

## **Final Report**

**NEPAL ELECTRICITY AUTHORITY  
(GOVERNMENT OF NEPAL UNDERTAKING)  
DISTRIBUTION AND CONSUMER SERVICES DIRECTORATE**



Nepal Electricity Authority  
Nepal

**Environmental and Social screenings Report of 11kV distribution system expansion  
in  
(Arghakhanchi district)**

**Project:** GSEEP/W/ICB-04 Design, Supply, Installation/Erection, Testing and Commissioning of 11/0.4 KV Distribution System.

**Submitted by:** Grid Solar and Energy Efficiency project (GSEEP/W/ICB-04)

**August 2019**

## Table of Contents

1. Background .....	3
2. Objectives.....	3
3. Methodology .....	3
4. Site Description .....	4
5. Findings .....	5
6. Conclusion:.....	7
7. Recommendations:.....	7

## 1. Background

This project, Design, Supply, Installation/Erection, Testing and Commissioning of 11 / 0.04 kilo Voltage (kV) Distribution System is part of overall Grid Solar Energy Efficiency Project (GSEEP) under component 2 implemented through Nepal Electricity Authority (NEA). This project is extending new lines undertaking in three districts i.e. Arghakanchi, Gulmi and Kapilvastu. There will be 359.33 km high tension (HT) line and 500.17 km low tension (LT) line in total. There will be 160 transformers. This project plans to electrify 28 village development committees (VDCs) of Arghakanchi, 28 VDCs of Gulmi and 12 VDCs of Kapilvastu-Taulihawa and 19 VDCs of Kapilvastu-Krishnanagar.

The project will use All Aluminum Alloy Covered Conductor (AAAC) for 11 kV lines and Aerial Bundled Cable (ABC) for 0.4 kV lines. Since, both conductors are of covered type, it has high value of safety. This might not affect while touching the branches of tree. So, these conductors and cables can be used in forest areas and in a dense locality where ROW (Right of Way) is less than usual. This report consists of site specific environment and social screening of Arghakanchi district.

## 2. Objectives

Broader ESMF of the GSEEP project has mentioned to require the Environment and Social screening for sub project with low impacts. The 11 kV and 0.4 kV distribution lines have no severe impacts to human settlements, society, and surrounding environments. So, it is planned to prepare environment and social screening reports. The major objective of environment and social screening is to assess the suitability of the subproject 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 potential environmental and social issues/risks caused by the 11 kV/ 0.4 kV lines in the subproject area and take appropriate mitigation measures for their management,
- To identify the need to obtain any regulatory clearances (such as from Ministry of Forest and Environment-MoFE for specific site/s like clearing/felling of trees, from District Development Committees -DDCs and VDCs for approved quarry sites etc., and

To establish the need to carry out any further investigation/survey/ assessment for preparation of safeguard plans like Environment and Social Management Plans (ESMPs), Resettlement Action Plan (RAP) , Vulnerable Community Development Plans (VCDP) etc.

## 3. Methodology

The environment and social screening checklist (see Annex 3) was used for information collection. Contractor engineer, site in charge and NEA project engineer jointly filled the checklist for the sites identified and prepared the summary report.

#### 4. Site Description

This project in Arghakhanchi district consists of Installation/Erection of 11kV and 0.4kV line across the different area of district. The Project consists of 129.41 km 11kV line and 218.84 km 0.4 kV line with a total of 2580 poles spread along 15 stretches. Similarly, 62 numbers of transformers will be installed. The project mainly consists of new line alignment. Almost all the lines surveyed along the road side so that to avoid the forest and private lands, some line passes through the forest area and some passes through private land. Transformers are installed at new load center except some place where old 33kV distribution transformers are replaced by new 11kV distribution transformers. Summary of 11kV line alignment and number of poles erected is listed in table 1. The google map of all stretches is available. The sample of two stretches is attached in annex 2.

Table-1: Details of Arghakhanchi district site location

SN	Site Location	District	Length(R -km)	No. of Poles	Feeder	Remarks
1	Durgafaat s/s-Nigali	Arghakhanchi	19.84	389	Durgafaat-Neta	Durgafaat-Bhartapur-Nigali
2	Rangsing–Sotapokhari	Arghakhanchi	13.22	243	Durgafaat-Neta	Passing through Community forest
3	Fudbang-Balebang	Arghakhanchi	9.28	181	Durgafaat-Neta	
4	Durgafaat s/s - Chapaka Rukh	Arghakhanchi	9.31	181	Durgafaat-Kerunga	
5	Chapaka Rukh-Pati	Arghakhanchi	7.23	141	Durgafaat-Kerunga	
6	Pati-Chanauta Chowk	Arghakhanchi	7.33	155	Durgafaat-Kerunga	
7	Pati-Modelchaur-Dihi	Arghakhanchi	3.87	78	Durgafaat-Kerunga	
8	ThatiBalkot-Raina Pokhara	Arghakhanchi	10.29	204	Durgafaat-Kerunga	
9	ChayanDanda- Thula Pokhara	Arghakhanchi	3.33	75	Durgafaat-Kerunga	
10	Sallikot-JimmiThum	Arghakhanchi	4.76	155	Durgafaat-Kerunga	
11	Hansapur s/s – Timurkharka	Arghakhanchi	11.76	184	Hansapur	
12	Timurkharka-Gokhunga	Arghakhanchi	6.96	134	Hansapur	
13	Timukharka-GuraseMalarani-Bamruk	Arghakhanchi	6.99	137	Hansapur	
14	Maidan/Kimdanda/Gajari	Arghakhanchi	5.77	124	Hansapur	
15	Gurasemalarani-Tumkot-Karki Tole	Arghakhanchi	9.47	199	Hansapur	
	<b>Total</b>		<b>129.41</b>	<b>2580</b>		

## 5. Findings

Screening was done along every site. Arghakhanchi district consists of fifteen stretches where distribution expansion works are being carried out. They are summarized in above table 1. All the stretches are easy, and work can be done with small attention to work except one stretch which required high attention.

