuwan* and those who are not.

Later, the *Kipat* system was abolished through Land Reform Act 1964. As a result *Limbu* and *Rai* are historically deprived of land and natural resources. The dominant groups have expropriated land, habitats, water and other natural resources¹⁸ that were once communally owned known as *Kipat* by the *Limbus*.

Ritual practices, traditional institutions, and customary laws

The traditional systems of the indigenous groups of the project area like worshipping villages, places, hills, mountain, rivers, streams, lakes, ponds, and trails are still in practice. They believe that deities are living on the earth. Deities are not represented in human figure icons, rather are worshipped in the form of natural objects like stone, trees etc. It is believed that deities seem to be sensitive to humans and appear to their devotees through the medium of humans (shamans, spirit possessors). Service to deities is performed by their respective priests or shamans. Regular worship is not compulsory and offerings are given on particular occasion and deities are propitiated when needed. Myths and tales describe the greatness of such traditions. The reasons for the tradition of practicing rituals rely on the ground that deities are of cruel nature and they are propitiated than adored. Rituals for the propitiation of deities are performed to recover from ailments, to ensure wellbeing of children, to secure economic activities, to relieve anxieties, and to restore hope and confidence. Festivals in honor of the deities are celebrated and special sacrifices are performed in order to avoid trials and tribulations. These rituals are just the means to achieve an end.

Cultural and archaeological sites

The SA team carried out a screening exercise to map out cultural and archaeological sites located in the project VDCs. There are no cultural and archaeological sites (especially of *Adivasi Janjati*) located within the project area but there are some sites located in the surrounding VDCs (Table 3-30). None of them will be affected directly, however, indirect impact may be observed on some cultural and ritual activities associated with these cultural sites.

Table 3-30: Cultural and archaeological sites of *Adivasi Janjati* located in the project VDCs

S N	Name of cultural/archaeological resources	Area located	Distance	Time you worship	Socio-cultural importance	Associated with
1.	Phaudar Paty	Mechi Highway	2km from Singapur		Historical	
2.	Hillihang Palace	At the meeting point of Nagi, Amarpur and Panchami VDCs.	It is 4km from Hembyegaun	In December	Ancient palace of Limbu King	It is associated with the existence of <i>Yakthumba</i> in the present territory.

¹⁸ Special Rapporteur on the situation of human rights and fundamental freedoms of Indigenous peoples Report 2007-A/HRC/12/34/Add.3

3.	Khalanga Palace	Amarpur-3	3 km from Hembyagaun, Amarpur-6	Morning/Evening but occasionally	Ancient palace of Limbu King	It is associated with the existence of Yakthumba Power
3	Shingha Devi	Amarpur-6,	3.5 km from Rajabesi	Chandipurne (Full Moon Night of Baishak)	Religious	
4.	Manghim	Prunedanda, Thechambu	2 km from headwork	Morning/Evening but occasionally	Historical/cultural site of Limbu ethnic group	It is associated with the existence of Yakthumba
5	Chetlung	Amarpur-4	4 km from Hembyagaun		Historical border that divides ethnic territory	It is associated territory and autonomy of Limbu clans

Source: Field Study 2010

3.5 Gender, disadvantaged and vulnerable groups

3.5.1 Vulnerable communities in Nepal

Vulnerability is a multi-dimensional concept that needs to be defined within the specific contexts in order to be meaningful and useful for project impacts and planning purposes. In the context of the KAHEP, vulnerability refers to the households and the communities that may have considerable difficulties in participating in the livelihood restoration process and benefit sharing due to serious lack of required skills, resources, experience and organization. KAHEP tends to produce benefits that accrue to groups other than those who bear the social and environmental costs. Those who bear the costs are quite often poor, and vulnerable or unrepresented such as *Adivasi Janajati*, women and *Dalits*. It should also be understood that vulnerable groups face considerable problems in the adjustment to new sites and transition to different livelihood systems. Care must be taken and provided additional measures to ensure that they too become project beneficiaries.

National Living Standard Surveys for 1996 and 2003, Human Development Report 2009 and major other statistical sources in Nepal clearly demonstrate that women, disadvantaged *Janajatis* and *Dalits* are not just excluded socially but are also likely to be economically backward compared to other groups. The degree of vulnerability of these three groups increases if they are landless, live in remote locations and work as marginalized farmers or agriculture laborers. Therefore, the above three groups are disadvantaged in terms of:

- (i) access to livelihood, assets and services;
- (ii) social inclusion and empowerment;
- (iii) poor resource base and are considerably below the poverty line;
- (iv) highly dependent on natural resources, are only partially integrated into market economic activities;
- (v) socio-economic marginalization; and
- (vi) cultural criteria.

3.5.2 Vulnerable communities in the project area

Based on above stated criteria, the following groups are considered vulnerable groups:

- Indigenous Peoples (*Adivasi Janajati*);
- *Dalits*; and
- Women headed households.

Adivasi Janajati

The sub-section 3.4 describe the status of socio-economic situation of *Adivasi Janajati* and their related rights. In consideration of above issues, *Adivasi Janajati* have been considered as vulnerable group in the project area.

Dalits

The term *Dalits* refers to people who are religiously, culturally, socially, economically and historically oppressed, excluded and untouchables. The *Dalits* community lives in many regions of Nepal, practices many faiths, is multi caste and multi lingual and embraces a rich multi-cultural diversity. However, confusion yet exists, which group falls in the category of *Dalits* (Bennet, 2006). For instance, Ministry of Local Development (1997) defined 23 groups as *Dalits*, while *Dalits* Commission (2003) and Dahal et al (2002) classified 19 groups and the Census 2001 identified and counted only 16 *Dalits* groups. Despite national and international provisions legislating against discrimination, *Dalits* are the *de facto* 'untouchables' of contemporary Nepal. They are frequently denied access to public places and the right to drink water from public wells. They are the victims of violence because of social taboos. They endure an estimated 205 forms of discriminatory practice in their daily lives.¹⁹

The name '*Dalits*' mean the oppressed. It is a term used by the *Dalits* themselves to denote their protest. In the past, the term '*Dalits*' was used to refer to all of those groups who were oppressed, but in contemporary Nepali parlance, it is used to refer only to those officially categorized within the ex-untouchable castes by law and for a couple of decades it has been used as a common identity of a group of people, who are legally ex-untouchables and behaviorally present untouchables (Kisan; 2009). The state of untouchability is the first and foremost identity of *Dalits*.

According to the Census 2001, *Dalits* comprises 13 % of the total population but the figure is contested. *Dalits* are more than 30% of the population in 211 VDCs of west and far-west hills and eastern Tarai. Hill *Dalits* such as Kami, Damai and Sarki are widely distributed and they comprise 81, 71, and 55 % respectively of VDCs population. In 31 districts, *Dalits* population is higher than 12 %. They are in absolute majority in 12 VDCs of 8 districts. Another fact is that *Dalits* people outnumber Yadav in 8 districts of eastern Tarai (Sharma, 2007 pp.51).

A study shows that 23% of hills origin *Dalits* and 44% of Madhesi *Dalits* are entirely landless²⁰ along with the *Haliyas* (a kind of bonded labor) who were working on other people's land. The literacy level of *Dalits* groups is much lower (33.8%) than the national average of 54.1% (CBS, 2001). Literacy among the Terai *Dalits* is lower (21.1%) compared to that of the Hill *Dalits* (41.9%). Considering the health and nutritional status, the life expectancy of *Dalits* at birth is 57.7 years compared to the national figure of 60.4 years (CBS, 2001).

There are nearly about 110 *Dalits* households distributed in the ward no 3, 4, 6 and 8 of Amarpur VDC. The largest group is that of the metal workers, the Biswakarma, including Kami (blacksmiths)



Photo 11: Interaction with *Dalits* at Amarpur-4, Bhaluchowk

¹⁹ Bhattachan, KB. etc. Al. 2003. *Existing Practices of Caste-based Untouchability in Nepal and Strategy for a Campaign for its Elimination*. Kathmandu: Action aid Nepal.

²⁰ Sustainable Development Forum. 2006. Ownership of *Dalits* in Land: A Study. Kathmandu: Sustainable Development Forum

and Sunar (gold workers). Damai (tailor) is another dominant group in the Amarpur VDC. The average family size of the *Dalits* was 6. The project will not directly affect any *Dalit* household.

Women

As per the 2001 Census, women constitute almost 43 % of the labor force, 48 % in agriculture and 34 % in the non-agriculture sector. In addition, about 5 % of the households reported some land in legal ownership of female. Similarly, only 0.8 % households have house (ownership) in women's name. Only 5.4 % households reported ownership of livestock, despite multiple credit-institutions targeting and funding this activity for women. Only 0.8 % household had all three, house, land and livestock in female ownership. Female headed households, which constituted about 15 % of the total surveyed households, owned smaller land holdings than male headed ones. Compared to male heads, female heads of the households are educationally much more disadvantaged.

The overall literacy rate of women in Nepal is only 42.49 %, which is remarkably low as compared to men, i.e. 65.08 %, leading to a gender gap of 22.6 %. Women's contributions to the economy in the form of household maintenance and care work continue to remain unaccounted for (CBS 2001).

As in other parts of the country, women are often dominated by men in the project area also. Women are generally involved in household activities like cooking, washing, rearing of children and agricultural activities. However, a few women in the project area are engaged in skilled works that includes teaching, small businesses, sewing and knitting of household woolen mats, etc. Women have larger workload in the home but their work is not generally evaluated because men work outside the home and they are considered as the main earner for the family. Women are often deprived of the decision making authority and pursuing alternative sources of livelihood. In the project area, women have user rights over the land and forest, but are rarely allowed to inherit the land they use. The family also controls women's agricultural labor through various social mechanisms. Women are not commensurate for the labor they expend on the land in both farm and nonfarm activities.

CHAPTER 4

PROJECT IMPACT AND IMPACT ANALYSIS

4 PROJECT IMPACT AND IMPACT ANALYSIS

4.1 Project impact zones

The project affected VDCs comprise Amarpur and Panchami of Panchthar district and Thechambu and Nangkholyang of Taplejung district. Amarpur VDC will be the most affected VDC as the major project structures like Headworks, Surgeshaft, Waterways and Powerhouse are located in this VDC. Thechambu VDC will experience impacts due to the dam construction and dewater stretch. The total length of dewater stretch from headworks to the Kabeli-Tamor confluence is about 4.6 km. The left bank of the dewater zone lies in Amarpur VDC, whereas there are Thechambu and Nangkholyang VDCs along the right bank.

Based on the potential social and environmental impacts of the project, the project-affected areas are classified as direct impact areas and indirect impact areas. The direct impact area includes the dewater stretch and the areas where most of the construction activities of the project take place and high level of impacts are anticipated. In the project area most of the construction activities are carried out in Dhuseni, Pinasi, Dubichaur, Phodarpatti of Amarpur VDC and Khudurke of Thechambu VDC. The dewater stretch lies along Dhuseni, Rajabesi, and Kabeli Bazaar of Amarpur VDC, Kharelgau of Thechambu VDC and Kaharegau of Nangkholyang VDC.

The surrounding area or the indirect impact area consists of areas that will not be directly affected by the construction activities. The area consists of forest areas and settlements within 3 to 4 hours walking distance from the project site. However, supplying of raw material and goods for construction activities and the contribution of labor to the project by the settlements could indirectly disturb the biotic and social environment in this area. Table 4-1 and Table 4-2 give the details of the settlements under direct and indirect impact Areas respectively.

Table 4-1: Settlements in the direct impact area and associated impact

S.N	Impact zone	Impact	Locaiton/Settlements
1	Reservoir	<p>Inundation of land:</p> <ul style="list-style-type: none"> - 0.293 ha of agricultural land -0.57 ha of forest land -9.11 ha of riverine area <p>Construction related impacts</p>	Dhuseni of Amarpur VDC and Khudurke of Thechambu VDC
2	Barrage, operating Platform, sensor building and intake	<p>Permanent loss of land:</p> <ul style="list-style-type: none"> -0.954 ha of agricultural land -0.03 ha of forest land -2.68 ha of riverine area <p>Construction related impacts</p>	Dhuseni of Amarpur VDC
3	Powerhouse, switchyard, surgeshaft and penstock alignment	<p>Permanent loss of land:</p> <ul style="list-style-type: none"> -2.182 ha of agricultural land -0.97 ha of forest land -1.47 ha of riverine area <p>Construction related impacts</p>	Pinasi of Amarpur VDC
4	Campsite at headworks	<p>Permanent loss of land:</p> <ul style="list-style-type: none"> -0.709 ha agricultural land <p>Temporary acquisition of land:</p> <ul style="list-style-type: none"> -2.20 ha agricultural land <p>Construction related impacts</p>	Dhuseni of Amarpur VDC
5	Campsite and engineer's camp at powerhouse	<p>Permanent loss of land:</p> <ul style="list-style-type: none"> -3.54 ha agricultural land <p>Temporary acquisition of land:</p> <ul style="list-style-type: none"> -3.70 ha agricultural land <p>Construction related impacts</p>	Pinasi of Amarpur VDC
6	Quarry sites, aggregate crushing, storage and batching plant at headworks	<p>Temporary acquisition of land:</p> <ul style="list-style-type: none"> -3.50 ha riverine area -1.0 ha agricultural land <p>Construction related impacts</p>	Rajabesi and Dhuseni of Amarpur VDC
7	Quarry sites, aggregate	Temporary acquisition of land:	Pinasi of Amarpur VDC

	crushing, storage and batching plant at powerhouse	-3.30 ha riverine area -2.41 ha agricultural land Construction related impacts	
8	Spoil/muck disposal (Headworks)	Temporary acquisition of land: -4.60 ha riverine area	Dhuseni of Amarpur VDC
9	Spoil/muck disposal (Powerhouse)	Temporary acquisition of land: -4.50 ha riverine area	Pinasis of Amarpur VDC
10	Tunnel alignment	Construction related impacts	Dhuseni, Dubichaur, Phodarpatti and Pinasi of Amarpur VDC
11	Downstream (4.6 km from headworks to Tamor-Kabeli confluence)	Reduce flow: -3 creamanation sites, and 1 temple - impact on fishing	Dhuseni, Rajabesi, and Kabeli bazaar of Amarpur VDC, Kharelgau of Thechambu VDC and Kaharegau of Nangkholong VDC

Source: Field survey, 2010

Table 4-2: Settlements in the indirect impact area

Districts	VDCs	Settlements in Indirect Impact Area
Panchthar	Amarpur	Bhaluchowk, Kurledanda, Simle (Aapegauda), and Bhadure (Jogidanda)
	Panchami	Tilhar
Taplejung	Thechambu	Khalte, Chiphewa
	Nangkholong	Myakha

Source: Field survey, 2010

4.2 Project adverse impacts

4.2.1 Impact on land

Loss of land

The project will acquire 22.508 ha of land on permanent basis (Table 4-3). However, KAHEP will not need to displace any family completely. Of the land use types acquired permanently, only 7.678 ha is agricultural land and 1.57 ha is forest land, the rest is the riverine area.

Table 4-3: Land required for construction of the project (in ha)

Project Component sites	Land acquisition (ha) according to the Land Category						Total	
	Private land (Cultivated and Marginal)		Forest land		River			
	Temp-acquired	Perm-acquired	Temp-acquired	Perm-acquired	Temp-acquired	Perm-acquired		
Reservoir	0	0.293	0	0.57	0	9.11	9.973	
Barrage, Operating Platform, Intake	0	0.954	0	0.03	0	2.67	3.654	
Sensor Building	0	0	0	0	0	0.01	0.01	
Powerhouse and Switchyard	0	2.182	0	0.27	0	1.47	3.922	
Surgeshaft and Penstock Alignment	0	0	0	0.7	0	0	0.7	
Access Road to Headworks	0	0	0	0	0	0	0	
Access Road to Powerhouse	0	0	0	0	0	0	0	
Campsites at Headworks	2.20	0.709	0	0	0	0	2.909	
Campsites at Powerhouse	3.70	0	0	0	0	0	3.70	

Engineer's Camp at Powerhouse (Permanent)	0	3.54	0	0	0	0	3.54
Quarry Sites at Headworks	0	0	0	0	3.50	0	3.50
Quarry Sites at Powerhouse	1.01	0	0	0	3.30	0	4.31
Aggregate Crushing, Storage and Batching Plant etc (Headworks)	1.0	0	0	0	0	0	1.0
Aggregate Crushing, Storage and Batching Plant etc (Powerhosue)	1.40	0	0	0	0	0	1.40
Spoil/Muck Disposal (Headworks)	0	0	0	0	4.60	0	4.60
Spoil/Muck Disposal (Powerhouse)	0	0	0	0	4.50	0	4.50
Total	9.31	7.678	0.00	1.57	15.90	13.26	47.718

Source: Field Survey, 2010

Temporary land use

The project will acquire 25.21 ha of land on temporary basis (Table 4-3). Major part of the temporary land required (15.90 ha) lies in the riverine area being occupied by the project facilities such as quarry, muck disposal etc. The agricultural lands required temporarily are the sites of construction camps and storage facilities totaling of 9.31 ha. The proposal does not envisage usage of the forest area for temporary use.

