

**NEPAL ELECTRICITY AUTHORITY  
(GOVERNMENT OF NEPAL UNDERTAKING)  
DISTRIBUTION AND CONSUMER SERVICES DIRECTORATE  
GRID SOLAR AND ENERGY EFFICIENCY PROJECT**



Nepal Electricity Authority  
Nepal

**Environmental and Social screenings Report of 11/0.4kV distribution system expansion in  
Illam, Panchthar & Taplejung**

**Project:** Design, Supply, Installation/Erection, Testing and Commissioning of 11/0.4 kV Distribution System (Illam, Panchthar and Taplejung)

**GSEEP/W/ICB-08**

**Submitted by: Grid Solar Energy Efficiency project (GSEEP/W/ICB-08)**

**May, 2021**

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## 1. Background

This project, Design, Supply, Installation/Erection, Testing and Commissioning of 11/0.4 KV Distribution System is a project under the Grid Solar Energy Efficiency Project (GSEEP) implemented through Nepal Electricity Authority (NEA). This project is expanding the distribution system in three districts, i.e. Illam, Panchthar and Taplejung. The Project covers 156 km, 45 km and 121 km high tension line 11 kilo volt (kV) in Panchthar, Taplejung and Illam district respectively, along with 317 km, 163 km and 393 km low tension line (0.4 kV) in respective district. This project plans to electrify 6 RM and 1 M of Panchthar, 3 RM and 1 M of Taplejung and 4 RM and 2 M of Illam district, which includes 4536, 5600 and 2100 households in Panchthar, Illam and Taplejung District respectively along with 24900, 27500 and 12180 peoples in respective places. The project will use Covered All Aluminum Alloy Conductor (AAAC) for 11 kV lines and Arial Bundled Cable (ABC) for 0.4 kV lines. Since, both conductors are of covered type, it has high safety value. Use of such type of conductor will have no adverse effect on environment as the electricity carrying part remains inside the insulating cover making the electricity carrying part not exposed to the environment. This might not affect while touching the branches of tree. So, these conductors can be used in forest areas and in a dense locality where ROW (Right of Way) for 11 kV line is 322 km. This report consists of site specific environment and social screening findings in Illam, Panchthar & Taplejung district.

## 2. Objectives

**Environmental and Social Screening and its objectives:** The site screening report has been prepared in consistent with the procedures for risks screening as outlined in the Environment and Social Management Framework (ESMF) of the GSEEP Project. Based on the preliminary field assessment/screenings the 11 and 0.4 kV distribution lines have no significant impacts to human settlements, people, and surrounding natural environments as these are utilization voltages which serves the people. The environmental and social screening process will help in identifying minor to major impacts of all types and inform the project to take appropriate mitigation measures on time. The major objective of environmental and social screening is to assess the suitability of the project as per the applicable acts/policies and guidelines of the Government of Nepal and those of the World Bank.

The specific objectives of Screenings are:

- To identify and provide scope for potential environmental and social issues/risks caused by the 11 / 0.4 kV lines in the project area and take appropriate mitigation measures for their management,
- To identify the need to obtain any regulatory clearances from Ministry of Energy, Water Resources and Irrigation (MoEWRI) for Initial Environmental Examination, clearing/felling of trees, from Community Forest User Groups/district Forest Offices and from District Coordination Committees (DCCs ) and Municipalities/Gaupalikas/Ward offices for approved quarry sites etc., and
- To determine the need to carry out further risk/impact assessment prior to formulating plans for E&S impacts like Environment and Social Management Plans (ESMPs), Resettlement Action Plan (RAP) and Vulnerable Community Development Plans (VCDP)..

### **3. Methodology**

The environment and social Screening study of Design, Supply, Installation, Testing and Commissioning of 11/0.4 KV Distribution System (Illam, Panchthar & Taplejung) has been carried out as in different stages i.e. desktop review, checklist survey, interaction with community people.

#### **3.1 Desk study and Literature review**

A literature review was carried out to collect data on physical, biological and socio-economic and cultural environment of the project area. Existing survey design reports RM/M profile, data published by Bureau of statistics, topo maps produced by Government of Nepal and photographs, etc. related to the project area were used to collect information. The biological information of flora and fauna was obtained from reviewing relevant articles published from Department of Forest and also by using forest inventory techniques as outlined in Community Forest Inventory Guidelines. The socio-economic information such as demographic pattern, social service centers, religion, occupation, etc. were obtained by reviewing documents published by Central Bureau of Statistics, district profile and other proposal related documents. Existing policies, legislation and guidelines related to the proposal were reviewed and documented.

#### **3.2 Data requirement, Collection and analysis**

Preliminary field survey was carried out on 2075/10/12 (10 days) to collect the baseline information on the physical, biological, socio-economic, and cultural environment of the project area. Afterward detailed survey was carried out on 2075/11/18 (45 days) and 2076/04/28 (10 days), different methods applied for baseline data were direct field observation, GPS (location/height), google maps, interviews with community people and public consultation list is attached in Annex 1. The local body officials (RM/ Ms), Community forest user groups, schools, health post, etc. were consulted to obtain the socio-economic activities of the project area.

##### **3.2.1 Physical Environment**

Information on the existing topographic, land-use, geology/soil, and landslide/soil erosion were collected. The existence of drainage near poles was studied and noted down. Geological characteristics of the project particularly near the poles were also studied. Likewise, Information on terrain, the stability of slopes, and soil conditions near the poles were collected during the site investigation. In addition, based on the investigation both beneficial and adverse impacts were analyzed.

##### **3.1.2 Biological Environment**

Composition and distribution patterns of vegetation and forest types in the project area was investigated in the field. The baseline information on the vegetation, the forest management practices being used and the details of the community forests under the Row of distribution line were determined based on the direct field observation and interaction with community forest user groups, district officials and local people.

**Ethno botany:** The socially useful and commercially important timbers as well as Non-Timber Forest Products of the project area were investigated. For this purpose, local information on their utilities was done by interviewing the relevant local informants.

## 4. Site Description

This Project in Illam, Panchthar and Taplejung district consists of Installation/Erection of 11kV and 0.4 kV line across the different areas of Hiliyang RM, Falelung RM, Falgunanda RM, Yangbrak RM, Tumbewa RM, Miklajung RM and Phidim Municipality in Panchthar district, Yangbarak-Pathivara RM, Aatrai-Tribeni RM, Mikwakhola RM and Phuling Municipality in Taplejung district and Mangsebung RM, Chulachuli RM, Deumai RM, Fakfokthum RM, Mai and Illam Municipality in Illam district. The Project mainly consists of new line alignment and 280 km lines are designed to pass through the existing RoW of the national/rural roads, 30km passes through agricultural land and 10km passes through forest. Total 133 transformers will be installed at new load centers of three districts.