4.2.2 Possible loss of access to NTFP

A total of 0.33 ha forest area of Kabeli Garjite and Thulo Dhuseni Community Forests (CF) at the headwork site will be acquired permanently by the project for construction of project structures. In addition, the project will acquire 0.97 ha of Pinasi Leasehold Forest at the powerhouse site. The Community Forests at headworks are used by the local forest users to collect Non Timber Forest Products (NTFP) for religious and medicinal purposes. Acquisition of forest area in these CF will result into reduced access to NTFP.

4.2.3 Impacts on fishing

Diversion of the Kabeli River will have effects on riverine fish resources of the Kabeli from November through June for nearly 4.6 kilometers downstream. The communities living close to the river usually go for fishing when they are free from the agricultural works in the field. This is a short of recreational fishing. The collected fish is used for household consumption as protein supplement. Based on FGD with local communities, there are no professional (fulltime) fishermen along the dewatering stretch of the Kabeli River.

4.2.4 Impact on physical cultural resources

A rest house (*Pati*), Pinase Ghat, for resting when funeral procession takes place is located in the powerhouse site. This Pati is likely to be affected by the project due to its close proximity to the project construction sites.

Panchayan Shivalaya Temple located about 2.5 km downstream at Kabeli Bazar is an important religious temple where people gather to worship *Shiva* and *Parbati*²¹. It hosts different religious performances in different occasion that require fresh water of the Kabeli River basically for bathing and cleaning the temple. The rituals and cultural activities related with the temple is likely to be affected due to reduced flow in the Kabeli River.

There are three cremation sites located at the dewater stretch. The Kabeli cremation site is one of the most common sites in the dewater stretch located about 2.5 km downstream at Kabeli Bazzar.

²¹ Hindu God and Goddess

People from surrounding VDCs also bring dead bodies to cremate at this site with a long-lived belief that if dead are cremated in the Kabeli River, they will go to heaven. The altered river flows will impact the Kabeli cremation site to some extent.

Hindu pilgrims from the surrounding VDCs come to take religious bath at Tamor and Kabeli Rivers to worship in every religious day like *Aushi*, *Kuse Aushi*, and *Matatirtha* as per their accessibility to the rivers. In the dry season, reduced flow at dewater stretch will affect this activity related with Kabeli River.

Majhi community of Pinasi village performs rituals like *Udyouli* and *Ubhauli*, *Dhuli Puja*, *Sansari Puja*, *Tamor Puja* etc. in the Tamor River. Among them, *Sansari* and *Dhuli Puja* spots are located in the temporarily affected land of the powerhouse site. The construction activities at powerhouse site will impact such ritual practices.

It is reported that Trout (*Schizothorax* sps.) and Stone carp (*Psilorhynchus pseudochenius*) are ritually required for *Adivasi Janajati* (*Limbu*, *Rai* and *Majhi*) to worship and propitiate their clan deities and for other ritual performance. Low flow of water in Kabeli River at the dewater stretch during the dry season might result in decline of such fish species.

4.2.5 Construction related/contractor operation related impacts

During construction, the project area will witness an increase in population due to an influx of workers and service providers. The increased population will further strain the local water supply, health, and sanitation facilities, especially around the construction camps. In addition, lack of proper sanitary measures and increases in water pollution and waste can lead to outbreak of epidemics and diseases such as jaundice and typhoid, particularly among the elderly, women, and children. The influx of a labor force from other areas will probably spread sexually transmitted diseases, including HIV.

The construction activities such as blasting, using heavy equipment and working in dangerous areas may cause accidents and injuries. The sufferers will most probably be construction workers although injuries to local people are also possible.

The existing civic amenities in the project area are in poor condition and the project area has limited local level institutions. The influx of workers and job seekers into the project area could put extra pressure on public facilities like transportation, health posts, police posts and schools in the project area especially in Ward No. 5, 6, and 9 of Amarpur VDC.

The influx of large number of people with different social and cultural backgrounds and the sudden inflow of cash at the same time may result in social abuse such as alcohol consumption, prostitution (illegal), etc. These impacts may lead to resentment and friction among local residents and the incoming workers that will affect the peace and harmony of the project area.

4.2.6 Impacts on *Adivasi Janajati* and disadvantaged groups

Adivasi Janajati, *Dalits* and women are considered as vulnerable groups in the project area. Among the indigenous groups, *Majhi* of Amarpur-9 Pinasi is a special group that deserves special attention in the context of KAHEP as they are highly marginalized and very poor. Due to low level of marketable skills and lack of proficiency in competencies, it is unlikely that they will secure formal employment during the construction phase.

4.3 Impact analysis

4.3.1 Impact on land

Affected population due to permanent acquisition of land

A total 13 households will be directly affected by permanent acquisition of their land for construction of different project features. These directly affected household (13 HHs) who lose their assets due to project activities area termed as Project Affected Population (PAF). Detail about the PAF and their assets loss are presented in Table 4-6. In terms of caste and ethnic groups, 10 HHs from indigenous people (6 *Tamang*, 3 *Majhi* and 1 *Limbu*), and 3 *Brahmin/Chettri* HHs will lose their land permanently.

Land loss percentage and land holding

Permanent land acquisition is of concern in terms of land utility and services rendered in the long term to the land owners. Among the 13 PAFs*, most of the households (8 HHs) will lose less than 25% of their land and only two household lose more than 50% of their land. Land loss percentages of PAFs are presented in Table 4-4. The highest loser household will lose about 70.59 % of its ancestral land (Table 4-6). The two families who lose more than 50% of their ancestral land are financially and socially well off families. A total of six (6) family members of these families are in nonfarm activities (Table 4-6) and agriculture is not their primary source of livelihood. The key impact to the individual owner relates to loss of ancestral land, a sense of attachment to the ancestral land. None of the affected families are physically and economically displaced completely.

Table 4-4: Land loss percentage of Affected Households

Percentages of land loss	Total HHs
<10%	4
10-25%	4
25-50%	2
>50%	2
Total	12*

Source: Field Survey, 2010

*One HH members were unavailable during HHs survey as they had migrated from the Project area

The average landholding size of the total PAFs is 3.02 ha, which is much higher than the national average of 0.8 ha (15.74 ropanies) per household and district average of 0.81 (Panchthar district) and 0.89 (Taplejung district) (CBS, 2001).

The affected private land is agricultural land. The quality of land in Nepal is categorized into four categories. This categorization is based on the quality of productivity and fertility. *Abal* means grade "A" or high quality land, *Doyam* means grade "B" or medium quality land, *Sim* means grade "C" or lower quality land and *Chahar* means "D" grade land or lowest quality land. None of the "A" grade (*Abal*) land is affected by the project. Most of the affected land falls under "C" grade (*Sim*), which is low quality land from agricultural point of view (Table 4-5).

Table 4-5: Land loss by land type

SN	Land type	Affected land area (ha)
1	<i>Pakho Sim</i>	5.573
2	<i>Khet Sim</i>	1.86
3	<i>Khet Doyam</i>	0.245
Total		7.678

Source: Field Survey, 2010

Note: *Pakho*: Unirrigated land and *Khet*: Irrigated land

Employment and income structure of PAFs

Out of the 13 PAFs, the information of one project affected family is not accessible during the time of the preparation of this report. So analysis of rest 12 PAF is presented herewith. The average annual gross income per PAF accounts about NRs 201,958.00 indicating the average per capita income of 23,080.95 (US\$ 324.17), which is lower than the national average US\$540 (CBS, 2004, UNDP, 2004).

Out of the total family members (105) of 12 PAFs, 19 members are employed permanently in non-farm sector indicating employment rate of 0.875 per household. As shown in the Table 4-6 the non-farm employment has largely contributed to the annual income of the household. Although, the primary occupation of the PAFs is agriculture related activities, the main income source of the affected households is from off farm economic activities. Employment and income structure of PAFs are presented in the Table 4-6.

Table 4-6: Land loss percentage, employment, and income structure of the affected households due to permanent land acquisition

SN	Name of owner	Total land holding (ha)	Affected land area (ha)	Remainign land area (ha)	Land loss %	Family size	Employed family member in non-farm activities	Annual Income (NRs)	Annual Expenditure (NRs)
1	Khadka Prasad Tamang	1.26	0.236	1.024	18.73	9	1	215,000.00	412,000.00
2	Dilli Prasad Tamang	1.16	0.057	1.103	4.9	3	1	120,000.00	110,000.00
3	Aas Bahadur Tamang	1.01	0.510	0.5	50.49	8	2	320,000.00	95,000.00
4	Bhim Bikram Tamang	1.98	0.185	1.795	9.34	17	3	580,000.00	120,000.00
5	Nanda Kumar Tamang	2.15	0.442	1.708	20.56	5	2	130,000.00	122,000.00
6	Indra Prasad Tamang	1.53	0.510	1.02	33.33	12	4	336,000.00	234,000.00
7	Purna Bahadur Majhi ²²	5.738	1.28	4.458	22.30	3	1	120,000.00	86,700.00
8	Dilli Kumar Parsai ²³	3.06	2.16	0.90	70.59	15	4	352,500.00	84,580.00
9	Tika Prasad Majhi	2.27	0.299	1.971	13.17	11	-	35,000.00	149,820.00
10	Shree Lal Majhi	1.913	0.124	1.789	6.48	5	-	37,000.00	82,200.00
11	Padam Prasad Baskota ²⁴	3.92	1.37	2.55	34.95	7	-	28,000.00	28,900.00
12	Krishna Prasad Younghang	13.01	0.235	12.775	1.8	10	1	150,000.00	120,000.00
13	Brishpati Upreti	Absent ²⁵	0.27	-	-	Absent	-	-	-
Total		39.001	7.678	31.323	19.69	105	19	2423500	1645200

²² Purna Bahadur Majhi, the Household head jointly own the affected land with his son Gopal Majhi and spouse Dhanmaya Majhi.²³ Dilli Kumar Parsain is the HHs head but the affected land is in the name of his mother Jamuna Devi Parsai²⁴ Padam Prasad Baskota is the HHs head but the affected land is in the name of his spouse Radhika Devi Baskota.²⁵ Absent implies those households who have migrated from the Project area and were unavailable during HHs survey.

4.3.2 Possible impact on access to NTFP

The project is only acquiring 1.1 % (0.21 ha out of total 19 ha) forest land of Thulo Dhuseni CF; and 0.32% (0.12 ha out of total 36.5 ha) forest land of Kabeli Garjite CF along the boundary areas that are used for NTFP collection by local communities. The acquisition of forest land will not create large-scale fragmentation across the core-forested area and loss of access to NTFP will be negligible.

4.3.3 Impacts on fishing downstream

Normally fishing area for the fishermen in a river is a river stretch of 4 to 5 km upstream and 4 to 5 kilometer downstream. The impact on the occasional and recreational fishing activities in 4.6 km reduced flow stretch during the dry season will be small. No any professional fishermen or fishing groups were identified in this section. Fishing is not a on the spot job and fishing can be done either in the Tamor River area downstream (maximum 4.6 km from dam) or upstream areas of the Kabeli during dry season. During the wet monsoon, there will be enough water in the river for fishing.

4.3.4 Impact on physical cultural resources

One *Pati* (resting place) at Pinasi Ghat near the powerhouse site will experience induced pressure due to its close proximity. This *Pati* is of local nature and does not have historical and archeological significance. The *Pati* can be relocated to an alternative site with consensus of communities if it is affected physically by the construction activities of the project.

The Panchayan Shivalaya Temple and cremations sites located at the downstream are not likely to be severely affected because the Kabeli River will not be completely dry throughout the year. There will be at least 10% minimum dry flow in the Kabeli River around the year. During consultation, the affected communities agreed on the measures for channelizing the environmental flow for maintaining the religious and cultural practices at the downstream areas for cremation, religious and ritual practices.

The ritual practices that are performed by the Majhi community of Pinasi village will be affected only during the construction period. The ritual sites are temporarily affected and will be handed over to the *Majhi* community after project completion.

Impact on customary use of fish is inevitable since the flow in the Kabeli river (4.6 km dewater stretch) during dry season will be low. However, the Trout (*Schizothorax* sps.) and Stone carp (*Psilorhynchus pseudochenius*) will be available in the Tamor River and upstream of the dam throughout the year and impact on customary use of fauna will be negligible.

4.3.5 Construction related/contractor operation related impacts

The construction related impacts mostly occur during the peak construction period when the influx of people from outside is high. However, the impacts on public health and safety, pressure on public institution and structures and possible conflict among project workers and local population will be of concern throughout the construction period. These impacts are inevitable and are very difficult to access and find the magnitude.

4.3.6 Impact on *Adivasi/Janjati* and disadvantaged groups

The *Adivasi/Janjati* and disadvantaged groups of the project area, though belong to different ethnicity and/or group, share common approach to their economic and livelihood activities. The project area is a mixed community where *Adivasi/Janjati* and other groups live together. The Indigenous Peoples, women, children and vulnerable groups of the project area will also experience the above-mentioned impacts, and there are no specific impacts especially for this group. However, the magnitude of these impacts for these groups might be higher because of their low marketing skills and lack of professional competencies.

CHAPTER 5

POLICY FRAMEWORK

5 POLICY FRAMEWORK

5.1 Summary of legal framework

The study recognizes the need to support restoration of livelihoods of adversely affected people and lays down norms for rehabilitating the affected people and broadly outlines an approach and institutional framework to achieve its objectives. A number of legal components directly or indirectly associated with the project are discussed in the SA, EIA and IEE documents. The most relevant legal instruments to the current study are highlighted below. Further, SA team also reviewed the responsibilities of the local, district, and central level institutions and recommended steps to ensure necessary coordination during the project implementation.

5.1.1 Government of Nepal laws and policies on Land Resettlement

Table 5-1 provides a brief account of the relevant resettlement policies and legal framework in the context of Nepal.

Table 5-1: Key Policy/Law/Regulations of Nepal

SN	Policy/law/regulation	Applications
1	Hydropower Development Policy, 1992 and 2001	
	Policy Document	Focuses on conservation of the environment while developing hydropower, transmission and distribution projects. It further mentions that it is the project developer's obligation to relocate and resettle the families being displaced by the project, as per the standards set by the Government.
2	Land Acquisition Act, 1977 as amended in 1992	
	Clause 3	Acquire land for any public purpose, subject to the award of compensation.
	Clause 4	Institutions seeking land acquisition may also request GON to acquire the land under the regularity provisions subject to be compensated by such institutions' resources.
	Clause 6	If the land has to be acquired for institutions other than the local governance bodies and institutions fully owned by the government, the Land Acquisition and Compensation Fixation Committee (LACFC) has to consider the following in fixing the compensation amount: (i) Price of land prevailing at the time of notification of land acquisition; (ii) Price of standing crops and structures; and (iii) Loss incurred by the AP by being compelled to shift his or her residence or place of business in consequence of the acquisition of land.
	Clause 9	Duration of compensation days will be determined by LACFC
	Clause 10	Provision for the affected households to take the crops, trees and plants from land and salvageable from the structures.
	Clause 11	Any grievances and objections will be referred to the Grievances Redress Committee (GRC) The Act assigns the Chief District Officer (CDO) as the sole responsibility to chair land acquisition activities and to address the grievances related to the RP implementation activities.
	Clause 13	GoN forms a LACFC under the chairmanship of CDO of the restrictive districts. The other members to be included in the Committee comprise the Chief of Land Revenue Office (LRO), an Officer assigned by CDO, representative from District Development Committee (DDC), Concerned Project Manager, and VDC representative.
	Clause 27	Provisions for land acquisition through the mutual agreement with the plot owners, where the process of land acquisition as per Act is not required.
3	Land Reform Act, 1964 as amended 1997	
	Section 25	Sets the ownership rights to the actual tiller on the land
	Section 26	Sets 50% ownership right to tenant. Tenants have prerogative right on the structures and access in the land property.
4	Land Revenue Act, 1977	
	Section 8	Registration, change of ownership, termination of ownership right and

		maintenance of land records are done by local land revenue (Malpot) office.
	Section 16	If the concerned owner did not pay land revenue for long period of time the government can collect revenue through auction of the concerned parcel.
5	Water Resource Act, 1992	
	Section 16	States that if private land has to be used in order to utilize water resources, the licensed person can request the government to acquire the land through standard procedures (Land Acquisition Act, 1977).
6	Electricity Act, 1992	
	Section 33	States that if private land has to be used in order to utilize water for resource development including electricity generation, transmission and distribution, the licensed person can request the government; and the government could acquire the land through standard procedures (Land Acquisition Act, 1977) as it does for organized institutions.
7	Electricity Rule, 1993	
	Rule 66	GON has full rights to prohibit use of land or places of generation, transmission, or distribution infrastructures or, other structures, for other specific purposes in and around them through publication of public notice in GON gazette from time to time. It further states that no building construction or tree plantation is allowed within the specified limit in and around the electricity transmission and distribution lines.
	Rule 87	Land and property owners of acquired or restricted property shall be paid full compensation amount as determined by the compensation fixation committee as per Rule 88.
	Rule 88	A compensation fixation committee under the chairmanship of GON-appointed person, comprising of concerned person or the representative of the project (usually project Manager of PMO), an expert appointed by GON in the field of electricity, property owner or his/her representative, representative of the Land Revenue Office, representative of the concerned Village Development Committee/Municipality shall decide the compensation of the affected land and property
8	Guthi Corporation Act, 1976	
	Section 42	<i>Guthi</i> (religious trust) land acquired for a development must be replaced with other land, rather than compensated in cash
9	Forest Act, 1993	
	Clause 68 (1)	Government may permit the use of any part of government-managed forest, leasehold forest or community forest, if there is no alternative for the implementation of a plan or project of national priority without significantly affecting the environment.
	Clause 68 (2)	if any loss to persons or community is involved while permitting use of such land, it is required to compensate the loss.
10	Electricity Development and Management Act 2005	
	Section 19	The developer could apply to GON for land and property acquisition required for the hydropower development and the GON will arrange acquisition of such land and property after examining the application of the developer in case of private land. In case of the government land and property, the property will be made available on lease agreement.
	Section 40	The developer should compensate the affected parties as per the prevailing laws.
	Section 41	The developer should execute the rehabilitation and resettlement of the affected parties as an integrated program.
11	Water Resources Regulation, 1993	
	Rule 17	Obliges the proponents to analyze environmental impacts of the proposed action and include impact mitigation measures and environment protection measures including arrangements for the settlement of displaced people.
12	Local Self Governance Regulation, 2000	
	Article 7 (68)	Empowers VDC/s to monitor and supervise development works implemented in the VDC/s.

5.1.2 GoN Policies on Indigenous Peoples and other Vulnerable Communities

The Interim Constitution of Nepal 2063 (2007)

The Interim Constitution of Nepal commits the government for the protection and development of IPs and other marginalized communities. Article 21, Right to Social Justice guarantees the rights of the economically, socially or educationally backward women, *Dalits*, indigenous peoples, *Madhesi* communities, oppressed classes, poor farmers and labors to take part in the structures of the State on the basis of the principle of 'proportional inclusion'. Similarly, Article 35, Policies of the State (10) states that the State has compulsory obligation to pursue a policy of uplifting the economically and socially backward indigenous peoples, *Madhesi*, *Dalit*, marginalized communities, and workers and farmers living below the poverty line, by making a provision of reservation in education, health, housing, food sovereignty and employment, for a certain period of time.

The Three Year Interim Plan (2007-2010)

Nepal does not have a standalone policy on Indigenous Peoples and other vulnerable communities, however, in the Tenth Plan significant emphasis has been placed on delivering basic services to the disadvantaged and indigenous people, *Dalits*, women, disabled and other vulnerable groups including the *Adhivasi / Janajati*. One of the main thrusts of the Tenth Plan is the implementation of targeted programs for the uplift, employment and basic security of *Dalits*, indigenous people and disabled peoples. The policy provision also outlines that the government should pilot strong and separate package of program of basic security for vulnerable sections of society. The Three Year Interim Plan (TYIP) (2007-2010) includes the following policies for inclusive development of *Adhivasi/Janajatis* and other vulnerable groups:

1. Creating an environment for social inclusion;
2. Participation of disadvantaged groups in policy and decision making;
3. Developing special programs for disadvantaged groups;
4. Positive discrimination or reservation in education, employment, etc.;
5. Protection of their culture, language, and knowledge;
6. Proportional representation in development; and
7. Making the country's entire economic framework socially inclusive.

National Foundation for Upliftment of *Adivasi/Janjati* Act, 2058 (2002)

For the welfare of *Adivasi/Janjati*, the government set up a National Committee for Development of Nationalities (NCDN) in 1997. In 2002, Parliament passed a bill for the establishment of an autonomous foundation named 'National Foundation for Upliftment of Indigenous Nationalities,' which came into existence in 2003 replacing the NCDN. Government of Nepal has identified and legally recognized 59 indigenous communities. They are officially referred to as *Adivasi Janjati* in Nepali and Indigenous Nationalities in English as per the National Foundation for Upliftment of *Adivasi/Janjati* Act, 2058 (2002). One can find vast disparities in terms of socio-economic standing among the *Adivasi Janjati* groups. According to Nepal Federation of *Adivasi Janjati* (NEFIN) 10 of the 59 *Adivasi Janjati* are "endangered", 12 "highly marginalized", 20 "marginalized", 15 "disadvantaged" and 2 are "advanced" or better off on the basis of a composite index consisting of literacy, housing, landholdings, occupation, language, graduate and above education, and population size.

This Foundation has been working for the preservation of the languages, cultures, and empowerment of the marginalized ethnic nationalities. More specifically, the Foundation has following objectives:

1. To make overall development of the *Adivasi/Janjati* by formulating and implementing the social, educational, economic and cultural programs;
2. To preserve and promote the language, script, culture, literature, arts, history of the *Adivasi/Janjati*;
3. To preserve and promote the traditional knowledge, skill, technology and special knowledge of the *Adivasi/Janjati* and to provide assistance in its vocational use;

4. To encourage the *Adivasi/Janjati* to be participated in the mainstream of overall national development of the country by maintaining a good relation, goodwill, and harmony between different *Adivasi/Janjati*, castes, tribes and communities; and
5. To provide assistance in building an equitable society by making social, economic, religious and cultural development and upliftment of *Adivasi/Janjati*.

Local Self-Governance Act, 1999

The Local Self-Governance Act, 1999 commits municipalities for the promotion, preservation, and protection of language, religion, culture of indigenous people and their welfare in the municipal area. The Act empowers municipalities to formulate and implement periodical and annual plans within their own jurisdiction. Periodic plans integrate different thematic plans according to social, economic, environment, physical, financial, and institutional aspects. The Act provides municipalities to follow planned development programs and prioritize programs that can increase productivity, contribute to upgrading living standards, and generate income and employment opportunities. The Act also requires that local programs provide direct benefits to women and disadvantaged groups, and use community groups in the planning and execution of development programs.

Gender policy in the context of Nepal

The government of Nepal since, the early 1990 has been making significantly increasing commitment to gender equity equality and empowerment of the women in its policies plans and programs. The constitution of 1990 included some equality promoting measures along with baring any discrimination between citizen on the basis of sex caste ethnicity and religion (Acharya 2007)²⁶.

The governments introduced Gender Approach to Development (GAD) in 1990 to enable women and men to participate equally in public and private life and realize their full potential in the development (Acharya 2003)²⁷. Preceding this, the government policies towards this were more protection and welfare oriented including the Sixth Plan (1980-1985), which introduce the notion of Women in Development (WID) by implementing various programs to integrate women in development as well to full fill their practical needs. However, a gender approach was only fully reflected in Ninth Plan (1997-2002), which in order to achieve goal of poverty alleviation/reduction adopted mainstreaming of gender, eliminating gender inequality, empowerment of women as its major strategies. Similarly the Local Self Government Act, 1999 also give priority for the gender issue, recognizing the importance of the women in the decision making level for maintaining the good governance practices.

The Tenth Plan (2002-2007) as Poverty Reduction Strategy Paper (PRSP) identified gender and inclusion as its main strategies. The First Three Years Interim plan (2008-2010), emphasized the post conflict reconstruction rehabilitation, continued the long term goal of poverty reeducation through gender mainstreaming and social inclusion.

The Interim Constitution of Nepal, 2063 (2007), putting gender in its preamble, aims to solve the existing problems and issue regarding gender through reconstructing of the nation. The Constitution guarantees Right to Equality as the Fundamental Rights so that all the citizens are treated equally no matter of their cast, class, sex and gender. Likewise the constitution protects the rights of women by recognizing it as the Fundamental Rights which focuses on the equal share in the ancestral property. Furthermore the Constitution guarantees the 33% participation of women in all sectors and urges concerned authority to conduct special package and program for, mainstreaming of the gender and women particularly.

In 2007, the Ministry of Local Development (MoLD) prepared the Gender Responsive Local Government Budget Directives to engender every stage of local planning process as well as the institutional Mechanism. It has made provision for a gender resource person at a local level, skill enhancement of local authorities and formulation of local level gender policy under the border convention and declarations (Committee on Elimination of Discrimination against Women, Beijing

²⁶ Acharya, Meena (2007)“Gender Equality and Empowerment of Women in Nepal” UNFPA Kathmandu Nepal

²⁷ Acharya, Meena (2003) Effort at Promotion of Women in Nepal”, Tanka Prasad Acharya Memorial Foundation and Fedrich-Ebert-Stiftung (FES), Kathmandu.

Platform for Action and Millennium Development Goal), of which Nepal signatory. The Ministry of Local Development, since 2006 has been implementing the “Local Government and Community Development Program” (LGCDP) with the strategic goal of ‘promotion of inclusive local democracy through local community led development’. To achieve this goal the LGCDP Gender Equality and Social inclusion Strategy, 2009 was developed by MoLD to mainstream gender and social inclusion in the local development system, structure processes and mechanisms. Meanwhile, a Gender Equality and Social Inclusion (GESI) section has been established under MoLD to institutionalize GESI approaches. From 2011 the MoLD is planning to apply sector-wide approaches to rural infrastructure and adopt the single window system to ensure the gender and social inclusion approach.

5.1.3 World Bank Policy Guidelines

The World Bank Policy on involuntary land acquisition recognizes lost assets or income as fundamental right of all project affected persons and that physically displaced people must be relocated with basic amenities like school, health posts etc. Likewise, all affected persons, entrepreneur, or institution should be assisted to restore at least their pre- project income and livelihood sources. The following documents apply to involuntary resettlement for projects under World Bank funding:

- Operational Policies OP 4.12 and Bank Procedure BP 4.12 on involuntary resettlement 2001.
- Operational Policies OP 4.10 and Bank Procedure BP 4.10 on Indigenous People July 2005.

Following are the guiding principles of World Bank's policy on involuntary resettlement.

- a) Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.
- b) When resettlement is unavoidable, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable persons displaced by project to share in project benefits.
- c) Displaced persons should be meaningfully consulted and should be given opportunities to participate in planning and implementing resettlement programs.
- d) Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living. In the absence of possibilities to improve their standards of living, it should in the least be restored to levels that existed prior to the project.
- e) The borrower prepares a resettlement plan if more than 200 families are affected and an abbreviated resettlement plan is required if less than 200 families are affected.
- f) Absence of legal title to land should not be a bar for compensation, resettlement, and rehabilitation assistance. Vulnerable groups such as indigenous people, women-headed households, and senior citizens should be entitled to special benefit package in addition to compensation and resettlement.

Special Considerations for Indigenous Peoples

- i) Indigenous Peoples are closely tied to land, forests, water, wildlife, and other natural resources, and therefore special considerations apply if the project affects such ties. In this situation, when carrying out the social assessment and preparing the SAP, the borrower pays particular attention to:
 - ii) the customary rights of the Indigenous Peoples, both individual and collective, pertaining to lands or territories that they traditionally owned, or customarily used or occupied, and where access to natural resources is vital to the sustainability of their cultures and livelihoods;
 - iii) the need to protect such lands and resources against illegal intrusion or encroachment;
 - iv) the cultural and spiritual values that the Indigenous Peoples attribute to such lands and resources; and

- v) Indigenous Peoples' natural resources management practices and the long-term sustainability of such practices.

5.2 Project policy framework

The objective of this framework is to ensure greater acceptability of the project to the locals and is expected to facilitate its effective implementation.

This framework is based on the principle that the affected persons will not suffer further from the hardship than they were before the project implemented. The general principles of the framework are given below:

- i. Adverse impacts on persons affected by the project would either be avoided to the extent possible or minimized.
- ii. Where the negative impacts are unavoidable, the project affected persons irrespective of their legal title will be assisted in regaining their standard of living. Vulnerable groups will be identified and assisted to improve their standards of living.
- iii. All information pertaining to SAP preparation and implementation will be disclosed to all concerned, and people's participation will be ensured in planning and implementing the project.
- iv. The Project Affected Persons (PAPs) will receive compensation for lost assets at replacement cost and the compensation will be available prior to the taking over of assets.
- v. Appropriate grievances redressing mechanism will be established in the project and all the grievances will be settled in timely and efficient manner.
- vi. All consultation with PAPs shall be documented. Consultation will continue during the implementation of resettlement and rehabilitation works
- vii. Avoid any disruption of socially and culturally sensitive areas. If impacted shall be conserved following the laws.
- viii. Consultation with potential affected persons will be held among local population after designating the proposed Headwork, and Powerhouse areas and alignment of access roads as a part of the environmental assessment study.
- ix. Delivering R&R entitlements and compensation for lost asset based on the entitlement framework.
- x. Physical works will not commence on any portion of land before compensation and assistance to the affected population have been provided in accordance with the policy framework.
- xi. As far as possible project plans to conduct its construction activity after the harvests to avoid damage to crops. In case damage to standing crop is unavoidable project will provide compensation under LA Act.
- xii. Particular attention will be paid to adverse impacts on vulnerable households/ social categories such as the elderly and physically disabled, female-headed households, Dalits and indigenous groups who may be vulnerable to changes brought about by project activities.
- xiii. Traditional rights to land and other natural resources, communal property and specific characteristics of ethnic groups in relation to land and other natural resources and subsequent losses resulting from the project will be assessed and compensated accordingly.
- xiv. Land donation will be discouraged under the project and where it is agreed between the community and individual members the donation practice will be accepted under the project only when they meet the criteria set out in the Entitlement Matrix. Lack of title will not bar project affected people from receiving resettlement benefits.
- xv. PCR: development and implementation of PCR measures will be conducted in participation and consultation with all the concern.
- xvi. Benefit Sharing – promote local development in a sustainable way as far as possible.

5.3 Project entitlement matrix

An entitlement matrix has been developed as per the project resettlement framework which outlines various types of losses as the result of the project and proposes corresponding modes of compensation (Table 5-2). The matrix will apply to all project components entailing resettlement impacts. If additional resettlement impacts are identified during implementation, the entitlement matrix will be updated by including provision of compensation and assistance for the additional impacts by mutual consent between local people (impacted persons) and project authority.

The entitlement matrix has been prepared in accordance with the GoN and in compliance with the World Bank policies. All involuntary lands and assets acquisition (other than exceptional voluntary land/asset donation) will be compensated at replacement cost so that the economic and social future of affected person/family would be as favorable as it would have been in the absence of the Project.

Table 5-2: Entitlement matrix for KAHEP

Types of impact	Entitled persons/families/entities	Entitlements
1. Loss of private lands (7.678 ha)	Titleholder- 13 PAFs	<p>I. Cash compensation equivalent to replacement cost as determined by LFC and following additional assistance will be provided:</p> <ul style="list-style-type: none"> • Counseling to affected families on the sustainable utilization of the compensation, • Land compensation/registration shall be paid and done in favor of both the land owner and spouse, • Preferential employment during the construction phase, • Trainings on scientific agriculture technologies and an improved seed program, and • Training for skill up gradation.
2. Loss of public lands under GoN ownership	Government of Nepal	<p>I. Lease fee will be paid to GoN as per government legislations in the context of the hydropower project.</p>
3. Loss of standing crops and private trees (141 trees and poles)	Owner(s) with legal title, share croppers	<p>I. 60 days' advance notice to harvest standing seasonal crops,</p> <p>2. Cash compensation for crops (or share of crops) equivalent to prevailing market price, if harvest is not possible, and</p> <p>3. Cash compensation equivalent to prevailing market price for the trees and poles.</p>
4. Possible impacts on access to forest resources (NTFP) (Reduced access to NTFP collection from about 0.21 ha of Thulo Dhuseni CF (1.1% of total CF area) and 0.12 ha of Kabeli Garjite CF (0.32% of total CF area) due to permanent project structure).	2 Community Forest User Groups, Local residents, 1 Leasehold Forest, Communal forest users (10 HH)	<p>I. All the cut forest biomass will be the property of land owners or the Forest User Groups as per Forest Act and Rules. They can sell the biomass to the project (if they want) or consume by themselves,</p> <p>2. The forest vegetation loss will be compensated on the basis of the GoN policy decision of 1:25 i.e. plantation of 25 trees for each tree felled by the project. The project will manage the plantation area for 5 years at its own cost and handover the plantation to forest community or the local forest office, and</p> <p>3. Restoration of forest area giving assistance to expanding management capability at similar locations.</p>
5. Impact on Fishing (4.6 km reduced flow zone)	Communities residing between dam and Tamor Confluence (4.6 km dewater stretch) who are engaged in recreational fishing	<p>I. Provision of Fish ladder in the project design,</p> <p>2. Release of 10 % of the mean monthly flow of the driest month throughout the year,</p> <p>3. Alternative to fishing support to these communities through employment, skill training and capacity development, and</p> <p>4. Training programs to enhance employment on construction works and preferential employment to the extent possible</p>