### 4.1 Illam district:

The project scope includes installation of 3033 number of 11 m. and 8357 number of 8 m. poles along with 68 number of distribution transformer in Illam district.

**Table 1: Description of line alignment in Illam district**

S.N	Site location	Length (Km)	No. of Poles	Feeder	Municipality/Rural Municipality (RM)
1	Kiratchowk- Fuling- Musekhola-Saghure- Laxmigaun-Jorkhola- Chamki danda- Lalkhola-Rupa danda-Thulohile- Ghalegaun- Rawaligaun- Thewatar-Saguri- Kipate-Kabelitar- Labre-1-Labre-2- Dumre	139.947	3447	Danabari	Mai M
2	Majhuwa-Kopche- Rakshe-Panchami- Bar Bhanjyang- Sanring-Ibhnag-Lami Danda-Lamphewa- Badahare-Jhilke- Bajho	59.91	1503	sakhejung	Mangsebung RM
3	Shadevi Adharbhurt school-Baidh chowk- Fungnam Siran-Bajho Gaun-Pawa Gau- Danda Gau-Barse Danda-Thulung Tole- Manetaar-Suparibote	78.84	1999	Sakhejung	Chulachuli RM
4	Lingdintar- Lechumba-Pawar Gau-Sardargaun- Magadi Gau-Tapewa Danda-Maidane Gau	41.39	1047	Danabari	Deumai M

5	Hangmasoli- Metalung-Rupatar- Simsara-Madibung- Thapagaun-Luitel Danda-Fyutappa-Rabi Bazar-Damai Danda	68.52	1706	Sakhejung	Phakfokthum RM
6	Basthal-Bhote Danda-Ranagaun- Chuliground	32.449	818	Laxmipur	Phakfokthum RM
7	Soyak-Deurali- Lungrupa Mota chautara-Silpur- Dhade Khola-kote danda	33.42	870	Illam	Illam M
	Total	454.476	11390		

#### 4.2 Panchthar District:

The project scope includes installation of 2465 number of 11 m. and 7560 number of 8 m. poles along with 47 number of distribution transformer in Panchthar district.

**Table 2: Description of line alignment in Panchthar district**

S.N	Site Location	Length (Km)	Pole (Nos.)	Feeder	Municipality/Rural Municipality (RM)
1	Masale-Hangum-Laphana	35.51	896	Phidim	Tumbewa RM
2	Namrko Tarbari-Health post-Sundar Hydro-Timbitu-Beteni-Rabi-Saga Danda- Barne-Sereja-Falicha-Magadi Gaun	83.09	2455	Kabeli	Yangwarak RM
3	Khanigaun-Aambotem-Nagimba Prabidhik-Dhokuwa-Ekcheppa-Chepel- Tamphuwa	49.32	1409	Jorpokhari	Hilihang RM
4	Gurungtar-Singedada-Prangbung-Ludin- Ogemba-shikare-Chemphuwa-Talkhara- Sauratar-Sisin-Basbote	74.39	2509	Phidim	Phalelung RM
5	Rabise-Campus Area-Patletar Chaur- Shivalaya-Odhn-Sayarang-Phemsuwa- Aangredem-Phasung-Ojhure danda	52.62	1560	phidim	Phidim M
6	Aarubote-Dashami-Majhuwa-Bajhgare- Mayep	36.08	990	Yashok	Miklajung RM
	Total	331.01	9819		



### 4.3 Taplejung district

The project scope includes installation of 1133 number of 11 m. and 3138 number of 8 m. poles along with 28 number of distribution transformer in Taplejung district.

**Table 3: Description of line alignment in Taplejung district**

S.N	site location	length(Km)	pole(Nos)	Feeder	Municipality (M)/ Rural Municipality (RM)
1	Buddathoki danda-Fungtang	11.71	247	Phungling	Yangwarak-Pathivara RM
2	Siddi Danda- Thulo phedi	61.32	1345	Phungling	Phungling M
3	Faparbari-Change	89.38	2291	Phungling	Aathrai-Tribeni RM
4	Liwang-Sawa	23.96	535	Phungling	Mikwakhola RM
	Total	186.37	4418		

## 5. Environmental Screenings: Key Issues and Findings

### 5.1. Illam District:

It consists of 68 different stretches where Distribution expansion works are being carried out. Out of 68 stretches, 63 stretches do not have any kind of environmental and social issues. In the remaining 5 stretches, some issues have been identified which requires attention and due diligence during construction time due to community forest area.

- a. Pipale to Lal Khola (4.55 km) stretch of Illam district, which required little attention during construction. This segment is started from Pipale of Mai Municipality and ends in Mai Municipality, ward no. 8. There is road in between the forest. Line alignment is along the road. The contractor might be cautious and mitigate the possibility of touching the lines and may shift the line to other side of the road. The line might also touch some branches of tall trees. As stringing would be done using ABC cable, the distribution line can be adjusted avoiding the need trimming of branches. If needed the trimming of trees, Community forest users group will support to do it. The list of community forest users groups are listed in table 4.
- b. The second stretch i.e. Laxmi Chowk to Jorkhola (3.67km) of Illam district needs attention. This stretch also consists of some forests. Route of line alignment was modified as much as possible to avoid the forest area. However, in some places, trimming of some tree branches might be needed. The main disturbance in this stretch is aligning new line and old line at the same road in some parts. There is possibility of interfering the old lines by the new poles, which might cause the tripping of the line. Hence, to mitigate this problem, the old line conductors shall be re-tensioned. In some places the route of new line shall be changed. Some private lands also lie in this alignment. Route Poles in private land are erected at the edge of

land so that their values do not decrease. Since 11 kV & 0.4 kV lines both use covered conductors, safety of the local people is assured.

- c. Also stretches from Sanduwa to Ghale gaun, Thulo hile to Siwala Mandir and Sanduwa to Rawali gaun of Illam district needs attention. This stretches passes through community forest. Route of alignment was modified as much as possible to avoid forest areas. About 70 trees falls on the project sites. As stringing would be done using ABC cable, the distribution line can be adjusted avoiding the need trimming of branches. If needed the trimming of trees, Community forest users group will support to do it. The list of community forest users groups are listed in table 4.

**Table 4: List of community forest with in feeder in Illam district**

SN	Name of Forest User Groups	Chairperson of CFUG	Feeder	Tentative line Length that touches forest area	Non Electrified Area
1	Shrijana C/F	Radha Acharya	Danabari	500 m	Lalkhola
2	Fulbari C/F	Chandra Niraula	Danabari	300 m	Jorkhola
3	Barbhanjyang C/F	Karsing Rai	Danabari	100 m	Tribeni chok
4	Khandechuli C/F	Chandra Bahadur Rai	Danabari	150 m	Seduwa hilekhola
5	Suryodaya C/F	Diklal Limbu	Danabari	100 m	Rawali Gau

### 5.1.2 Panchthar district

It consists of 47 different stretches where Distribution expansion works are being carried out. All stretches do not have any kind of significant environmental and social issues. There do not lies the community forest.

### 5.1.3 Taplejung district

It consists of 26 different stretches where Distribution expansion works are being carried out. Out of 26 stretches, 24 stretches do not have any kind of environmental and social issues. In the remaining 2 stretches, some issues have been identified which requires attention and due diligence during construction time due to community forest area. It was also observed that most of the construction sites are in accessible areas and road sides where construction works will be accomplished more easily. The screening has identified two stretches passing through the community forest with minimal environmental and social issues, the locations are briefly described below.

- a. The stretch from Gadi to Mayam (0.62kM) of Taplejung district needs attention. This stretch passes through forests Yamabung community. Route of line alignment was modified as much as possible to avoid the forest area. However, in some places, trimming of some tree branches might be needed.
- b. The stretch from Guptae to Fungtang (6.04kM) of Taplejung district needs attention. This stretch also falls in Saypatri Pokhari Community Forest. Route of line alignment was modified and 14 poles were altered to avoid maximum crossing of forest area. However, in some places, trimming of some tree branches might be needed.

**Table 5: List of community forest with in feeder in Taplejung district**

SN	Name of Forest User Groups	Chairperson of CFUG	Feeder	Tentative line Length that touches forest area	No Grid Area
1	Yamabung C/F	Chandra Bahadur Bista	Phunling	600 m	Fungtang (50 nos. of trees needed trimming)
2	Saypatri-Pokhari CF	Megh Raj Rai	Phunling	400	Buddathoki danda (40 nos. of trees needed trimming)

The project will use Arial Bundled Cable (ABC) in the 11/0.4 kV transmission line, and the poles of the transmission line will be adjusted to avoid the need for tree cutting. Hence, there will be no tree cutting along the 11kV alignment passing through forests. Trimming of branches of trees if needed, will be done in coordination with the respective forest authority and community forests user groups. List of consultation is in annex-1.

## **5.2 Social Screening: Key Issues and Findings**

Social screening reveals that the installation of 11 kV and 0.4 kV poles and lines do not cause major adverse impacts to the households of the project sites. The distribution line will either electrify villages with no means of electricity or replace the solar power or micro hydro power which provides electricity from 6:00 pm onwards only. Followings are some issues identified by social screening requiring due attention of the Project staff and contractors during the construction period.

- Social screening of the 11kV/ 0.4 kV lines in different stretches reveals that limited sections of four stretches (Guptae to Buddathoki danda, Fafarbari to Chhati dhunga, Hangdewa to Danda Ni. Ma. Bi. School and Labek to Sabuwa) in Taplejung district, Eight streches (Ekchepel to Tamphuwa, Gurungtar to Singedanda, Sisin to Basbotae, Aambotem to Nagimba Prabhidhik, Dashami to Majhuwa, Bajhgare to Mayep, Barme to Sereja and Falicha to Magari gaun) in Panchthar District and seven stretches (Kiratchowk to Fuling, Majhuwa to Kopche, Panguwa to Danda gaun, Nawami danda to Magadi gaun, Madibung to Thapa gaun, Okher to Kote danda, and Tribeni bazar to Tapewa danda) in Illam district pass through private agricultural land. It is important for the Project staff and construction workers to take full precaution while installing the poles and stringing the lines to avoid the potential crop damages and land loss.
- During site visit in Falgun, 2075 the team observed the site (poling of HT and LT poles) in villages, the team noted that the communities were happy with the lines which will supply

reliable electricity 24 hours and it will open doors for micro enterprises /cottage industries contributing to new employment opportunities and income.

- The team observed poling of LT and HT poles in Illam, Panchthar and Taplejung district will benefit a total of about 12236 HHs. The team also observed the ongoing work and instructed the project to rectify some of the poles that were erected improperly. The project team agreed to comply and further clarified that the issues on pole installation will be corrected during the time of conductor stringing.
- Most of the poles and distribution lines are designed to pass through the road sides/RoW and trails. In case of poles falling in the private/agricultural land, the owners will be consulted, and the poles will be installed along the edges/bonds and borders of the parcels to avoid the potential loss of land value. Also if line fall along the cultural and religious sites (temples/gumbas and heritage sites). This will be done in consultation and full consensus of the locals.
- The communities in the project areas are largely of mixed social/ethnic groups. Some sections have the presence of Indigenous Peoples. Screening indicates that the IP community will not be affected due to construction of the DL. They are the beneficiaries of the DL.
- The Project team/Contractors will work closely in consultation with respective Municipality staff and local people so that any issues/disputes raised in the sites will be resolved locally. In case of issues/disputes occurred during pole installation in private land, the Contractor will not work in the field until the resolution of issues through joint consensus. The Project staff/construction workers will pay due attention to shift/reroute lines to avoid the losses. The Project will also inform the locals and communities and other stakeholders about the GRC committee formed for the Project.
- People are not expecting any kind of cash assistance and are fully willing to support the Projects. It was observed that the people will permit the Contractors/ workers to erect the poles in their private land.
- The use of covered conductor is a major advantage of the project which provides high safety value to the consumers and workers.
- All the workers will be equipped with adequate safety gears viz. safety belts, helmets, gloves etc. while working in the sites.
- The Project staff/contractor will make close supervision of the works and ensure that the workers get fair wage as per the Contract.

## **6. Conclusion**

The screening results show that 11/0.4 kV poles and lines alignment may cause minimal or no significant adverse environmental issues and impacts to the Project sites. However, it is crucial for the route alignment passing through community forest area, where some parts of the line is blocked by trees. In such case, slight deviation of the line/pole will be done to avoid tree falling in the forest. Tree branches trimming is required to clear the right of way for the line in some stretches. There would be no need to cutting down the trees because of conductor to be used by the project are leakage proof. Project needs to consult with the Community Forest User group for trimming the trees and make proper agreement with user group committee for periodic trimming and compensatory planation management if required in the sites.

The project will have no major social impacts as there lies no public/private land, the line route/poles are not proposed to close to any touristic viewpoints, wetlands, and sites of cultural /

religious / archeological / historic significance and locations of poles falling in any landslide & erosion prone/ risk spot. All the survey and design of distribution line maintains minimum GON/NEA Clearance standards. The nature of Project is of covered conductor and Arial Bundled Cable (ABC). It has high value of safety to people benefitted by 11kV lines.

The screening results show no major safeguards issues resulting in major impacts to the people/communities. Due to the execution of project, many people will be getting electricity for the first time. With the construction of these lines, the beneficiaries will benefit from reliable power supply. There will be no harm to private land/assets by the construction works and no adverse effect to the people and the environment.