6. Impact on Physical Cultural Resources	a. <i>Pati</i> (rest house) at Pinasi Ghat b. Panchyan Shivalya Temple in Kabeli) c. Impact on three (3) cremation sites d. Impacts on religious & ritual practices e. Impact on customary use of fauna	Users from Pinasi(Majhitar, Amarpur-9) and Kodekpa (Panchami-9) Local communities of Kabeli area <i>Rai</i> and <i>Limbu</i> community of Kabeli area	1. Relocation of <i>Pati</i> (rest house), if needed 2. Rehabilitation of all the facilities in an equal or better condition than they were before 3. Release of 10 % of the mean monthly flow of the driest month throughout the year 4. Channelize the environmental flow near the temple, cremation and religious ritual sites 5. Consultations and negotiation to determine culturally acceptable method of transposition and the relocation to nominated cremation sites, if required 6. Provision of fish ladder for the movement of fish species for customary use
7. Construction Related/ Contractor Operation related Impacts(Public Health, Safety , Civic Amenities and Possible conflict)		The local residents, business people of the project areas, project staffs, construction workers	1. Provision of better levels of services for water supply, sanitation, health and drainage. 2. Enhancement program on water supply and sanitation in the participation of local people/local authorities/NGOs 3. A 10 bed hospital for attending health issues of workers and local population during construction phase 4. Two health clinics at headworks and powerhouse site each throughout the construction period and one clinic will remain permanently during operation 5. Safe Construction Practices (SCP) mandatory to all contractors 6. Fencing in the construction sites 7. Warning sign/post for dangerous areas 8. Emergency response mechanism at site 9. Funds for improvement of existing infrastructure as needed during the construction phase. 10. Additional drinking water and sanitation facilities for the workers. 11. Additional health service centers and market. 12. Funds for the support of schools and health post. 13. Repair and maintenance of public places like <i>Pati</i> , <i>Pauwa</i> , <i>Chautari</i> , etc 14. Restriction on alcohol at camp site. 15. Priority for employment to locals during the construction period 16. Social security enhancement programs with the consent and participation of concerned

		government authorities and the local people
8. Impacts on <i>Adivasi Janajati</i> and disadvantaged groups	<i>Adivasi Janajati</i> communities, women Children, <i>Dalits</i> of project area	<ol style="list-style-type: none"> 1. Training on alternative subsistence and livelihood opportunities 2. Training programs for at least one member from each of the affected vulnerable households to participate in livelihood empowerment activities to enhance employment on construction works 3. Employment of at least one member from each affected <i>Adivasi Janajati</i> and disadvantaged group households in project construction and maintenance work 4. Specific interventions will be worked out with the <i>Janjati</i> households to protect and preserve indigenous cultures and traditions of the locality 5. Loan assistance program for the vulnerable women headed and Dalit households 6. Supplementary infrastructure facilities in the <i>Majhi</i> settlements, including latrine construction and drinking water facilities 7. Preference to qualified <i>Majhi</i> community in recruitment of community facilitators 8. Additional health and hygiene training programs targeting vulnerable community members; 9. Specific provisions will be worked out with the <i>Adivasi Janajati</i> and disadvantaged groups to guarantee and increase their participation 10. Acknowledging the rights of women for their active participation in the decision-making process through developing Gender policy.

CHAPTER 6

RESETTLEMENT COMPENSATION AND LIVELIHOOD ASSISTANCE PLAN

6 RESETTLEMENT COMPENSATION AND LIVELIHOOD ASSISTANCE PLAN

This resettlement compensation and livelihood assistance plan designed for KAHEP (Table 6-1) is based on the entitlement matrix and the KAHEP resettlement policy. This plan meets the Land Acquisition Act, 2034 (1977) and the requirements of the World Bank policy on Involuntary Resettlement, IP and other relevant acts, policies and guidelines related to hydropower development. KAHEP is committed to ensure that all compensation and resettlement activities associated with the project as a whole are undertaken in compliance with relevant local legislation. KAHEP has developed involuntary resettlement guidelines, as embodied in the policies of the World Bank in its resettlement program to address any gaps/limitations in the local legislation and ensure the proper restoration of affected livelihoods. For this purpose, a set of resettlement principles have been developed to guide project preparation and implementation in the SA report. The Resettlement compensation plan has been prepared based on the general findings of the SA report. The details of the possible impacts, associated losses and corresponding procuring and delivery mechanisms are presented in Table 6-1.

Table 6-1: Resettlement compensation and livelihood assistance plan of KAHEP

Possible Impacts	Type of Loss	Procuring Mechanism	Delivery Mechanism
1. Loss of Land	<p>The project will acquire 22.508 ha of land on permanent basis. Of the land use types acquired permanently, only 7.678 ha is agricultural private land.</p> <p>Project will acquire 1.57 ha forest land and 13.26 ha riverine area that are government owned lands.</p>	<p>Land Compensation Fixation Committee (LACFC) will be formed and negotiation with the landowners will be carried out for the unit price based on the type of land. Compensation will be as per market price and with the consent from landowners.</p> <p>Government owned lands will be procured on lease until the Generation License is valid on BOOT basis.</p>	<p>Landowners of the permanently acquired lands of project components and project facility sites will be compensated in cash at the replacement cost.</p> <p>Lease contract will be signed with the concerned government agencies for Government owned lands.</p>
2. Loss of standing crops and private trees	<p>Possible loss of standing crops during permanent and temporary acquisition. Loss 67 mature trees and 74 poles from private lands</p>	<p>A 60 days advance notice will be given to the owner to harvest standing seasonal crops during acquisition.</p> <p>The value for trees will be determined with the consent of the owner.</p>	<p>Cash compensation for crops (or share of crops) equivalent to prevailing market price, if harvest is not possible in given time.</p> <p>All the cut and removed biomass will be the property of tree owners. The compensation of trees in the temporary lands will be paid as per market price at replacement cost. The compensation of trees in the permanently acquired land will be included in the total price of the acquired land.</p> <p>Plantation of 25 seedlings for loss of one standing biomass as replacement plantation</p>
3. Possible loss of access to NTFP	1.57 ha of forest land will be lost. A total of 0.33 ha forest area of	Compensation of the forest loss on the basis of the government policy	Plantation of 25 seedlings for loss of one standing biomass (tree species) with the support from the CFUGs

Possible Impacts	Type of Loss	Procuring Mechanism	Delivery Mechanism
	<p>Kabeli Garjite and Thulo Dhuseni Community Forests (CF) at the headwork site that are known for NTFP will be affected.</p> <p>Loss of access to fuel wood, grazing and fodder, herbs, and wild fruits.</p>	<p>decision of 1:25 i.e. plantation of 25 trees for each tree felled for the project.</p> <p>Provision of handing over removed biomass to Forest User Groups as per Forest Act and Rules.</p> <p>Provision of alternative energy schemes to conserve forest resources.</p>	<p>and in the places where the CFUGs want. The overall costs will be borne by the proponent for five years after the plantation with the support from the CFUGs.</p> <p>Purchase of the cut biomass from the CFUGs if they are willing to sell it to the project.</p> <p>Restoration of forest area giving assistance to expanding management capability at similar locations</p>
4. Loss of Fishing	<p>Reduced flow during November-June in Kabeli river below dam (4.6 km) will have effects on riverine fish resources due to change in hydrological regime. The low catch will have effect on protein supplement of occasional fishing communities.</p>	<p>Provision of Fish ladder in the project design will be ensured.</p> <p>Mechanism of monitoring of Fish Movements after one year operation of power plant. Provision of hatcheries of lost spawning areas if decline of fishing is confirmed.</p>	<p>Release of 10 % of the mean monthly flow of the driest month throughout the year to sustain fish population.</p> <p>Alternative to fishing, support these communities through employment, skill training and capacity development</p> <p>Training programs to enhance employment on construction works and preferential employment to the extent possible</p>
5. Impact on physical cultural resources	<p>A rest house (<i>Pati</i>) at powerhouse site due to construction.</p> <p><i>Panchayan Shivalaya</i> located about 2.5 km downstream at Kabeli Bazar due to reduced flow in Kabeli River.</p> <p>Three cremation sites located at the dewater stretch due to reduced flow of river.</p> <p>Religious and ritual activities in the dewater stretch of Kabeli due to reduced flow.</p> <p>Possible decline of Trout (<i>Schizothorax</i> sps.) and Stone carp (<i>Psilorhynchus</i>)</p>	<p>Provisions for restoration and continuation of religious and ritual activities with consultation among local stakeholders.</p>	<p>If needed, relocation will be carried out with the consent of rest house users. Rehabilitation of all the facilities in an equal or better condition than they were before</p> <p>10 % mean monthly flow of the driest month will be maintained throughout the year for ecological, cultural and religious survival.</p> <p>The environmental flows released will be canalized in the stretch of the cremation sites, and <i>Panchayan Shivalaya</i> temple so that sufficient water is available for cremation and religious performance.</p> <p>Adoption of culturally accepted method of transposition and relocation to nominated cremation sites, if required.</p> <p>A fish ladder will be constructed for the movement of fish population.</p>

Possible Impacts	Type of Loss	Procuring Mechanism	Delivery Mechanism
	<i>pseudochenius</i>) in the dewater stretch that are ritually important for local residents.		
6. Construction related impacts	<p>The influx of workers and service providers during construction will put extra demand on local public facilities and institution; water supply, health, and sanitation facilities, especially around the construction camps. Lack of sanitary measures and increased human activity can lead to outbreak of diseases like jaundice, typhoid and sexually transmitted diseases.</p> <p>Unsafe construction can lead to occupational health and safety hazards</p> <p>The increase in human activities with different social and cultural backgrounds and sudden flow of cash may result into alcohol abuse and prostitution (illegal) that may deteriorate the peace and harmony of the</p>	<p>Provision of better services including water supply, sanitation, health, education, roads and public transports, and drainage will be ensured.</p> <p>Provision of clean water and safe sanitation facilities to all workers by the contractors</p> <p>Provision of mobilizing the local institutions with financial and technical backstopping by KEL and KAECDU.</p> <p>Provision of contractual obligations for contractors to provide the personal safety tools and adequate Insurance facility to all the workers.</p> <p>Provision of reporting health and safety issues of workforce camps by the contractor's health and safety officer to the KEL.</p> <p>Developing measures to prevent and mitigate labor force impacts with the participation of affected communities and incorporating these into contractual implementation arrangements with adequate financial</p>	<p>Kabeli-A Environment & Community Development Unit (KAECDU) together with the local committee will continuously monitor local water supply sources and sanitation in quantity and quality.</p> <p>Enhancement program (maintenance, upgrading and new installations) for water supply and sanitation will be carried out in the participation of local people/local authorities/NGOs</p> <p>Enhancement programs on health, drinking water, sanitation, social security etc will be appropriately designed and implemented with proper consultation and representation of the local stakeholders</p> <p>Health camp will be operated in the project area for attending health matters of workers and local population during construction phase.</p> <p>Basic medical checkups for baseline information on STD, HIV/AIDS and other transmitted diseases will be carried out to all staff and construction workers.</p> <p>A 10 bed hospital and health clinics at powerhouse and headwork site will be operated throughout the construction for attending health issues of workers and local population. One clinic will be handed over to the community during operation.</p> <p>Adequate sports facility, recreation centers and cultural programs shall be the part of the facilities to the workers. These components shall be adequately addressed in the contract documents.</p> <p>Project contractors in the construction phase and project</p>

Possible Impacts	Type of Loss	Procuring Mechanism	Delivery Mechanism
	project area.	provision.	<p>operator in the operation phase will be made responsible for the occupational safety and hazard of workers.</p> <p>Awareness camps will be organized once in every month in each of the work force camps for the social obligations and good behavior.</p> <p>Contractors will be obliged to report the compliance mechanism of the contractual clause and any incidents of mishaps and penalties shall be documented and reported to project management.</p> <p>The Contractor will provide construction related jobs to the eligible local people during construction period in different capacities (skilled, unskilled and others) in the priority order from the Seriously Project Affected Families (SPA) to the Project Affected Families (PAF) and people from the region of influence with equal representation from vulnerable groups (indigenous and disadvantaged groups and women).</p>
7. Impact on Adivasi Janajati and disadvantaged groups	<p>Adivasi Janajati and disadvantaged groups are considered as vulnerable groups in the project area. These groups will experience similar impacts from the project as part of a mixed community. However, the magnitude of these impacts for these groups might be higher because of their low marketing skills and lack of professional competencies.</p>	<p>Appropriate decision making- processes and mechanism will be used that enable informed participation by Adivasi Janajati, and result in the demonstrable acceptance of key decision.</p> <p>Project affected Adivasi Janajati participation on such processes will be guided by free, prior and informed consent that can be achieved through formal and informal representative bodies.</p>	<p>As a part of the SAP, Vulnerable Community Development Programs will be designed and implemented in meaningful participation of IPs.</p>

CHAPTER 7

VULNERABLE COMMUNITY DEVELOPMENT PLAN

7 VULNERABLE COMMUNITY DEVELOPMENT PLAN

The Vulnerable Community Development Plan (VCDP) is designed to ensure that vulnerable groups affected by the project are regarded as special interest groups, and that impacts on their livelihoods are minimized and addressed in a sensitive manner. The project area is a mixed type of community and there are no homogenous settlements especially for a particular group. The *Adivasi Janjati* and disadvantaged groups of the project area, though belong to a different ethnicity and/or group, share common approach to their economic and livelihood activities. These groups will experience similar impacts from the project as part of a mosaic community. There are no specific impacts especially for this group. A common package that is developed for the project impacts will be applicable to all the affected population. However, the magnitude of these impacts for these groups might be higher because of their low marketing skills and lack of professional competencies. Therefore, KAHEP will give extra consideration to *Adivasi Janjati* and disadvantaged groups that will minimize the magnitude of impacts and provide benefits; and will ensure their participation in the project cycles.

7.1 Defining vulnerable communities

In Nepal, there are several factors that could determine a group's vulnerability. Even though gender, caste and ethnicity have been officially acknowledged as primary factors that determine a group's backwardness; other factors such as region, economic status and patronage network play an equally important role. Thus, terminologies such as vulnerable groups are fluid in nature and can differ in meaning depending on the factors they represent. Nevertheless, policies and literature on development including the Tenth National Plan (2002–2007) have identified three major groups as more vulnerable than others in the context of Nepal—women, *Dalits* and *Adivasi/Janjati*. Therefore, the above three groups are disadvantaged in terms of (i) access to livelihood, assets and services; (ii) social inclusion and empowerment; (iii) legal inclusion and representation in Government; and (iv) economic marginalization.

7.2 Vulnerable communities in the project area

In the context of the KAHEP, vulnerable groups refers to households communities who may face considerable difficulties (either due to project induced effects or in general terms) in participating in benefit sharing of the project due to serious lacks of required skills, resources, experience and organization.

Stakeholders' consultations and household survey during the Social Assessment Study have identified the presence of *Adivasi Janjati* (*Rai, Limbu, Tamang and Majhi*) and *Dalits* (*Kami, Sarki and Damai*) in project areas. In total, six *Tamang*, Three *Majhi* and One *Limbu* household will lose their lands due to project intervention. Although there are *Dalit* household in the affected area, none of them are going to be affected directly by the project. In addition, no women headed households will be affected directly by the project.

7.3 Relevant policies on Indigenous Peoples and other vulnerable communities

Nepal does not have a standalone policy on Indigenous Peoples, however in the Tenth Plan significant emphasis has been placed on delivering basic services to the disadvantaged and indigenous people, *Dalits*, women, disabled and other vulnerable groups including the *Adhibasi / Janjati*. One of the main thrusts of the Tenth Plan is the implementation of targeted programs for the upliftment, employment and basic security of *Dalits*, indigenous people and disabled peoples. The policy provision also outlines that the government should pilot strong and separate package of program of basic security for vulnerable sections of the society. The Three Year Interim Plan (2007-2010) includes the following policies for inclusive development of *Adivasi/janjatis* and other vulnerable groups:

- Creating an environment for social inclusion;
- Participation of disadvantaged groups in policy and decision making;
- Developing special programs for disadvantaged groups;

- Positive discrimination or reservation in education, employment, etc.;
- Protection of their culture, language, and knowledge;
- Proportional representation in development; and
- Making the country's entire economic framework socially inclusive.

NFIN Act 2002, National Human Rights Action Plan 2005, Environmental Act 1997, and Forest Act 1993 have emphasized protection and promotion of vulnerable groups in general, indigenous peoples' knowledge, and cultural heritage in particular. In 1999, the Local Self-Governance Act was amended to give more power to the local political bodies, including authority to promote, preserve, and protect the IP's language, religion, culture, and their welfare.

World Bank policy on indigenous people emphasized to design and implement projects in a way that fosters full respect for indigenous peoples' dignity, human rights, and cultural uniqueness so that they

- Receive culturally compatible social and economic benefits, and
- Do not suffer adverse effects during the development process.

7.4 Generic measures for enhancement of vulnerable group

The generic measures are applicable for all communities of the project areas irrespective of the extent of vulnerability and specific measures are targeted for specific community who are considered as vulnerable in the local context.

7.4.1 Agriculture support program

There are extreme possibilities of commercial promotion of normal and off season fresh vegetables due to prevalence of vegetable based suitable ecological niches across diverse agro-ecological zones, suitable topography and market demands in the project area. Such demand will be automatically increased when KAHEP starts construction activities. In this background, the commercial promotion and marketing of normal and mostly off season fresh vegetables could be the best options in improving the food security and livelihoods for the vulnerable communities in the project area.

Similarly, commercial promotion of comparative advantageous small sized livestock animals like goats and pigs (swine) could be the best options in improving the living conditions of vulnerable people. Particularly there is great scope of pig farming and quality meat production in the districts including the present project area. Hence the vulnerable communities can take advantages by the adoption of commercial production and marketing of improved breeds of pigs for enhancing their living conditions.

A farmers' support/agricultural extension program will be implemented in the project area to assist vulnerable households. The program will focus on agricultural and animal husbandry support services. Priority will be given to vegetables and other daily consumer products grown locally for construction camp consumption. This program will provide training in high breed animals husbandry, agricultural and fresh vegetable farming. These programs will focus on:

- Imparting commercial vegetable production training and providing back stopping supports like input supply such as improved varieties of seeds and seedlings, agricultural tools and materials. Besides, the training program will focus on the topics such as (a) selection of seeds; (b) nursery management; (c) use of fertilizers; (d) integrated pest management; (e) irrigation techniques; (f) appropriate cropping patterns and (g) methods of harvesting, processing and storage;
- Imparting improved goat raising training and providing improved breeds of goats and bucks for animal diversification and productivity enhancement; and
- Imparting improved pig raising training and providing improved breeds of piglets as an alternative access to income generating opportunities.

The program will consist of lectures from agriculture experts, demonstration of new techniques and dissemination of information. The program will be undertaken in co-ordination with the Nepal

Agricultural Research Council (NARC). Assistance from the District Agricultural Office and Sub-centers will be sought. KAHEP will coordinate these activities in collaboration with the appropriate agencies/NGOs.

7.4.2 Skills training related to construction works

In addition to the above programs, specific training programs will be conducted in construction related skills such as electrical wiring, plumbing, automobile maintenance, masonry and welding to enhance the employment opportunities of affected people on construction works of KAHEP.

7.4.3 Preferential employment strategy

A Preferential Employment Policy and Strategy will be developed in consultation with the contractors and local government to achieve the objective of optimizing employment for project-affected and local people on project construction activities.

The following measures will be implemented:

The Policy will contain procedures and mechanisms to enhance the employment of project affected households, local people and other vulnerable groups in unskilled job categories. It will specify (a) recruitment eligibility (people from project-affected settlements, followed by other local residents and Nepalese citizens), (b) age requirements (the minimum age requirement in the public sector should be applied to avoid child labor), and (c) recruitment and selection procedures to be followed by the contractor and subcontractors.

Preferential employment guidelines will be incorporated in the tender and the contractor documents. Contractors will be required to follow these guidelines, and all proposals will need to indicate proposed steps to implement a preferential employment policy, including on-the-job training.

KAHEP will assist with (a) the establishment of a database of job seekers from the project-affected households, and (b) the development of job advertising and recruitment procedures.

To further ensure transparency of recruitment and selection procedures, consideration will be given to the establishment of an Employment Task Group, consisting of KAHEP officials and representatives from the contractor, affected communities (including vulnerable groups) and other stakeholders. The Task Group will coordinate, review and monitor all matters relating to the implementation of the Preferential Employment Policy.

To the extent possible, KAHEP and its contractors will employ and promote the employment of local job seekers with appropriate educational qualifications in the semi-skilled category. Where local people are employed in these job categories, it will be accompanied by on-the-job training and skills transfer.

Nepali Information Sheets will be distributed to project-affected and surrounding settlements and will be announced from local FMs in local languages, as far as possible, well in advance of the commencement of construction activities. These Sheets will set out (a) the number of construction jobs available to the local population, (b) the job advertising, recruitment and selection procedures that will be followed and (c) the time frame for the recruitment of job seekers over the course of the construction period. By means of the community consultation structures and the distribution of job advertising sheets, local residents will be informed in advance of job opportunities and recruiting dates.

7.4.4 Drinking water, health and sanitation support programs

The access to safe drinking water facilities is one of the fundamental rights of the people. Access to safe drinking water, personal, domestic and environmental hygiene and sanitation are directly associated with health condition of the people. Many of the common and killer diseases are related to unsafe drinking water and poor hygiene and sanitation. There are acute problems of safe drinking water facilities at the settlements of vulnerable communities. In this context, some Drinking Water Supply Schemes (DWSS) will be constructed at appropriate locations of project impacted areas. In course of constructing such schemes, there will be active participation of beneficiaries (vulnerable peoples) of the project area. It is expected that 25% cost will be borne by the respective beneficiary communities in the form of kind or labor for local ownership and longer run sustainability of the

schemes. The schemes will be handed over to the respective communities/ user groups after accomplishment of construction works. The user groups will be provided repair and maintenance training. Project will establish a revolving fund in each scheme so that repair and maintenance work will be done by the beneficiary communities themselves.

Similarly these peoples will be imparted health and sanitation trainings so that they will undertake home stead and community sanitation campaigns to keep their homes and community well sanitized. Many vulnerable households lack HH toilets. Project will provide material supports for the construction of HH toilets for selected vulnerable communities.

7.4.5 Capacity building programs

Carefully designed activities will be provided to address the capacity enhancement needs of vulnerable community. More often than not indigenous people including other vulnerable groups cannot endure the competition with their dominant culture groups who are better organized and have privileged education and skills. The vulnerable community or their institutions, owing to lower or mediocre level of educational achievement fare poorly in their capacity. Thus, vulnerable community will need increased capacity building with the necessary knowledge and skills to participate in the local development activities.

A local NGO along with government service providers will be involved in mobilizing the vulnerable community for group formation and strengthening. Likewise qualified members of local ethnic groups, including women will be engaged by the KAHEP management to undertake information dissemination works, preparing the beneficiary groups for project activities and contributory works. The project will identify the leadership of indigenous people / ethnic groups in the project area conduct a series of interaction meetings and will encourage their representation in social development related activities.

7.5 Specific measures for vulnerable community development

The specific targeted program will be especially important to assist affected households of vulnerable groups for planning for the changes that the project will have on their lives and livelihoods. Community groups, particularly poorer women and vulnerable IPs will be supported through grants and skill training to undertake economically viable and sustainable income/employment generating activities. These activities will be chosen by these communities and are likely to include activities based on available local resources such as livestock, agriculture, crafts, and forestry, trade and service sectors

7.5.1 Women focused programs

Small loan assistance program will be development particularly for vulnerable women headed households. An agreed amount of money will be allocated as a revolving fund to provide loans for small income generating projects. Co-ordination and links will be established with the local credit groups, cooperatives or field offices of the Agricultural Development Bank to ensure long term sustainability of the program. Besides, the following measures need to be undertaken to ensure that women's livelihoods are restored or even improved compared to what existed before project implementation.

- Income generating program will be designed to ensure that women derive a reliable income by engaging in activities that are within their capacity, taking into account the availability of resources and the type of enterprises that they are already engaged in;
- Capacity enhancing assistance will be provided that improve the access of women to skills training for off-farm employment such as tailoring and weaving, small goods shops; marketing - buying and selling local produce; processing of locally produced products;
- Social awareness campaigns and training opportunities will be organized to increase women's integration into social and economic mainstream; and
- Women's Community based and nongovernmental organizations will be strengthened.

7.5.2 Indigenous People focused programs

While the project will have some adverse impact on IPs, it has been assessed that they will also experience some positive impacts due to various development interventions like improved road access which come along the development of KAHEP. IP focused program aims to unleash their potential by enabling them to get organized, generate resources and learn skills through training. Thus, some specific programs will be prepared to minimize adverse impacts while maximizing project benefits to IPs. This includes:

- Employment of at least one member from each affected IP household will be guaranteed in project construction and maintenance work;
- At least one member from each of the affected IP households will be involved in livelihood enhancement activities such as skills training for income generation and other livelihood improvement activities;
- Preference will be given to qualified IP individual in recruitment of community facilitators, who will maintain frontline contact with the community in implementing VCDP activities;
- Supplementary infrastructure facilities will be developed in the *Majhi* settlements at Pinasi, such as latrine construction and drinking water facilities;
- Small loan assistance program will be developed, particularly for vulnerable IP households in order to promote their income opportunities; and
- Organizations of IPs will be supported to protect and preserve their indigenous cultures, language and traditions based on their proposal.

7.6 Strategy for vulnerable people's participation

To date, vulnerable households have been interviewed on an individual basis, consulted in group discussions and meetings in order to collect their needs, priorities, and preference regarding the project implementation. Separate focus group discussions were held with IPs and other vulnerable communities to assess the project impacts and benefits to these groups. Accordingly, the SAP, including VCDP has been prepared. The project's SAP includes a strategy for the ongoing involvement of affected people, including vulnerable groups, in project preparation and implementation. Core components of this strategy are (a) the representation of affected people/vulnerable groups on SAP implementation structures; (b) a grievance management system for the resolution of grievances and disputes; and (c) monitoring and evaluation mechanisms to track implementation issues.

Outcome of SA programs and plans developed for IPs and other vulnerable communities will be disseminated through appropriate means of communication. KAHEP will use a range of communication/information dissemination mechanisms, including written documents (information sheets and newsletters), FM radio broadcasts through local radio stations, community meetings, focus group discussions, participatory appraisal techniques, household interviews and social mobilization techniques. A key focus of these consultations will be the project's Entitlement Matrix and impact mitigation measures. These topics will be discussed extensively to ensure that individual households are aware of the different compensation and impact mitigation measures so that they can make informed choices. In particular, it will be important for vulnerable households to have a thorough understanding of the following:

- Entitlements for the loss of private assets (land, trees and other assets);
- Entitlements for the loss of access to communal resources; and
- Entitlement eligibility criteria.

The project will adopt mainstreaming and targeted approaches to maximize the project benefits and opportunities for IPs and vulnerable communities.

Mainstreaming approach includes increased participation and proportionate representation of IPs and vulnerable communities in various user groups and committees formed under the project promoted and sponsored social development activities so that their needs, priorities, interests and perspectives are reflected in project planning and implementation.

Targeted approach will cater poor and disadvantaged IPs and vulnerable communities through livelihood enhancement skills training activities to enable them to take full advantage of project opportunities and benefits, including employment opportunities. Livelihood enhancement skills training will be targeted to these groups on the basis of their specific needs and priorities, including promotion and upgrading of traditional skills for modern market requirements.

CHAPTER 8

HEALTH AND SAFETY MEASURES

8 HEALTH AND SAFETY MEASURES

8.1 Staff health and safety measures

Staffs and construction workers health and safety measures are described below:

8.1.1 Occupational health and safety measures

Project contractors in the construction phase and project operator in the operation phase will be made responsible for the following occupational health and safety measures for workers:

- The contractor(s) will be made responsible to adopt Safe Construction Practices (SCP) in order to minimize construction related accidents;
- Trainings will be provided to all construction workers about SCP;
- Fencing will be done to restrict public movement around the construction sites;
- Protective gear such as helmets, boots, gloves and masks will be provided to construction workers, supervisors and visitors;
- Warning signs/posts will be installed for informing the local people about the potentially dangerous areas such as quarry site, weir site (dam site), tunnel outlets and tailrace outlet;
- Only authorized persons will be given responsibility to operate machinery and other heavy equipment;
- Temporary support structures will be constructed to avoid rock falls, erosion and landslides during construction. Soil excavation during monsoon in unstable areas will be minimized, if not totally avoided;
- Adequate lighting and ventilation facilities will be maintained at all construction sites;
- Emergency equipment like first-aid kits, flashlights, fire extinguishers, siren, emergency vehicles and phones will be made available at construction sites;
- Qualified medical personnel will be appointed at the construction sites to oversee emergencies related to occupational health and safety;
- An Emergency Response Contingency Plan will be prepared to appropriately deal with emergencies. The workers will be trained to follow the plan in case of accidents;
- The contractor(s) or the client will obtain insurance against any possible injury to all project staff/workers including client's personnel. Furthermore, the responsible party will also obtain third party insurance against any possible injury to visitors and possible victims; and
- All workforce camps health and safety issues shall be reported by the contractor(s) health and safety officer to KEL.

8.1.2 Health facilities

A 10 bed hospital will be established in the project area for attending health matters of workers and local population during construction phase. In addition, the contractors will arrange adequate health services to construction workers on the site. Two health clinics will be run throughout the construction, one each at the headworks and the powerhouse site.

Basic medical checkups for baseline information on STD, HIV/AIDS and other transmitted diseases will be carried out to all staff and construction workers. The workers and staff will be checked up regularly to monitor their health status.

8.1.3 Drinking water and sanitation facilities and solid waste management

The construction contractor is responsible for all preparatory works and ensuring drinking water and sanitation facilities required for construction workers before the commencement of work. The construction contractor shall then report to the KEL and receive approval to proceed with the proposed work. The contractor shall be responsible for providing adequate safe water supply,

maintain a suitable sanitary condition with proper drainage, and establish proper solid waste disposal sites within the camp. The project contractors will be made responsible to adopt the following measures for solid waste management:

- A solid waste collection and storage system will be established in all the construction related camps and construction sites. The collected waste will be segregated as to the property of the waste such as degradable, glass, metals, plastics, cloths and leather etc and will be stored in separate bonded areas. These materials will be disposed as to the recommendations and approval of the project environmental officer. The contractor will be made responsible for the measure;
- Garbage containers of adequate size will be placed at critical places in the construction related camps and construction sites. The garbage will be collected daily and segregated while storing. The contractor will be made responsible for the measure.

8.1.4 Awareness raising programs and trainings

Health awareness programs will be organized on a regular basis to provide information or instructions to construction workers on health including the dangers and consequences of Sexually Transmitted Disease (STD) and HIV/AIDS. Awareness program on human trafficking will be imparted.

8.2 Public health measures

Public health measures for local people are described below:

8.2.1 Health facilities

KAHEP is committed to strengthening health facilities of each affected VDCs so that the wider project-affected-population (and not just those compensated or employed as a result of the project) can enjoy improved health care services. As mentioned above, a 10 bed hospital will be established for attending health matters of workers and local population during construction phase. After the completion of the Project, one health clinic (out of the two that will be in operation during construction), will be handed over to the community for operation.

A health check up campaign will be launched before the construction work in the project area for basic medical checkups of local residents on STD, HIV/AIDS and other transmitted diseases for baseline information.

8.2.2 Drinking water supply and sanitation

KAHEP will contribute to the establishment of new water schemes in the areas where people are fetching drinking water from water holes and rivers and will help to strength existing community-level water supply facilities in the settlements of the project affected VDCs. It is intended that in the long-term the schemes will be community managed in compliance with the Rural Water Supply national policy of Nepal. The support to drinking water scheme will have positive impacts on general public health; will make the water collection easier and less time-consuming to women and children who are generally in charge of it.

8.2.3 Awareness raising programs and trainings

Health awareness programs shall be organized on a regular basis to provide information or instructions to local population on health including the dangers and consequences of Sexually Transmitted Disease (STD) and HIV/AIDS. Awareness program on human trafficking will be imparted.

CHAPTER 9

BENEFIT SHARING MEASURES

9 BENEFIT SHARING MEASURES

While the primary beneficiaries of hydropower usually live far away from the project sites, other groups of people in the project-affected area primarily sustain most of the negative impacts of the project. In view of that KEL- the proponent of KAHEP- has committed to support measures for development and welfare opportunities for local and regional communities that are negatively affected by the project. To enhance the benefit of project to the local population, and especially those affected by the project, two categories of local development fund will be available. The first will be used for affected VDCs over three and half years during the construction period. The second category requires, as mandated by national legislation²⁸, that 50% of the royalty that GoN receive during 30 years license period has to be given to project located districts for local development activities in a wider area comprising both directly and indirectly affected communities. The modalities for utilization of the royalty received will be determined by the local administrative bodies of GoN independently, whereas for the first category, investment plan will be developed by KAECDU in collaboration with Project Affected People (PAP).

9.1 Resettlement and rehabilitation actions

The location and design of the KAHEP have been finalized with the aim of minimizing adverse impacts on local people and their natural environment. With the current design and location, the project construction activities do not require acquisition of houses and associated resettlement problems. However, the construction of the project require some lands to locate construction camp, batching and crushing plants, storage ground, reservoir, spoil deposit site, borrow areas, and access road.

Land Acquisition Act 1977 and World Bank's safeguard policies that govern Resettlement and Rehabilitation (R&R) will be taken together to ensure that an equitable system of R&R and benefit-sharing is worked out for people affected by the project. The project staffs have consulted comprehensively with the PAP, explaining necessity of the project, discussing with them the options for resettlement and rehabilitation as well as local area development.

An adequate compensation package will be worked out for those 13 families (PAFs) whose land will be acquired. Apart from the compensation for the acquired land, they will also receive compensation for crop, tree and other assets loss, if any. In order to help the PAP recover from any loss of livelihood and also in order to help those interested in setting up additional income-generation schemes, the project will also offer training on skill development and income generation activities, scientific agriculture technologies and an improve seed program.