## **7. Recommendations:**

The ongoing construction of 11 kV/0.4kV lines is an important distribution expansion activity benefiting the local people directly. To carry out the erection of poles and stringing of cables smoothly, the Project needs to implement the works with proper planning and due diligence is environmental and social aspects

### **7.1: Environmental Recommendation:**

Screening shows no significant adverse environmental and social impacts, following recommendations are made in carrying out the erection of poles and stringing of cables:

- Ensure that electric poles, the electricity lines follow existing road's right of way, and covered cable (such as ABC) is used. Transformers, to the extent possible, should located within the Road's right of way or away from forests and other sensitive sites.
- Proper Survey and high attention for the stretches passing through Community Forest which require tree branches trimming activities. Alignments and poles in the forest sections will be adjusted / shifted to ensure that tree felling is avoided. Tree felling commitment letter is attached in Annex-4.
- Avoid stretches and pole erections in religious area/playgrounds/close to any touristic viewpoints, wetlands, and sites of cultural / religious / archeological / historic significance if any apply alternative route selection.
- Avoid locations of poles falling in any landslide & erosion prone/ risk spot.
- Maintain minimum GON/NEA clearance standards during the survey and design of distribution line
- All project activity should ensure that no damage to environment is done.
- All the workers will be provided personal safety equipment like boots, belts, helmets, gloves etc. to work in the sites. The workers will be facilitated with hygienic labor camps and sanitation. Construction activities will fully comply the health and safety norms/standards issued by the government in the context of COVID-19 Pandemic.
- The Project is recommended to make joint planning in consultations with the local communities and leaders to avoid any potential adverse impacts during the erection of poles and cable stringing in private land.
- Ensure that project will comply all applicable legal provisions and standards of the country are complied with.

## 7.2 Social Recommendations

**The screening result shows no significant adverse social impacts.** However, the project is recommended to take following measures to avoid and minimize any adverse impacts on the community:

- The design and installation of distribution line will be done to avoid/minimize any potential loss of people. Where poles have to be installed in the private /agricultural land, the owners will be consulted, and to the extent feasible, the poles will be installed along the edges/ bonds and borders of the parcels to avoid the potential loss of land value.
- The affected family will be consulted and given advance notice to harvest crops. In case of any damage to crops, the affected family will be compensated as per the Resettlement Policy Framework prepared by the Project.
- In case of the presence of indigenous communities, the project will carry out free, prior and informed consultations with the concerned communities. Information to the concerned community and other stakeholders of the project activities will be provided in local language through different media – public hearing, notice, etc.
- The Project team and the contractors will work closely in consultation with respective Municipality staff and local people so that any issues/disputes raised in the sites will be resolved locally.
- The Project will establish grievance redress mechanism for the project and inform the local communities and other stakeholders about the mechanism, GRC committee formed for the Project. The Project will ensure timely response to any complaints received. The Project team/contractors will work closely in consultation with respective Municipality staff and local people so that any issues/disputes raised in the sites will be resolved locally. In case of issues/disputes occurred during pole installation in private land, the contractor will not work in the field until the resolution of issues through joint consensus. The Project staff/construction workers will pay due attention to shift/reroute lines to avoid the losses. The Project will also inform the locals and communities and other stakeholders about the GRC committee formed for the Project.
- In case of issues/disputes occurred during pole installation/stringing in private land or village and markets, the contractor will halt field activities until the resolution of issues through consensus. Such problems should be resolved in consultation with the affected persons, groups and local government representative.
- Discussions and decision taken in consultation with the affected family and local community decision should be documented along with photographs.
- Project will pay full attention to ensure that the lines do not pass through the cultural and religious sites (temples/ Gumbas and heritages).
- The contractors will work in close coordination with the local people/ beneficiaries and carry out the construction works as per agreed schedule/norms.
- All workers will be provided with adequate PPEs viz safety belts, helmets, gloves etc. while working on site.
- Any kind of losses viz. crop/tree/orchard etc. should be avoided to the extent possible. In case of such losses, the Project/contractors should provide due compensation.

- Any consultations/agreed actions with the locals should be documented properly.

### Annex 1: List of people met/photographs

S.N.	Name of Local Representative	District
1	Subash Nemwang	Illam
	Rabi Timilsina	
	Subash Limbu	
	Pankaj Goyat	
	Ramesh K.C.	
	Kesh Pr. Rai	
2	Yogesh Bhattarai	Taplejung
	Deepak Dahal	
	Khadka Brikram	
	Bal Chandra Angbuhang	
	Bishnu Khatioda	
3	Basanta Nemwang	Panchthar
	Khem Niraula	
	Kamal Niraula	
	Umesh Yadav	
	Sivji Shah	