9.2 Project level measures

In addition to the resettlement and compensation package that each directly affected household receive, the project impacted VDCs - Amarpur and Panchami of Panchthar district and Thechambu and Nangkholyang of Taplejung district - have also been earmarked for special development assistance. The project has set Community Development Initiatives to be invested over a period of four years in infrastructure and development schemes. The local people and project proponent together will lead the local area development exercise, and found will be invested choosing all of the following infrastructures schemes they would like to see implemented in the affected village.

²⁸The 1992 Hydropower Policy in Nepal and the 1992 Electricity Act has required hydropower above 1 MW to obtain a license and pay royalty to the government. However, they did not specify how the amounts received should be used. In 1999, the local Self Governance Act and Local Self- Governance Regulations recognized the necessity to redistribute part of the royalty to communities in the vicinity of the project since these communities contribute to the project benefits by sacrificing their access to or use of land and other resources in the project-affected areas. The regulation requires that the central government allocate 10% of the hydropower royalty to district where the hydropower project is located.

In 2004, the second amendment of the Self-Governance Regulations increased the district's share of the royalty to 12 %. It also required the central government to distribute another 38% of hydropower royalty among districts of the development regions where the hydropower project is located.

In addition, the 2001 Hydropower Policy specifies that 1% of the royalty shall be provided to the Village Development Committee (VDCs) that are directly affected by the hydropower infrastructures with the sole purpose of expanding village electrification of these VDCs.

9.2.1 Access roads

The implementation of the project will make available all season motorable roads for people living in remote areas where project is located and hence enhance the transportation facilities for the local people. Besides, some of the amount from allocated fund will be invested to open and/or improve rural access road and foot trails in the affected VDCs. Apart from improved access for rural communities, families along the new access road will also get benefit of increased land price. These will benefit local communities in the long run.

9.2.2 Health facilities

Under social development program the project will give high priority for the repair and maintenance of existing health posts, educational institutions and contribute to the establishment of new drinking water schemes in the area (details are provided in Environmental Management Plan (EMP) in the EIA report). Apart from establishing medical clinics on site within the construction camp staffed with qualified medical workers, the project is committed to strengthen health facilities for each affected VDCs so that the wider project affected population can enjoy improved health care services. Further, the project will implement necessary environmental control measures at the construction site; including dust control, waste management and sanitation, and trainings and awareness raising programs for their workers and locals on public health and safety measures (details are provided in EMP in the EIA report).

9.2.3 Employment

The people from affected area stand to gain benefit in terms of job creation and income generation. During construction period, the project will give first priority to recruit required employees from the local area. Both skill and unskilled workers willing to work in the project will be selected from the project affected families and local areas as far as possible. It is expected that minimum of 50 % of the unskilled workforce will originate from affected village for the construction phase of the project. This phase will employ about 600-800 people at the peak period.

Besides, the locally employed people will receive number of skill training on technical aspect like electromechanical works, house wiring, vehicle repair, welding and fabrication brick/block laying etc based on their skill and nature of work offered. Similarly, the project will encourage and help local people to initiate different types of commercial activities like teashops, groceries, lodges etc. in the vicinity of the contractors' base camp at the dam and powerhouse site which ultimately helps in job creation and self employment.

There are always opportunities for locals to avail jobs from petty contractors working for the project during construction and also from the local NGOs/CBOs as the part of the task of SAP will either be implemented by contracting or in collaborative approach with them. In addition, during the construction period, contracts for small civil works will to the extent possible be given to the eligible PAP and local people.

9.3 CSR activities

KEL will conduct various CSR activities as per the KEL CSR policy. The CSR Policy of KEL aims to achieve, consolidate and strengthen Good Corporate Governance including socially and environmentally responsible business practices that balance financial profit with social well being. The CSR commitment of KEL positions its social and environmental consciousness as an integral part of its business plan and its commitment to all its stakeholders including share holders, employees, local communities and the society at large.

The Project Company will adopt the following strategies in order to implement the CSR activities:

- Build on core strengths and comparative advantage
- Take ownership to minimize/ address unavoidable and unintended damage
- Develop customized and needs based programs
- Emphasize sustainability
- Engage in-house facility for co- coordinating roll out of CSR activities

- Maximize outcomes through strategic partnerships
- Mainstream CSR into the core business plan of KEL

The Project Company proposes, apart from the EMP implementation, put into practice the activities following themes as per its CSR commitment:

- Human rights
- Transparency and good governance
- Environment conservation
- Integrated community development that fill the gaps in the statutory resettlement and rehabilitation program of the government and ensure that the qualities of lives of communities are positively impacted at project areas.
- Education, including formal and informal education and vocational training that contribute towards sustained income generation and self sufficiency
- Health as an integral component of better quality of life with special focus on vulnerable groups.
- Disaster Management including preparedness, capacity building as well as emergency response leveraging core competency of the KEL in situations of disasters.

The CSR activities will be carried out through adaptive management and further detailed during the construction phase after identifying needs of the local population. The modalities will be developed to cater the wider population of the project area.

9.4 Support to local development

9.4.1 Strengthening of local economy

Local economic benefits from the project are those, which accrue to employees and the wider community, over and above the benefits accruing from alternative income generating activities. These include:

- Direct employment of local people during construction and operation of the project;
- Induced employment and increased trade in service industries, particularly during the dam and powerhouse construction period; and
- Benefits from indirect employment and trade, industries and commercial activities, which will be established as a result of the greater availability of development infrastructures including electricity and road.

Similarly, during the construction phase, the generation of local employment opportunities will act as a catalyst to stimulate the local economy. Increased income in the area will encourage the formation and growth of local businesses, which will in turn create new indirect employment opportunities. Similarly, the availability of cash from employment and provision of goods and services will result in opportunities for investment. As a result, new shops, hotels and residential structures will be established to meet the demand of the construction related population for essential commodities. Employment opportunities directly or indirectly related to the project, will also provide opportunity for local people to enhance their skills in different trades.

Thus, the construction of the project will cause an economic spin-off in the project impact area. If properly managed and controlled by KAHEP and the district authorities, such impacts are expected to be high in magnitude, regional in extent and of medium duration.

During the operation phase, in addition to employment, the main economic benefits of the project will be activities resulting from availability of power locally. Due to increased accessibility and better market opportunities developed during the construction phase, economic activities may still continue in the project areas. All of this will create employment opportunities and means of livelihood for households, including vulnerable families, of the project area. FGDs with local businessmen and

traders in both districts reveal that there is considerable potential for development in the retail, construction, hotel and industrial sectors. The lack of reliable, economic power supplies is considered to be a constrain development in the region and KAHEP is expected to fulfill this gap. However, market areas, houses, hotels, etc. may also be deserted if other economic activities do not fill in for the economic activities prevailing during the construction phase.

As per the Electricity Act, 50% of the royalty that GoN will receive during the 30 year license period will be given to the districts where the project is located. Utilization of this revenue by the districts for infrastructure and other development activities can ultimately lead to improvement in the socioeconomic status of the project areas.

9.4.2 Drinking water

KAHEP will contribute in the establishment of new water schemes in the areas to strengthen existing community-level water supply facilities (such as fetching water from wells and springs) in the settlements of the project affected VDCs. It is intended that in the long-term the schemes will be managed by the community in compliance with the Rural Water Supply national policy of Nepal. Thus, supports to drinking water scheme will have positive impacts on general public health. It will make the water collection easier and less time-consuming to women and children who are generally in charge of it.

9.4.3 Rural electrification

The project area has no electricity facilities at all and all the people have great expectation of rural electrification program from KAHEP. Consequently, it will be an obligation of KAHEP to design and support investments to establish community access to electricity in the area. Consultation with concerned Government authorities and local communities will be essential both for design and implementation of the appropriate methodology for sensitization and community management within the framework of the existing Rural Electrification Policy in Nepal. To facilitate possible electrification, KAHEP will undertake a needs assessment within the affected villages, and identify individual households who have desire and have ability to pay for electricity.

9.4.4 Training and financial services

This component benefits two different categories of affected people: those who will receive compensation, part of which may be in cash; and people from the area who do not lose physical assets and will not receive cash compensation, but can benefit from the project. KAHEP will provide training and financial services to develop and strengthen cooperatives, savings, and credit association, which at present are available in the project areas. The expected results of the training and financial services are:

- Improved Inputs and Business Practices;
- Planning and Record Keeping;
- Savings and Credit; and; and
- Small Holder Associations.

9.4.5 Education

KAHEP is committed to strengthen education opportunities in the affected villages. Possible activities and support include: improvement of the existing school structures (i.e., classrooms, library, recreation and sanitation facilities); construction of new structures; and, provision of teaching materials and equipment. Educational institution for support will be identified through series of consultations with local communities.

9.5 National level benefits

The project will provide 37.6 MW of power to the much needed electricity grid of Nepal. This will have large positive impact on the macro-economic growth of the country by reducing the dependency on load shedding. Moreover, Hydroelectric being clean renewable energy will also protect the environment.

CHAPTER 10

PUBLIC CONSULTATIONS

10 PUBLIC CONSULTATIONS

10.1 Introduction

The project is likely to affect the communities residing along the road and their activities. Moreover successful implementation of the project requires coordinated efforts of various stakeholders at different levels. Hence, consultation at different levels was used as a tool to inform and educate stakeholders about the proposed action both before and after the development decisions were made. Public consultation was useful for gathering socio-environmental data, understanding likely impacts and communities' needs and preferences. The various alternatives could be evolved and sustainable mitigation measures could be formulated through consultations. It assisted in identification of the problems associated with the project as well as the needs of the population likely to be impacted. This participatory process helped in reducing the public resistance to change and enabled the participation of the local people in the decision making process. The involvement of the various stakeholders ensured that the affected population and other stakeholders are informed consulted and are allowed to participate at various stages of project preparation. Different strategies have been adopted for public consultation during planning and implementation stages.

10.2 Objectives

The main objective of the consultation process is to minimize negative impact of the project and to maximize the benefits of the project. Public consultation was an integral part of the process throughout the planning and execution of the project. The SA team performed public consultation activities according to the requirements, situations and demands of the concerned population. The local people were involved from the initial phase of SA study. Among others, women, disadvantage groups and local institutions were encouraged to present their views through formal and informal interactions. Other objectives of the consultation process were the following:

- Information dissemination;
- Consultation over impacts and impact mitigation approach as well as measures;
- Consultation over project benefits and gauge public views of and expectations from the project;
- Consultations with different groups (ethnicity, caste, vulnerable and disadvantaged groups etc.);
- Development of a public consultation and participation strategy; and
- Development of a communication strategy.

10.3 Consultations during planning stage

10.3.1 Stages and levels of consultation

Public consultation was conducted both at screening stage as well as project preparation stage. Consultation made at screening stage played an important role in scoping the level and extent of consultation to be taken in the project preparation stage. Public consultations have been held at three levels as follows:

Community level involving project affected persons and their representatives;

District level consultations involving NGOs, CBOs, District Officers, revenue department and;

Central level workshop Ministry of Environment, Ministry of Energy and related organizations.

10.3.2 Tools for consultation

Public Consultation was done using various tools including, interviews with government officials, questionnaire based information with stakeholders, formal presentation of project proposals at district level seminars and workshops are briefly discussed below:

During scoping stage

(i) *FGDs*

Public consultations at local and district level at different locations of the project were carried out to inform about the project features and possible environmental issues of its implementation. In addition, local population's views, suggestions and concerns regarding the implementation of the project were collected.

(ii) *Formal consultation*

The scoping team also visited the government institutions and line organizations related to the project implementation at the district level and informed about the project implementation. In addition, separate district level public consultations were also carried out by the Kabeli Project team.

During SA and SAP study stage(i) *FGDs*

FGDs were organized by giving a prior verbal notice and written letter through a runner to the entire project affected VDCs. 14 FGDs have been conducted with the local people in different locations of the project areas to identify the various issues related to the hydropower project development and its socioeconomic consequences and corresponding mitigation measures. 251 individuals representing from different impact areas and groups such as dam site, dewatering zone, access road, powerhouse site, CFUG, LFUG, *Dalit*, IPs and women participated in the FGDs. Out of the 14 FGDs, 2 were with women, 1 with *Dalit*, 3 with IPs, 1 with Kabeli Concern Committee, 1 with CFUG, 1 with LFUG, 1 with local school teachers and the rest 4 FGDs were conducted with mixed group comprising of male, female, IPs, *Dalit*, *Brahmin*, and *Chhetri*.

(ii) *Informal discussions*

Informal discussion with local stakeholders and people of different backgrounds and social identities have been conducted to identify key actors and agents associated with various issues of the project and explored the underlying socioeconomic, cultural and political situation that have shaped the life circumstances of the communities of the project areas. These discussions were helpful to recommend community participation and consultation policy and institutional arrangement for project implementation and to suggest grievance hearing mechanism. These discussions were also helpful to identify roles and responsibilities of different stakeholders to develop equitable benefit-sharing mechanisms.

(iii) *Formal consultations*

Formal consultation meetings with identified stakeholders (VDC, DDC, NGOs, political parties, ethnic organizations, and DFO) working at local and district levels have been conducted to know their views on the likely impacts of the project on local people and community, development infrastructure, and the project induced economic and social development opportunities. More specifically, these consultations meetings were useful to formulate SAP particularly to develop resettlement and rehabilitation policy.

After preparation of the draft report*Public consultation/hearing*

After the completion of the EIA and SA draft report, the summary of the report will be prepared in simple Nepali language which will be distributed during the public consultation meetings. One Public Consultation Meeting (public hearing) will be conducted at the project sites to share the findings of the assessment, explain how the concerns have been incorporated, to obtain further feedbacks from the affected people and stakeholders to incorporate suggestions and inputs; to determine local perception about the project; and to ascertain local development needs and potentials.

In order to conduct the public hearing, Public Notice will be published in a national daily newspaper about the time and place of the public consultation meeting. The electronic media like FM will be

used to inform the stakeholder about the date of public consultations. Furthermore, the notice will be circulated to the concerned local stakeholders prior to this public consultation meeting. The findings of the assessment will also be presented to district level stakeholders and central level stakeholders.

The study team will perform one district level workshop at Phidim involving the government offices, political parties, INGOs, NGOs and media personnel of Panchthar and Taplejung districts to incorporate regional concerns of project development. In addition, one national workshop at Kathmandu will be conducted among the national level stakeholders of the project to complete the public consultation exercise.

10.4 Consultation strategy during implementation

Several additional rounds of consultations are also planned during SAP implementation. Measures include PAF representation and participation in SAP implementation, grievance procedures and SAP monitoring. The specific aims of the consultation are to:

- a. Improve project design and lead to fewer conflicts and delays in implementation;
- b. Facilitate development of appropriate and acceptable entitlement options;
- c. Increase long term project sustainability and ownership;
- d. Reduce problems of institutional coordination;
- e. Make the R&R process transparent and reduce leakages; and
- f. Increase effectiveness of sustainability of income restoration strategies, and improve coping mechanisms.

10.4.1 First round of consultations

The purpose of the first round of consultations is to disseminate information on SAP entitlement package and options for each impact category to PAFs. This will involve explaining the Entitlement Framework and resettlement options to the PAFs and soliciting their support and co-operation. This round will also finalize agreement on the various community and group entitlements provided in the entitlement framework.

10.4.2 Second round of consultations

The second round of consultation involves agreements on compensation and assistance options, entitlements with PAFs, completion of a PAF identity card indicating the accepted entitlement package.

10.4.3 Third round of consultations

The third and final round of formal PAF consultations will occur when compensation and assistance are provided and actual resettlement begins. These consultations will be managed and carried out by the Project management.

10.4.4 Continued Participation

Continued participation of the various stakeholders especially the project affected will be worked out to ensure time bound and effective achievements of the implementation of the various EIA/SA/SAP measures proposed. A community relation program will be developed to establish constant communication and participation of the affected communities. The program will

- Provide project affected communities with regular information on the progress of project work and related implications;
- Maintain awareness of socio-cultural issues among communities;
- Receive feedback directly from the affected communities and PAF in development of SAP and EMP implementation and monitoring;
- Ensure complaints are dealt according to the complaints procedure (Refer grievance redress mechanism); and

- Ensure appropriate processes are utilized including consideration of vulnerable community in communication and implementation activities.

KAECDU established at project level will be responsible for effective implementation of the program. The consultations and FGDs will be organized with the project affected and the various stakeholders at regular intervals as a part of the continue consultation exercise of the program.

CHAPTER 11

COMMUNICATION STRATEGY

II COMMUNICATION STRATEGY

Better communication means better performance and frequent communications keep stakeholders in the loop. KEL is aware about the public involvement in every stage of the project. KEL believes that two way communications between the project and the project affected people/beneficiaries is very important for smooth and unhindered project construction and operation. In order to achieve this, KEL will adhere with all the stipulated requirements for communication and information dissemination requirements stipulated in Environmental Protection Rules (EPR 1997), donor guidelines and prevalent best practices. From the initial phases of environmental and social study, KEL, EIA and SA study team have encouraged participation of the local residents of the project area.

The communication strategy will be guided by the concepts of Free, Prior and Informed consultation²⁹ with the affected communities to enable informed participation, leading to lenders' confirmation of broad community support for the project within the affected communities. The feedback from consultations has been, and will continue to be an important component of the planning process leading to the formulation of mitigation measures and compensation plans for project affected communities.

The framework and approach of the communication strategy used by KEL is described below:

II.1 Project stakeholders identification

Public Consultation, Participation and Disclosure (PCPD) programs were developed and implemented taking into account the various areas of influence that were identified during scoping exercises as part of the SA study. Based on these recognized areas of influence, KAHEP stakeholders comprise six main groups:

- Communities/families/ individuals who are directly affected by the Project;
- Government agencies at the district, regional and national levels;
- Local Government Bodies (VDCs and DDCs);
- The broader interested regional and national community;
- Political parties, Community Based Organizations (CBOs) and NGOs operating in the Project area; and
- International NGOs, international organizations, and the local, regional and international media.

II.2 Mechanisms for stakeholders' participation

It is the developer's (KAHEP) responsibility to inform all relevant stakeholders of the project so that they will be fully informed about the likely impacts and the best benefits they will receive from the project. KAHEP is committed to assist affected persons, households, families, and communities in making an informed choice about compensation and livelihood restoration. KAHEP's Project Management is responsible for informing all the relevant stakeholders well in advance by giving notice at the appropriate time about the project scope and impacts, implementation steps, compensation and livelihood restoration options, and in general encouraging participation of local stakeholders in the decision-making process and implementation of the SAP.

²⁹ **Free** – the client or its representatives have not coerced intimidated or unduly incentivised the affected population to be supportive of the project;

Prior – Consultation with project-affected communities must be sufficiently early in the project planning process; and,

Informed – Consultation with all project-affected communities on project operations and potential adverse impacts and risks, using methods of communication that are inclusive, culturally appropriate and adapted to the community's language needs and decision making.

11.3 Communication tools

KEL will use various communication tools like Print (brochure, leaflet, flyer, newspaper both local and national,), Electronic (FM radio) in disseminating the project related information to the project affected people and the community.

11.4 Information discloser and dissemination

The draft and final SA and SAP will be disclosed in BPC/KAHEP and World Bank's website and made available to wider audience and national and international levels of stakeholders. At local level, information dissemination and consultation will continue throughout SAP implementation. Information has been disseminated to Affected Persons (APs) at various stages. At the initial stage, the Project Relation Office (PRO) of KAHEP informed potential APs and the general public of the project through conducting mass meetings and land acquisition requirements through leaflets and publication in local media outlets and newspapers. In addition, PRO conducted consultations and disseminate information to all APs during these initial stages to create awareness of the project.

Project brochures having details of the project specific information will be prepared in Nepali and local languages (if possible) and distributed to the affected APs, local governments and interested local NGOs and CBOs after finalizing the detail project report. Summary of the major findings of SA and main provisions of the SAP will be translated into Nepali and possibly local languages and will be distributed to the participants and interested people before and during public hearing meetings. The brochures will provide information on the project alignment, potential impacts and its gravity and steps taken by the project to minimize the impacts. These and similar efforts of information dissemination and disclosures will also be continued during project implementation and operation periods.

At the implementation stage, PRO combining with VDCs and Kabeli Concern Committee will provide information to APs on R&R Policies and features of the RP. Basic information such as sub-project location, impact estimates, entitlements, and implementation schedule will be presented to APs and general public. KAHEP project relation office shall organize and will be responsible for the presentation and dissemination of information sought by APs on related issues. A field team from the project management unit should regularly provide information at the site level to the APs, local government and NGOs as and when required during planning and implementation of RP.

11.5 Communications activities

The communication activities and information dissemination tools to be used prior construction, during construction and operation phases of the KAHEP are given in Table 11-1.

Table 11-1: Public Consultation and Information Dissemination for KAHEP

S.N	Stages of the Project	Communication Activities	Medium of Communication	Stakeholders	Status	Responsibility
1	Scoping and TOR stage	FGD, Key Informant, formal and informal consultation	Verbal explanation about the project, Dissemination of leaflet containing about the project salient features and possible impacts	Project affected community/local people, project VDCs and DDCs	Completed A total of 9 public consultations were held at different levels (VDC and district level). Refer: Scoping Document of Kabeli A HEP	Proponent and consultant
2	Environmental and Social Impact Assessment (field study)	FGD, Meetings, Interactions, formal and informal consultation	Print (flyer), Verbal explanation about the project, Dissemination of leaflet containing about the project salient features and possible impacts	People of project affected VDCs (Amarpur, and Panchami of Panchthar district and Thechambu and Nangkhola VDC of Taplejung district	Completed 14 Consultation and FGDs were conducted in project affected VDCs (ANNEX D)	Proponent and consultant
3	After preparation of EIA/SA/SAP Study Report	Public Hearing at local, district and central level	public notice, Distribution of draft EIA/SA/SAP reports summary in Nepali	Project affected people/communities/PAFs/ VDCs/District and Central level	Three local and district level consultation were carried out in project area	Proponent and consultant
4	Implementation stage	FGD, Consultation	Verbal	PAFs	Due	Proponent and consultant

CHAPTER 12

IMPLEMENTATION ARRANGEMENTS

12 IMPLEMENTATION ARRANGEMENTS

This section outlines the organizational framework to be established for the SAP implementation. As the project authority, BPC will assume overall responsibility for the management procedures as mentioned in the SAP. Key activities to be undertaken to ensure effective implementation of resettlement, compensation and rehabilitation activities are:

- Implementation of procedures to minimize adverse social impacts including acquisition of land and assets throughout the planning, design and implementation phases and accurately record all project-affected persons, by means of census and asset verification and quantification exercises, and the issuing of identification;
- Establishment of systems and procedure for the co-ordination of resettlement and compensation activities;
- Land Acquisition Compensation Fixation Committee (LACFC);
- Establishment of Community Guidance Committee at VDC level or package level where it is appropriate and practicable to address the social issues associated with the project. The objectives of this participation program will be to: (a) ensure ongoing dissemination of project information to affected households, (b) structure, regulate and strengthen communication between roadside communities, (c) involve affected communities and local government structures in social impact management, grievance resolution and monitoring;
- Distribution of copies of the approved Entitlement Policy, and follow-up community meetings to ensure full comprehension of its contents;
- Capacity-building initiatives to create a supportive environment for the implementation of RAP activities, including training on accepted resettlement and rehabilitation practices, training in the establishment of compensation plans for affected household;
- Co-ordination with other government line agencies like Department of Forestry and Ministry of Local Development to ensure effective delivery of mitigation and rehabilitation support measures; and
- Collaboration with non-governmental agencies to provide grassroots expertise and resources in areas such as project information campaigns, poverty alleviation and income generation projects, and impact monitoring.

12.1 Institution arrangement

From the previous experiences it was noticed that timely engagement of local people through a local organization can facilitate the Resettlement and Rehabilitation work effectively. KAHEP will be the primary agency to plan, implement and monitor the project mitigation and management plan. A comprehensive Environmental Mitigation and Management Plan (EMMP) will be prepared in accordance with the EPA 1997 and EPR 1999.

An organizational setup for SAP implementation is necessary for effective coordination to ensure compliance with policies and procedures, land acquisition and resettlement activities and implementation of mitigation measures. To ensure the achievement of these activities, organization for SAP implementation and management will occur at both central and district project level.

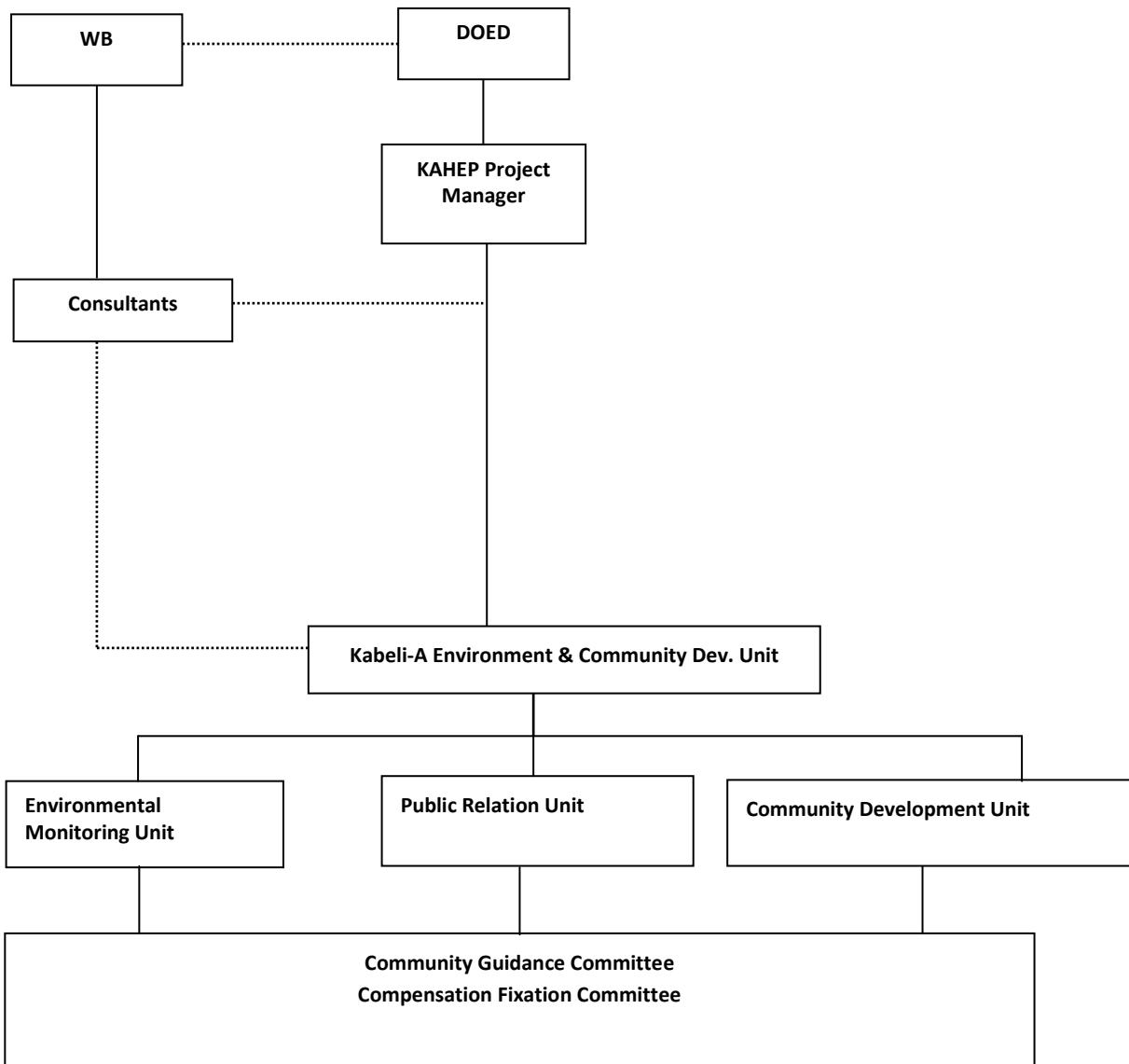


Figure 12-1: Organization chart for planning and implementation of EMP and SAP

Note: Bold line is the line of command

12.1.1 Central level arrangement

The KEL management will be responsible for overall project coordination and management of SAP implementation and budget arrangement. KAHEP Project manager will lead the overall management of social issues, review and approval of SAP and monitoring of timely and successful implementation of SAP.

12.1.2 Project level arrangement

Land acquisition and compensation will be carried out by the LACFC that will be established at district level immediately after the site mobilization. Upon finalisation of the detailed project design and or fixation of project alignment, a team will be mobilised to make a boundary demarcation for the required land and shall process to acquire those lands through government organisation. An Amin from the District Survey Office will be deployed to prepare a cadastral map of the demarcated land. Once it is finalised, the LACFC will start their work, fixe the rate of land in accordance with their land type and land use pattern, and thereby perform land acquisition amicably. The project

layout map from Detail Feasibility Study Report and Construction Plan will be the guiding document to follow for land acquisition.

KAHEP will design plans and programs that will be implemented and monitored at project level by the KAECDU after reviewed by Panel of Expert (PoE). The programs will include activities related to social screening; SA; socio-economic baseline survey; preparation of land acquisition plan; resettlement compensation and livelihood assistance plan and VCDP as part of SAP. The KAHEP will set up offices for KAECDU with required number of experienced staff to implement the planned activities and also monitor them routinely.

Community Guidance Committee (CGC) will be formulated with the representatives (elected or accepted personals from villages) from each of the direct project impact area. This organisation will be supported by the project and will work in close co-operation with the DDCs, VDCs, DFOs, CFUGs and NGOs during the implementation phase. The KAECDU will liaise with all relevant local GOs and NGOs.

12.2 Grievance redress mechanism

The project company will establish grievance redress mechanism to allow PAPs to appeal any disagreeable decisions, practices and activities arising from compensation for land and assets. There is the potentiality for two types of grievances: grievances related to land acquisition and grievances related to compensation or entitlement. Any grievances and objections related to land acquisition and compensation or entitlement will be referred to the Project Grievances Redress Cell and Land Acquisition and Compensation Fixation Committee (LACFC) at local level, Grievances Redress Committee (GRC) at central project level and formal court of appeal system.

At field project level, the project company will designate a Grievance Redress Officer (GRO) to receive routine emerging complaints of PAPs and stakeholders with clear responsibility to address their concerns. Grievance recording register will be established at KAHEP site offices. PAPs as well as local people can lodge their complaints at this cell related to acquisition and construction related activities.

The LACFC will be formed under the chairmanship of Chief District Officer (CDO) of the project districts as per the Clause 13 of the LAA Act 1977. The other members to be included in the Committee will comprise the Chief of Land Revenue Office (LRO), an Officer assigned by CDO, representative from District Development Committee (DDC), representatives from the Affected Persons (APs), Project Manager of KAHEP, and VDC representative. The Project Manager functions as the Member Secretary of the Committee. The LACFC will have full responsibility to receive and address the concerns and complaints related to the land acquisition.

The central project level GRC will be comprised of Project Director, Project manager and KAECDU Manager that will look after the grievances that cannot be resolved at the site by GRO and LACFC.

Proposed mechanism for grievance resolution is given below:

Stage 1:

Complaints of PAPs on any aspect of compensation, or unaddressed losses shall in first instance be settled verbally or in written form in field based project office. The complaint can be discussed in an informal meeting with the PAP by the concerned personnel to settle the issues at the local level to GRO and LACFC (for land issues only). The community consultation, involvement of social and resettlement experts will facilitate the process in this regard. All the grievances will be resolved within two weeks of receipt of complaint.

Stage 2:

If no understanding or amicable solution is reached or no response from the project office is received, the PAP can appeal to the GRC at central level. While lodging the complaint, the PAP must produce documents to support his/her claim. All the grievances will be addressed within two weeks of the receipt of complaint.

Stage 3:

If the PAP is not satisfied with the decision of GRC or in absence of any response from its representatives, within 35 days of the complaint, the PAP may submit his/her case to the court as a last resort.

CHAPTER 13

MONITORING AND EVALUATION

13 MONITORING AND EVALUATION

Regular monitoring of SAP implementation will be conducted by the implementing agency as well as by an independent external monitoring and evaluation organization or individual designated by Ministry of Energy (MoEn) to verify:

- Actions and commitments described in the SAP are implemented fully on time;
- Eligible affected people received their full compensation entitlements within agreed timeframe;
- SAP actions and compensation measures are effective in sustainably enhancing (or at least restoring) affected peoples' living standards and income levels;
- Complaints and grievances lodged by project affected people are followed up and that where necessary, appropriate corrective actions are implemented; and
- If necessary, changes in SAP procedure are made to improve delivery of entitlements to project affected people.

For the KAHEP, primary monitoring responsibility will rest with KEL. KEL will establish KAECDU to undertake social and environmental monitoring of the project.

13.1 Internal

The internal monitoring will be carried out by KAECDU in a regular basis to assess progress against the schedule of action defined in the SAP. Activities to be undertaken by KAECDU will include;

- Liaison with the SAP implementation team, Land Acquisition Team, construction contractor and project affected communities to review and report progress against the SAP;
- Assess the progress on implementation of action and commitment describe in SAP;
- Verification that land acquisition and compensation entitlements are being delivered in accordance with the SAP;
- Verification that agreed measures to restore or enhance livelihood are being implemented;
- Identification of any problem, issue or cases of hardship resulting from the resettlement process;
- Assess project affected peoples' satisfaction with resettlement outcomes through informal village head and household interviews;
- Collect record of grievances, and follow-up to check that appropriate correction action have been undertaken and that outcome are satisfactory; and
- Prepare brief quarterly progress and compliance report for KEL and external monitoring team, World Bank and MoEn.