Pic 1: Interaction In Panchthar District





Pic 2: Interaction in Panchthar District



Pic 3: Interaction in Taplejung District

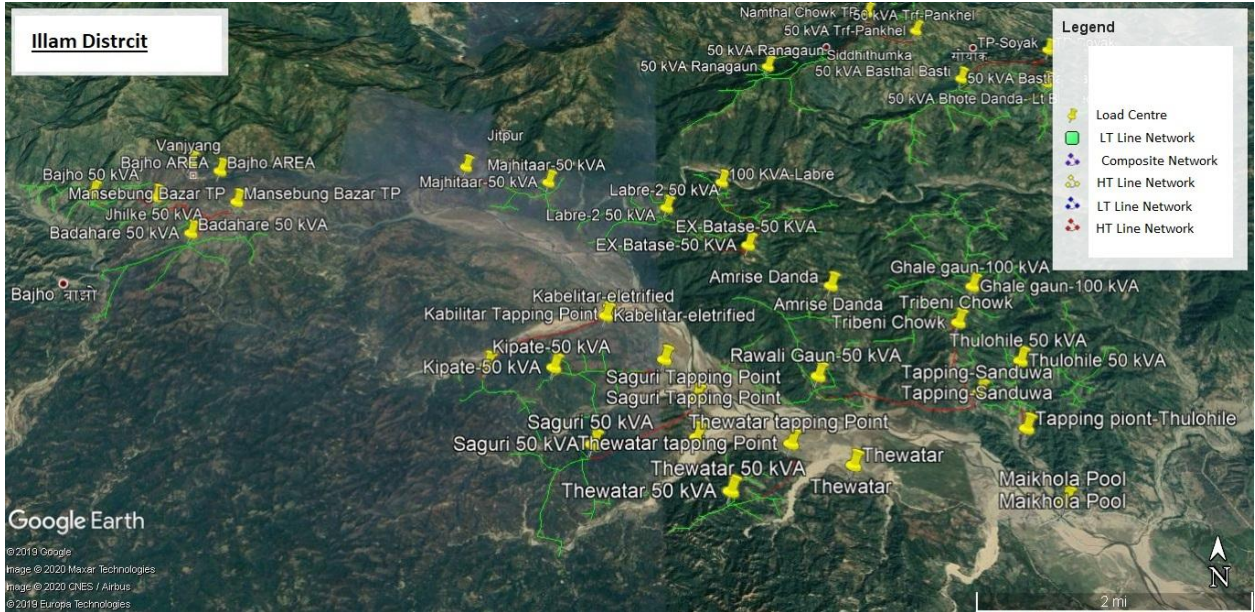


Pic 4: Interaction in Illam District

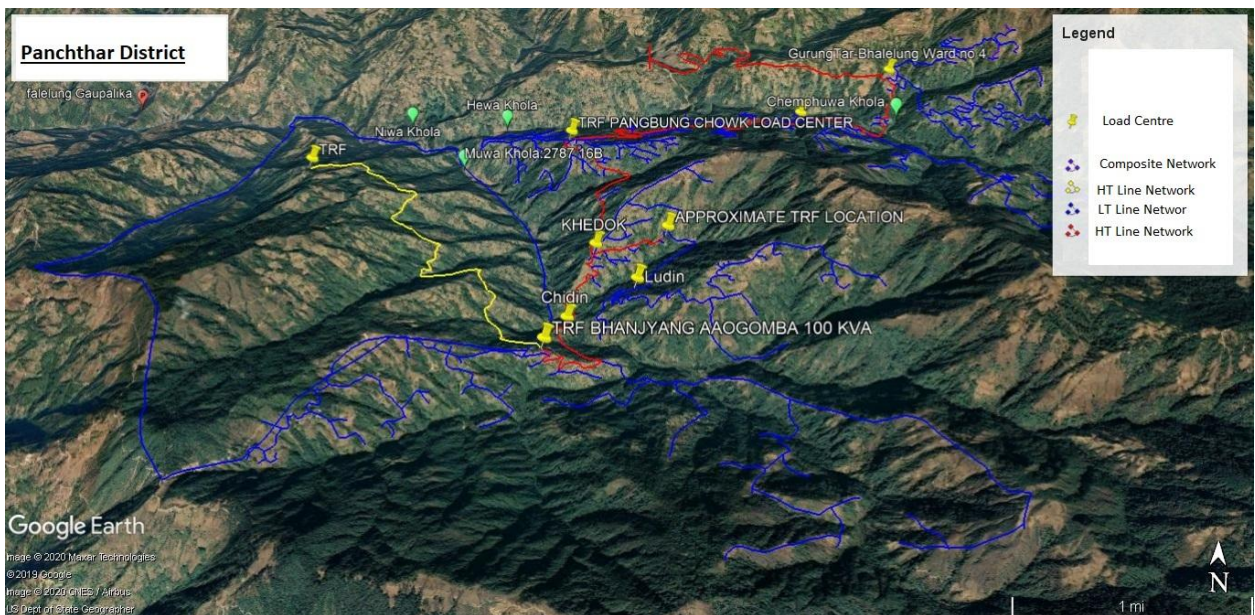
## Annex 2: Google Maps Images of the Project Sites and Community Forest:

Google Map Images of project sites:

**Illam District:**



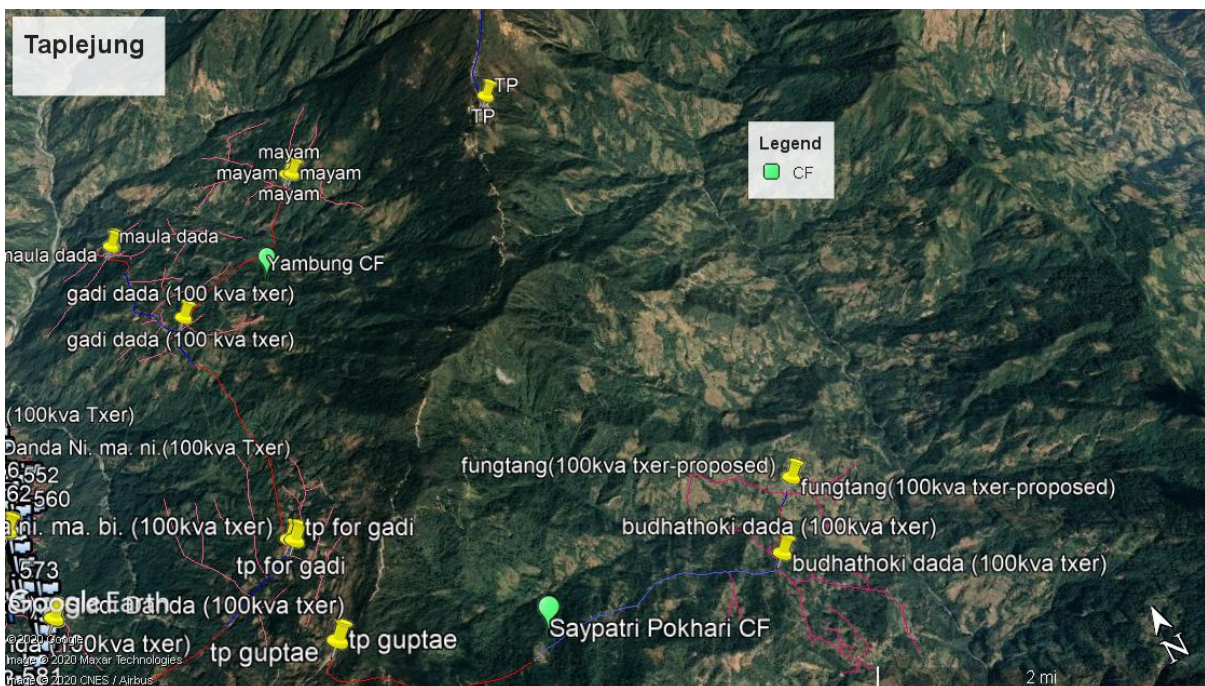
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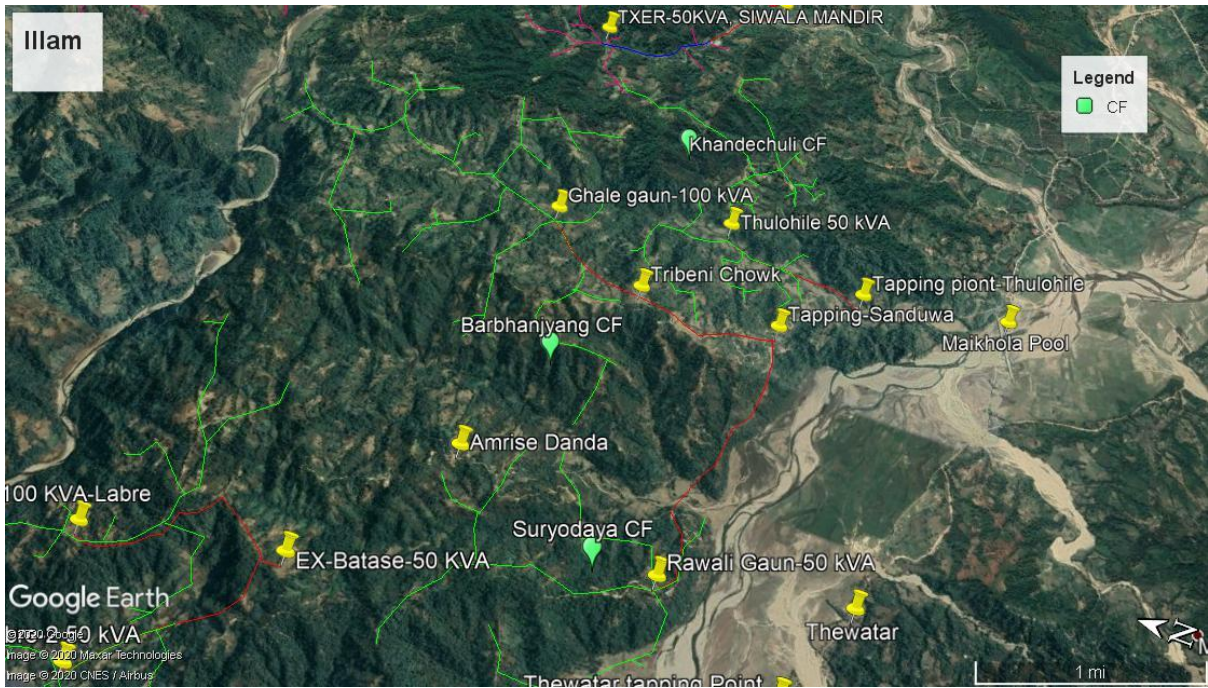
## Taplejung District:



## Google Map of Community Forest in Project Sites: Taplejung District:



**Illam District:**



### Annex 3:

#### Environmental Safeguard Checklist for 11/0.4kV Distribution System Expansion

#### Project: Grid Solar and Energy efficiency Project (GSEEP) Comp-8(Illam, Panchthar, Taplejung)

- A. District: **Illam, Mai**
- B. Name of Sites (Specify the stretch and length km): Tamakhe to Saguri gaun (1.67 km HT 11kV)
- C. Total number of poles to be erected: 38 (11m)
- D. General Information:

SN	Particulars	Yes/No	Total km and number of poles covering areas if response is “Yes”	Remarks (Please specify relevant information to supplement the response)
D1.	Does the distribution line pass through Forest area, protected area or area already proposed for protection?	No		All poles are alongside road
D2.	Does the distribution route as well as locations of poles (supports) and transformers cross diagonally playground/ common property?	No		All the poles are alongside road
D3.	Does distribution line rout/poles are proposed to close to any touristic viewpoints, wetlands, and sites of cultural / religious / archeological / historic significance.	No		All the poles are alongside road
D4.	Does the distribution line/ route and locations of poles are falling in any landslide & erosion prone/ risk spot where geological avoidance is not feasible?	No		No steep hills to cause landslide& erosion
D5.	Does the distribution line passing through areas specially known for herbs and non-forest timber products (NTPF) and/or known habitat or migration / movement route of protected rare and endangered species	No		Site consists of very few trees along side road. No any herbs are known
D6.	Has the survey and design of distribution line maintained minimum Clearance (11KV) : (check as per government/NEA standard if applicable)			
D6.1	Normal ground and trails for pedestrian only	5.5 m	5.9 m	

D6.2	Residential area	5.8 m	5.9 m	All the poles are erected according to the NEA standard. If some house or road falls in the route of line, the route can be slightly modified (shifted) to maintain the minimum clearance.
D6.3	Highway, Road and streets	5.8 m	5.9 m	
D6.4	Horizontal distance from building or structure upon which human may stand	1.25 m	1.5m	
D6.5	Power lines or telephone lines (above or below)	1.2 m	1.5m	
7.	Other if any			

**E. Mitigation measures:**

	<b>Particulars</b>	<b>Mitigation measures</b>	<b>Responsibility</b>	<b>Remarks</b>
E1.	If route passes through forest area and tree cutting is required.	NA		No any forest or trees falls under the line alignment
E2.	If the distribution line/ route and locations of poles are falling in any landslide & erosion prone/ risk spot where geological avoidance is not feasible.	NA		Line passes through roadside. No such problems seen
E3.	To maintain minimum clearance as per government/NEA standard.	NA		All poles are within standard
E4.	If existing transformers are replaced with new one. How to manage to those replaced one	NA		New Line Alignment.
E5.	Occupational health and safety measures of the works during the erection/installation of poles/cables	Helmets, gloves and Safety belts are used. Proper Shelter and sanitation facilities are also provided	Contractor	Workers will be facilitated with proper house within the site along with safety instruments.
E6.	Issues related to influx of labor/labor camp and sanitation	NA		No any such issues are encountered
E7.	Other if any			

Note: Kindly response mitigation measures with example if any alternative option has been selected/proposed during the survey and design of route. Mitigations measures stated shall be implemented during construction and operation phase.  
Each package of the proposal (distribution line) will be subject to environmental screening and environmental compliance monitoring.



### Annex 3:

#### Environmental Safeguard Checklist for substation distribution line 11kV

**Project: Grid Solar and Energy efficiency Project (GSEEP) Comp-8( Ilam, Panchthar, Taplejung)**

A. District: **Ilam, Mai**

B. Name of Sites (Specify the stretch and length km): Thewatar to Thewatar danda (1.39 km HT 11kV)

C. Total number of poles to be erected: 34 (11m)

D. General Information:

SN	Particulars	Yes/No	Total km and number of poles covering areas if response is "Yes"	Remarks (Please specify relevant information to supplement the response)
D1.	Does the distribution line pass through Forest area, protected area or area already proposed for protection?	No		All poles are alongside road
D2.	Does the distribution route as well as locations of poles (supports) and transformers cross diagonally playground/ common property?	No		All the poles are alongside road
D3.	Does distribution line rout/poles are proposed to close to any touristic viewpoints, wetlands, and sites of cultural / religious / archeological / historic significance.	No		All the poles are alongside road
D4.	Does the distribution line/ route and locations of poles are falling in any landslide & erosion prone/ risk spot where geological avoidance is not feasible?	No		No steep hills to cause landslide& erosion
D5.	Does the distribution line passing through areas specially known for herbs and non-forest timber products (NTPF) and/or known habitat or migration / movement route of protected rare and endangered species	No		Site consists of very few trees along side road. No any herbs are known
D6.	Has the survey and design of distribution line maintained minimum Clearance (11KV) : (check as per government/NEA standard if applicable)			
D6.1	Normal ground and trails for pedestrian only	5.5 m	5.9 m	All the poles are erected according to the NEA standard. If some house or road falls in the route of line, the route can be slightly modified (shifted) to maintain
D6.2	Residential area	5.8 m	5.9 m	
D6.3	Highway, Road and streets	5.8 m	5.9 m	
D6.4	Horizontal distance from building or structure upon which human may stand	1.25 m	1.5m	
D6.5	Power lines or telephone lines (above or below)	1.2 m	1.5m	