13.2 External

An independent external monitoring and evaluation organization or individual designated by MoEn will carry out six-monthly review of the SAP implementation. External monitoring will be conducted during the implementation period to provide independent verification that timely compensation payment and rehabilitation assistance are provided to those entitled, and that grievances are addressed in a prompt manner to resolve the cases. An evaluation of the achievement of the objective of SAP activities- compensation and restoration or improvement of PAP living standards- will be conducted as part of the project midterm review and before the project closure.

Activities that will be undertaken by the consultants include:

- Review of internal monitoring procedures and reporting to ascertain whether these are being undertaken in compliance with SAP;

- Review of internal monitoring record as a basis for identifying any areas of non-compliance, any recurrent problems, or potentially disadvantaged groups or households;
- Review grievances record for evidence of significant non-compliance or recurrent poor performance in resettlement implementation;
- Discuss with KEL, KAECDU staff, and others involved in land acquisition, compensation disbursement or livelihood restoration to review progress and identify critical issues;
- Survey affected households and enterprises to gauge the extent to which project affected peoples' standard of leaving and livelihood have been restored or enhanced as a result of the project;
- Assess overall compliance with the SAP requirements; and
- Prepare a summary monitoring report for KEL (KAECDU), MoEn and World Bank on progress of SAP implementation, any issue arising and any necessary corrective actions.

Table 13-1: SAP monitoring framework

SN	Parameters	Indicators	Methods	Frequency	Responsibility
1	Performance against SAP	Progress in signing land acquisition agreements Payment of compensation entitlements completed Amended land ownership certificate Social investment activities initiated	Review of land acquisition and compensation records, record at land revenue office, consultation with PAP,	Quarterly	KAECDU, M&E Expert
2	Restoration of income and livelihood	Resumed pre-project income/livelihood activities Number of PAP received agriculture assistance/training Change in income and expenditure pattern of the PAP	Record of income and yield achieved, social survey report	Six month	KAECDU, M&E Expert
3	Level of PAP satisfaction	Response of PAP about their pre and post project quality of life and livelihood If PAP experienced any hardship as a result of project	Discussion with PAP	Monthly	KAECDU, M&E Expert
4	Consultation and grievances	Understanding of PAP about the land acquisition and compensation process as well as avenues for expressing a grievances Identified grievances and outcomes	Discussion with PAP, record review	Ongoing	KAECDU, M&E Expert
5	Public health, sanitary condition and safety	Status of health institution, frequency and type of disease observed, scatter waste in the area	Review of health institution record, interaction with health practitioners and locals, observation	Twice a year	KAECDU, M&E Expert
6	Employment status	Number of PAP and locals engaged in construction workforce	Interaction with locals and review of employment record	At least once a year	KAECDU, M&E Expert
7	Public facilities and infrastructure	Improved and new infrastructures in the area	Site observation and discussion with locals	Once a year	KAECDU, M&E Expert
8	Training and skill development	List of training provided and change in skill level	Record review, discussion with PAP and locals	Once a year	KAECDU, M&E Expert

9	Status of women children and disadvantaged group	Satisfaction of these groups	Interaction and discussion with these groups	Once a year	KAECDU, M&E Expert
10	Anti socio-cultural activities	Decreased/increased social abuse and or offences	Police record and discussion with locals	Twice a month	KAECDU, M&E Expert

13.3 Panel of expert

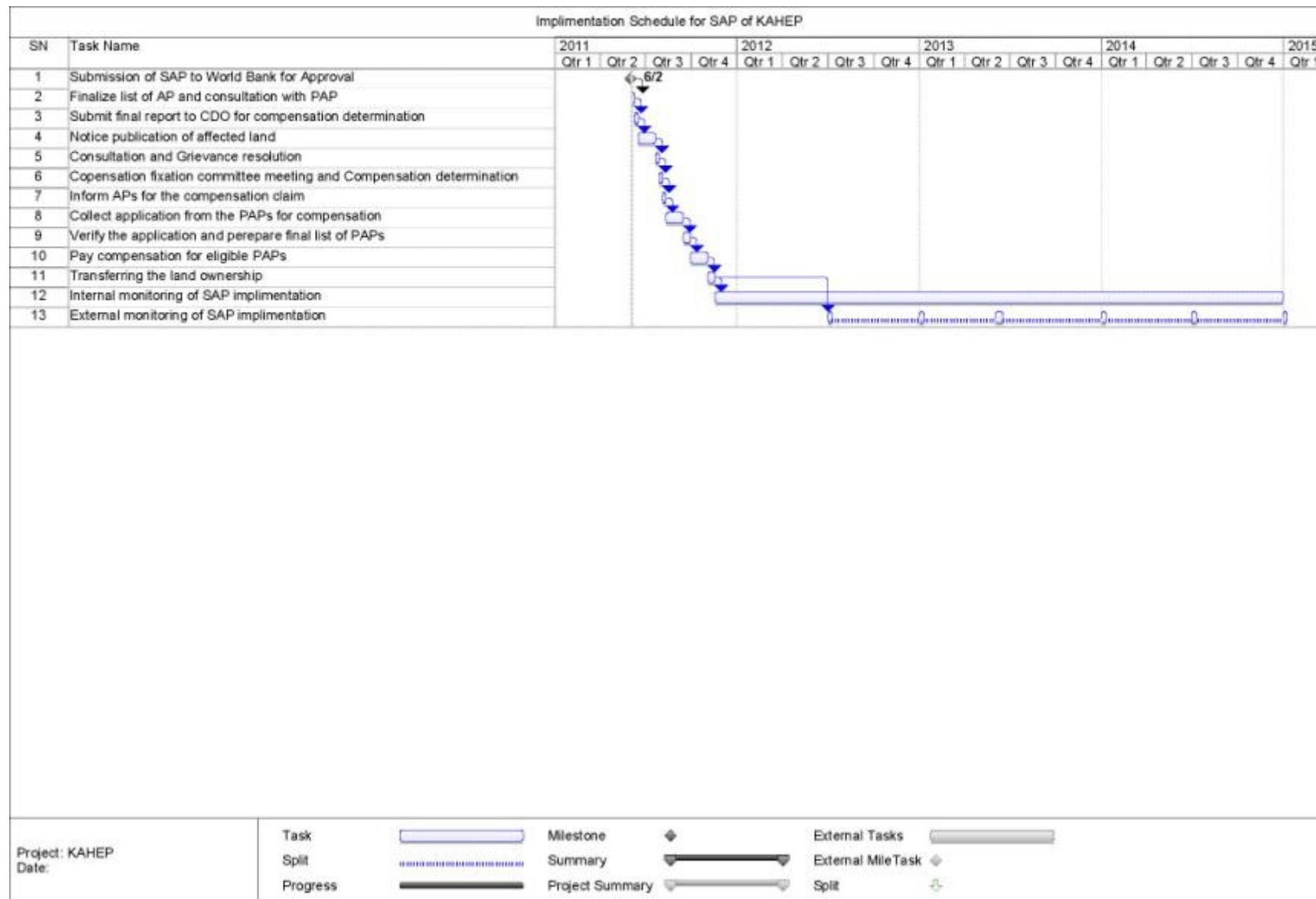
A Panel of Experts (POE), comprising an environmentalist and sociologist is established as per the World Bank Operational Policy on Environmental Assessment, Involuntary resettlement of Indigenous people for the project preparation phase. The Panel shall, *inter alia*, review, comment, provide suggestions or recommendations as it deems necessary and appropriate, or as requested by the KEL or its Consultant on any subject it considers vital to the successful completion and approval of the environmental and social studies of the project. The key tasks of the POE are to:

- Carry out an independent review of the EIA and SA processes and steps followed and provide guidance on the treatment of environmental and social issues associated with the Project at critical stages of EIA and SA;
- Review the methodology, work-plan, approaches to consultations proposed by the EIA and SA team and provide expert opinion and advice on them as well as review EIA and SA reports;
- Provide specialized guidance on the main and critical environmental and social issues of the Project such as environmental flows, cumulative impact assessment, and construction stage impacts, and advise the EIA and SA teams on the preparation of the Environmental Management Plan (EMP) and SAP of the KAHEP in compliance with relevant national and World Bank policies;
- Advise KEL on incorporation of the environmental and social findings and recommendations into the project and on ensuring adequate interaction between the Engineering Consultant and EIA & SA teams, providing timely and strategic social and environmental inputs to the Engineering Consultant in potential conflict areas with locals and helping avoid unnecessary delay in the implementation of EMP and SAP;
- Assess and advise on incorporating the environmental and social obligations in bidding documents and contract documents; and
- Review and advice on the implementation of the agreed and approved social and environmental action plans.

The POE shall provide report to KEL including the topics reviewed, area of concern, request for additional analysis and conclusion and recommendation for action, if any. The KEL will forward the report to the financing agencies (World Bank and any others), including a statement of actions taken on the recommendations of the previous meeting of the Panel.

13.4 Implementation schedule

The implementation of SAP is targeted for completion at the end of 2014. Furthermore, community related works and resolution of issues shall continuously be undertaken until completion of SAP implementation. Implementation of SAP begins upon its approval by World Bank. Major activities during SAP implementation include final determination of costs by Compensation Fixation Committee for permanent land acquisition, land use restriction, as per SAP policy of the project; documentation, processing and payment of relocation compensation; and supervision and monitoring of SAP. External monitoring team shall be engaged to oversee the implementation of the SAP to ensure that its provisions are properly followed.



CHAPTER 14

COST AND BUDGET

14 COST AND BUDGET

14.1 Cost estimation

Estimated cost for socio-economic and cultural environmental mitigation measures, enhancement measures and monitoring and evaluation activities are described below.

14.1.1 Permanent loss

Cost estimation of private land

There are different categories of land in the project area. Most of the affected land by land use is *Pakho Sim* followed by *Khet Sim* and *Khet Doyam*. During field work, local key informants and knowledgeable persons were consulted to obtain land price of the area. Some records of present land transaction were also reviewed. Cost estimation of private land was made through FGDs and individual consultation with the property owners. The cost of land varies according to land quality and land use. The estimated present land value for the project area is higher than the government valuation for land registration. The total cost estimated for the private land is NRs. 11,076,641.00 (Table 14-1).

Table 14-1: Estimated cost for private land

SN	Land type	Affected land area (ha)	Rate/ha (NRs)	Total amount (NRs)
1	<i>Pakho Sim</i>	5.573	1,376,200.00	7,669,563.00
2	<i>Khet Sim</i>	1.86	1,572,800.00	2,925,408.00
3	<i>Khet Doyam</i>	0.245	1,966,000.00	481,670.00
Total		7.678		11,076,641.00

Note: *Pakho*: Unirrigated land and *Khet*: Irrigated land

Cost estimation of private trees

During field survey, the tree owners and local key informants were consulted to estimate price of affected trees. The local valuation was done on the basis of types, girth, height and productivity of the trees. The estimation is based on the present market value and productivity of trees. A total of 141 numbers of trees and poles will be lost from the private land due to permanent acquisition. The estimated cost of affected trees is given in Table 14-2.

Table 14-2: Estimated cost of loss of trees in Private land

Tree class	Unit Price	Affected trees	Total amount (NRs)
Tree (Timber and Fuel wood)	10000/Tree	67	670,000.00
Poles (Timber and Fuel wood)	1000/Poles	74	74,000.00
Total		141	744,000.00

Cost estimated for loss of government land

An estimated amount of NRs. 477,882.00 has been allocated as lease compensation to the loss of government land area.

14.1.2 Cost estimated for mitigation measures of loss of access to NTFPs

A total amount of NRs. 2,967,750.00 is estimated for the mitigation measures for the possible loss of access to NTFPs. NRs. 1,842,750.00 has been allocated for compensatory plantation, NRs. NRs. 800,000.00 has been allocated for clearance and stockpiling of felled forest products, NRs. 100,000.00 has been allocated for the technical and financial assistance to the affected user's groups and NRs. NRs. 225,000.00 has been allocated for the supervisory works. The total estimated cost has been sorted as a part of biological impact mitigation in the EMP of the project.

Table 14-3: Cost estimated for mitigation measures of possible loss of access to NTFPs

Items	Estimated amount (NRs.)
Compensatory afforestation as per the Forest Guideline, 2006, calculations as per forest norms	1,842,750.00
Clearance and stockpiling of the felled forest products	800,000.00
Joint supervision with the official of district forest to mark the trees and poles for felling	225,000.00
Technical and financial assistance to the affected community and leasehold forest user group	100,000.00
Total	2,967,750.00

14.1.3 Cost estimated for mitigation measures for loss of fishing

An estimated amount of NRs. 500,000.00 has been allocated as an alternative to fishing support to the affected communities through skill training and capacity development. Additionally, about NRs. 5,699,914.00 has been allocated for the construction of fish ladder for the migratory fish and the amount is included in the project civil cost.

14.1.4 Cost estimated for mitigation measures of socio-cultural impacts

An estimated amount of NRs. 4,500,000.00 has been allocated for the canalization of the environmental flows released in the stretch of the affected cremation sites, and *Panchayat Shivalaya* temple for the cultural and religious survival. An estimated amount of NRs. 1,350,000.00 has been allocated for improvement of existing physical cultural resources as needed.

14.1.5 Construction related impacts

Project contractors in the construction will be made responsible for the construction related mitigation measures that includes health care facilities also. In addition, an estimated lump sum amount of NRs. 5,000,000.00 has been allocated for the mitigation measures for the construction related impacts.

14.1.6 Cost estimated for capacity and skill development programs to PAFs and affected communities

An estimated lump sum amount of NRs. 2,000,000.00 has been allocated for the capacity and skill development programs for PAFs and affected communities.

14.1.7 Cost estimation for VCDP

The VCDP include generic and specific measures. For generic measures agriculture support program, skills training related to construction works, preferential employment strategy, capacity building program, and health and safety programs, and for specific measures women and Indigenous People focused programs will be launched.

An estimated cost of lump sum NRs. 3,500,000.00 has been allocated for both generic and specific measures for effective implementation of the VDCP. The cost is only the estimated value at this phase based on the expert judgment and not yet finalized, as the project is its initial phase the activities/items under each programs for both the measures have not been calculated. The cost will be finalized after consultation with the project team, local people and local organization.

14.1.8 Cost estimation for community development initiatives

A total lump sum amount of NRs. 3,000,000.00 is separated for the community development initiatives during construction phase of project.

14.1.9 Cost estimation for monitoring and evaluation

The internal monitoring will be carried out by KEL (KAECDU). An estimated amount of NRs. 1,000,000.00 has been allocated in lump sum for the internal monitoring. The staffing and other logistic support for the internal monitoring will be an integral part of overall Environmental Management Plan as defined in EIA of KAHEP.

14.1.10 Total cost estimation

Total cost estimation under various heading is given in the Table 14-4.

Table 14-4: Total cost estimation for SAP implementation

SN	Description	Estimated Cost (NRs.)	Remarks
A	Mitigation and enhancement action		
1	Permanent loss of land		Included in project civil cost
	Cost estimated for permanent acquisition of private land (7.678 ha)	11,076,641.00	
	Lease compensation to the lost government land area	477,882.00	
	Cost estimated for loss of private trees and poles (141 numbers)	744,000.00	
2	Loss of access to NTFPs		Also a part of biological impact mitigation
	Compensatory afforestation as per the Forest Guideline, 2006, calculations as per forest norms	1,842,750.00	
	Clearance and stockpiling of the felled forest products	800,000.00	
	Joint supervision with the official of district forest to mark the trees and poles for felling	225,000.00	
	Technical and financial assistance to the affected community and leasehold forest user group	100,000.00	
3	Loss of fishing		
	Construction of fish ladder	5,699,914.00	Included in project civil cost
	Skill training and capacity development to impacted communities	500,000.00	
4	Socio-cultural impacts		
	Canalization of environmental flow along the affected cremation sites and near <i>Panchayan Shivalaya</i> temple	4,500,000.00	@ of 150000/year
	Improvement of existing physical cultural resources as needed	1,350,000.00	
5	Construction related impacts	5,000,000.00	
6	Cost estimated for capacity and skill development programs to PAFs and affected communities	2,000,000.00	
7	Cost estimated for VCDP	3,500,000.00	
8	Cost estimated for community development initiatives	3,000,000.00	
B	Monitoring and evaluation		
9	Cost estimated for monitoring and evaluation	1,000,000.00	
Total		41,816,187.00	

In words: NRs. Forty One Million Eight Hundred Sixteen Thousands One Hundred Eighty Seven Only.

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ANNEX A

PROJECT LOCATION MAP

**KABELI-A HYDROELECTRIC PROJECT
SAP**

MAY 2011

ANNEX B

PROJECT LAYOUT MAP

KABELI-A HYDROELECTRIC PROJECT
SAP

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ANNEX C

SALIENT FEATURES OF THE PROJECT

KABELI-A HYDROELECTRIC PROJECT
SAP

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ANNEX D

SUMMARY OF FOCUS GROUP DISCUSSIONS

KABELI-A HYDROELECTRIC PROJECT
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MAY 2011

ANNEX E

LIST OF PARTICIPANTS IN CONSULTATIONS/FGDS

KABELI-A HYDROELECTRIC PROJECT

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