				the minimum clearance.
7.	Other if any			

**E. Mitigation measures:**

	<b>Particulars</b>	<b>Mitigation measures</b>	<b>Responsibility</b>	<b>Remarks</b>
E1.	If route passes through forest area and tree cutting is required.	NA		No any forest or trees falls under the line alignment
E2.	If the distribution line/ route and locations of poles are falling in any landslide & erosion prone/ risk spot where geological avoidance is not feasible.	NA		Line passes through roadside. No such problems seen
E3.	To maintain minimum clearance as per government/NEA standard.	NA		All poles are within standard
E4.	If existing transformers are replaced with new one. How to manage to those replaced one	NA		New Line Alignment.
E5.	Occupational health and safety measures of the works during the erection/installation of poles/cables	Helmets, gloves and Safety belts are used. Proper Shelter and sanitation facilities are also provided	Contractor	Workers are facilitated with proper house within the site along with safety instruments.
E6.	Issues related to influx of labor/labor camp and sanitation	NA		No any such issues are encountered
E7.	Other if any			

Note: Kindly response mitigation measures with example if any alternative option has been selected/proposed during the survey and design of route. Mitigations measures stated shall be implemented during construction and operation phase.

Each package of the proposal (distribution line) will be subject to environmental screening and environmental compliance monitoring.

**Environmental Safeguard Checklist for substation distribution line 11kV**

**Project: Grid Solar and Energy efficiency Project (GSEEP) Comp-8(Ilam, Panchthar, Taplejung)**

A. District: **Ilam, Fakkokthum**

B. Name of Sites (Specify the stretch and length km): Kopche gaun to Fyutappa (1.33 km HT 11kV)

C. Total number of poles to be erected: 35 (11m)

D. General Information:

SN	Particulars	Yes/No	Total km and number of poles covering areas if response is "Yes"	Remarks (Please specify relevant information to supplement the response)
D1.	Does the distribution line pass through Forest area, protected area or area already proposed for protection?	No		All poles are alongside road
D2.	Does the distribution route as well as locations of poles (supports) and transformers cross diagonally playground/ common property?	No		All the poles are alongside road
D3.	Does distribution line rout/poles are proposed to close to any touristic viewpoints, wetlands, and sites of cultural / religious / archeological / historic significance.	No		All the poles are alongside road
D4.	Does the distribution line/ route and locations of poles are falling in any landslide & erosion prone/ risk spot where geological avoidance is not feasible?	No		No steep hills to cause landslide& erosion
D5.	Does the distribution line passing through areas specially known for herbs and non-forest timber products (NTPF) and/or known habitat or migration / movement route of protected rare and endangered species	No		Site consists of very few trees along side road. No any herbs are known
D6.	Has the survey and design of distribution line maintained minimum Clearance (11KV) : (check as per government/NEA standard if applicable)			
D6.1	Normal ground and trails for pedestrian only	5.5 m	5.9 m	
D6.2	Residential area	5.8 m	5.9 m	

D6.3	Highway, Road and streets	5.8 m	5.9 m	All the poles are erected according to the NEA standard. If some house or road falls in the route of line, the route can be slightly modified (shifted) to maintain the minimum clearance.
D6.4	Horizontal distance from building or structure upon which human may stand	1.25 m	1.5m	
D6.5	Power lines or telephone lines (above or below)	1.2 m	1.5m	
7.	Other if any			

**E. Mitigation measures:**

	<b>Particulars</b>	<b>Mitigation measures</b>	<b>Responsibility</b>	<b>Remarks</b>
E1.	If route passes through forest area and tree cutting is required.	NA		No any forest or trees falls under the line alignment
E2.	If the distribution line/ route and locations of poles are falling in any landslide & erosion prone/ risk spot where geological avoidance is not feasible.	NA		Line passes through roadside. No such problems seen
E3.	To maintain minimum clearance as per government/NEA standard.	NA		All poles are within standard
E4.	If existing transformers are replaced with new one. How to manage to those replaced one	NA		New Line Alignment.
E5.	Occupational health and safety measures of the works during the erection/installation of poles/cables	Helmets, gloves and Safety belts are used. Proper Shelter and sanitation facilities are also provided	Contractor	Workers are facilitated with proper house within the site along with safety instruments.
E6.	Issues related to influx of labor/labor camp and sanitation	NA		No any such issues are encountered
E7.	Other if any			

Note: Kindly response mitigation measures with example if any alternative option has been selected/proposed during the survey and design of route. Mitigations measures stated shall be implemented during construction and operation phase.

Each package of the proposal (distribution line) will be subject to environmental screening and environmental compliance monitoring.

**Environmental Safeguard Checklist for substation distribution line 11kV**

**Project: Grid Solar and Energy efficiency Project (GSEEP) Comp-8(Ilam, Panchthar, Taplejung)**

A. District: **Taplejung, Fungling**

B. Name of Sites (Specify the stretch and length km): Gumba Danda to Maula Danda (8.86 km HT 11kV)

C. Total number of poles to be erected: 220 (11m)

D. General Information:

SN	Particulars	Yes/No	Total km and number of poles covering areas if response is "Yes"	Remarks (Please specify relevant information to supplement the response)
D1.	Does the distribution line pass through Forest area, protected area or area already proposed for protection?	No		All poles are alongside road
D2.	Does the distribution route as well as locations of poles (supports) and transformers cross diagonally playground/ common property?	No		All the poles are alongside road
D3.	Does distribution line rout/poles are proposed to close to any touristic viewpoints, wetlands, and sites of cultural / religious / archeological / historic significance.	No		All the poles are alongside road
D4.	Does the distribution line/ route and locations of poles are falling in any landslide & erosion prone/ risk spot where geological avoidance is not feasible?	No		No steep hills to cause landslide& erosion
D5.	Does the distribution line passing through areas specially known for herbs and non-forest timber products (NTPF) and/or known habitat or migration / movement route of protected rare and endangered species	No		Site consists of very few trees along side road. No any herbs are known
D6.	Has the survey and design of distribution line maintained minimum Clearance (11KV) : (check as per government/NEA standard if applicable)			
D6.1	Normal ground and trails for pedestrian only	5.5 m	5.9 m	All the poles are erected according to the NEA
D6.2	Residential area	5.8 m	5.9 m	
D6.3	Highway, Road and streets	5.8 m	5.9 m	

D6.4	Horizontal distance from building or structure upon which human may stand	1.25 m	1.5m	standard. If some house or road falls in the route of line, the route can be slightly modified (shifted) to maintain the minimum clearance.
D6.5	Power lines or telephone lines (above or below)	1.2 m	1.5m	
7.	Other if any			

**E. Mitigation measures:**

	<b>Particulars</b>	<b>Mitigation measures</b>	<b>Responsibility</b>	<b>Remarks</b>
E1.	If route passes through forest area and tree cutting is required.	NA		No any forest or trees falls under the line alignment
E2.	If the distribution line/ route and locations of poles are falling in any landslide & erosion prone/ risk spot where geological avoidance is not feasible.	NA		Line passes through roadside. No such problems seen
E3.	To maintain minimum clearance as per government/NEA standard.	NA		All poles are within standard
E4.	If existing transformers are replaced with new one. How to manage to those replaced one	NA		New Line Alignment.
E5.	Occupational health and safety measures of the works during the erection/installation of poles/cables	Helmets, gloves and Safety belts are used. Proper Shelter and sanitation facilities are also provided	Contractor	Workers are facilitated with proper house within the site along with safety instruments.
E6.	Issues related to influx of labor/labor camp and sanitation	NA		No any such issues are encountered
E7.	Other if any			

Note: Kindly response mitigation measures with example if any alternative option has been selected/proposed during the survey and design of route. Mitigations measures stated shall be implemented during construction and operation phase.

Each package of the proposal (distribution line) will be subject to environmental screening and environmental compliance monitoring.



**Environmental Safeguard Checklist for 11/0.4kV Distribution System Expansion  
Project: Grid Solar and Energy efficiency Project (GSEEP) Comp-8(Illam, Panchthar,  
Taplejung)**

- A. District: **Panchthar, Phidim**  
 B. Name of Sites (Specify the stretch and length km): Rabise to Ojhure (1.32 km HT 11kV)  
 C. Total number of poles to be erected: 249 (11m)  
 D. General Information:

SN	Particulars	Yes/No	Total km and number of poles covering areas if response is "Yes"	Remarks (Please specify relevant information to supplement the response)
D1.	Does the distribution line pass through Forest area, protected area or area already proposed for protection?	No		All poles and stretches are along road and trails
D2.	Does the distribution route as well as locations of poles (supports) and transformers cross diagonally playground/ common property?	No		All the poles are alongside road
D3.	Does distribution line rout/poles are proposed to close to any touristic viewpoints, wetlands, and sites of cultural / religious / archeological / historic significance.	No		All the poles are alongside road
D4.	Does the distribution line/ route and locations of poles are falling in any landslide & erosion prone/ risk spot where geological avoidance is not feasible?	No		No steep hills to cause landslide& erosion
D5.	Does the distribution line passing through areas specially known for herbs and non-forest timber products (NTPF) and/or known habitat or migration / movement route of protected rare and endangered species	No		Site consists of very few trees along side road. No any herbs are known
D6.	Has the survey and design of distribution line maintained minimum Clearance (11KV) : (check as per government/NEA standard if applicable)			
D6.1	Normal ground and trails for pedestrian only	5.5 m	5.9 m	
D6.2	Residential area	5.8 m	5.9 m	

D6.3	Highway, Road and streets	5.8 m	5.9 m	All the poles are erected according to the NEA standard. If some house or road falls in the route of line, the route can be slightly modified (shifted) to maintain the minimum clearance.
D6.4	Horizontal distance from building or structure upon which human may stand	1.25 m	1.5m	
D6.5	Power lines or telephone lines (above or below)	1.2 m	1.5m	
7.	Other if any			

**E. Mitigation measures:**

	<b>Particulars</b>	<b>Mitigation measures</b>	<b>Responsibility</b>	<b>Remarks</b>
E1.	If route passes through forest area and tree cutting is required.	NA		No any forest or trees falls under the line alignment
E2.	If the distribution line/ route and locations of poles are falling in any landslide & erosion prone/ risk spot where geological avoidance is not feasible.	NA		Line passes through roadside. No such problems seen
E3.	To maintain minimum clearance as per government/NEA standard.	NA		All poles are within standard
E4.	If existing transformers are replaced with new one. How to manage to those replaced one	NA		New Line Alignment.
E5.	Occupational health and safety measures of the works during the erection/installation of poles/cables	Helmets, gloves and Safety belts are used. Proper Shelter and sanitation facilities are also provided	Contractor	Workers are facilitated with proper house within the site along with safety instruments.
E6.	Issues related to influx of labor/labor camp and sanitation	NA		No any such issues are encountered
E7.	Other if any			

Note: Kindly response mitigation measures with example if any alternative option has been selected/proposed during the survey and design of route. Mitigations measures stated shall be implemented during construction and operation phase.  
Each package of the proposal (distribution line) will be subject to environmental screening and environmental compliance monitoring.



## Annex-4 Assurance Letter of no tree falling



**NEPAL ELECTRICITY AUTHORITY**  
(A Government of Nepal Undertaking)  
Distribution & Consumer Service Directorate

**Grid Solar and Energy Efficiency Project**

visit Nepal

Ref: 2076/77- 440

Date: January 10, 2020



To,  
World Bank Office  
Yak and Yeti Hotel Complex  
Kathmandu

Reference: Contract No.: GSEEP/W/ICB-08: Design, Supply, Installation/Erection, Testing and Commissioning of 11/0.4 kV Distribution System (Ilam, Panchthar & Taplejung)

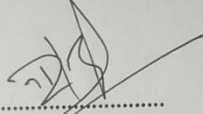
Subject: Avoiding Tree Felling Along 11 kV Line

Dear Sir,

During the Environment and Social Screening process, we have discussed environmental and social aspects of 11 kV Distribution Lines (DLs), Planning and Design of 11 kV DLs have been revisited in reconnaissance of the potential impacts on the forests and loss of trees. As a result, it has been decided that All Aluminum Alloy Covered (AAAC) Conductor will be used in the 11 kV DLs and poles of the DLs will be adjusted/routed to avoid the need of tree felling. Trimming of branches of trees, if needed, will be done in consultation and coordination with the respective forest authority and community forest users groups. This will be strictly enforced. The bimonthly compliance report will be shared with the World Bank.

Thanking you.

Yours faithfully,

  
.....  
Narayan Kumar Prasai  
Deputy Manager

CC :

1. The Project Coordinator, GSEEP, Durbar Marg