### 5.1. Environmental Screenings Findings:

There are no significant impacts to environment. However, some stretches passing through the community forest area, might have some concern regarding trees.

- a. First, Rangsing to Sotapokhari (13.22km) stretch, where almost all the alignment passes through Community Forest. There lie seven community forest areas within this stretch (See table 2). The new line alignment will go along an old electricity line (not working), and some part of the line is blocked by trees. Little deviation of the line is done to avoid these sorts of problem in the forest. Tree trimming is required to clear the right of way for the line. There might not need to cut down the trees because the cable (conductor) used in the project are of covered type and no leakage of current happens even if any branches touch the lines. Throughout line, the bushes across the forest requires to be cut (trim) down.
- b. Second, in Kayerbati, about 200-250 number of trees (especially of Kusum, Khayer and Sal) lies within the alignment of the line. There is a community in far end of forest where the line should be charged so that the villages will get electricity. Project design survey team tried to avoid all tree, by bending the line as much as technically feasible. Meeting was held with local ward officers and local community forest officers about the route alignment and discussed about the possibility to trim down tree in case of any harsh condition for line stringing. Local people are willing to help the project team. The line also passes through small accessible road. Besides, above mentioned Community Forest other stretches Environmental Screenings show that no any poles will be erected in religious area and playgrounds. There is no religious temple or heritages site lying in line alignment, if found any such structures, the line will be shifted. All the survey and design of distribution line maintains minimum GON/NEA Clearance standards.

The project will use Arial Bundled Cable (ABC) in the 11/0.4 kV **distribution** line, and the poles of the **distribution** line will be adjusted to avoid the need for tree felling. Hence, there will be no tree feeling along the 11kV alignment passing through forests<sup>1</sup>. Trimming of branches of trees, if needed, will be done in consultations and coordination with the respective forest authority and community forests groups.

Table 2: List of Community Forest lying within the feeders

S N	Name of Forest	Chairperson of CFUG	Feeder	Remarks
1	Nunepani Community Forest User Group	Padam K.C	Bhakmechowk-	

<sup>1</sup> Assurance letter of no tree felling from NEA is provided in Annex 4

			Kerakhola	
2	MathuraCommunity Forest User Group	Babi K.C	Kerakhola-lamidamar	
3	BaradahaCommunity Forest User Group	Gor bahadur Luiche	Lamidanda-Deuralidanda	
4	MaikhotDanda Community Forest User Group	Keshab Sharu	DeuraliDanda-Setopokhara	
5	Yesodhara Community Forest User Group	Girdhari Tharu	Kayerbati	
6	Shankha Community Forest User Group	Bhanu Palli	Khayerbati	
7	Dhaulagiri Community Forest User Group	Krishna Bahadur ale	Khayerbati-forsal	

**a. Social screening: Key Issues and Findings**

The 11 kV poles and lines may cause minimal or no impacts to the households of the subproject sites. Hence, there is no need to prepare RAP, SMP and VCDP. However, it is crucial for the Project staff and contractors to make close supervision of the works during construction considering the followings.

- Most of the 11 kV poles are designed to pass through the government land, mostly along the existing road right of way (RoW). Nevertheless, some poles will be installed in the agriculture land/private land. In order to avoid crop damage, the poles will be erected either before crop plantation or immediately after crop harvesting.
- In case of poles lying in the private land, the owners will be consulted, and the poles will be erected along the edges/ bonds and borders of the parcels to avoid the potential loss of land value. .
- 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 erection, the work will not be carried out until the resolution of issues through joint consensus.
- Poles will be erected in proper points if they happened to fall along the cultural and religious sites (temples/gumbas and heritages). This will be done in consultation and full consensus of the locals.
- People are not expecting any kind of cash compensation/ assistance and are fully willing to support the subproject allowing the 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.
- Workers have been supplied safety gears like safety belts, helmets, gloves etc. to work in the site which will be monitored closely.
- The Project will closely monitor the work conditions including the wage paid by contractors and other facilities i.e. sanitation and labor camps/rooms.

## **6. Conclusion:**

The screening results show that 11 kV poles and lines alignment may cause minimal or no environmental issues and impacts to the subproject sites. However, it is crucial for the route alignment passing through community forest area. It is necessary to adjust the route alignment and avoid the tree blocking the line and bend the route line with additional support as needed. The Project needs to make sure that no tree will be cut down. Project needs to consult with the Community Forest User group for trimming the trees and make proper agreement with users 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.

In short, the screening results show no issues hampering the project works. Also due to execution of project, many villages will be getting electricity for the first time. There will also be no harm to private land/assets. Peoples of all subproject sites seemed quite happy with the project and were ready to cooperate in all aspects. There will be no adverse effect to the people and society as well as the environment.

## **7. Recommendations:**

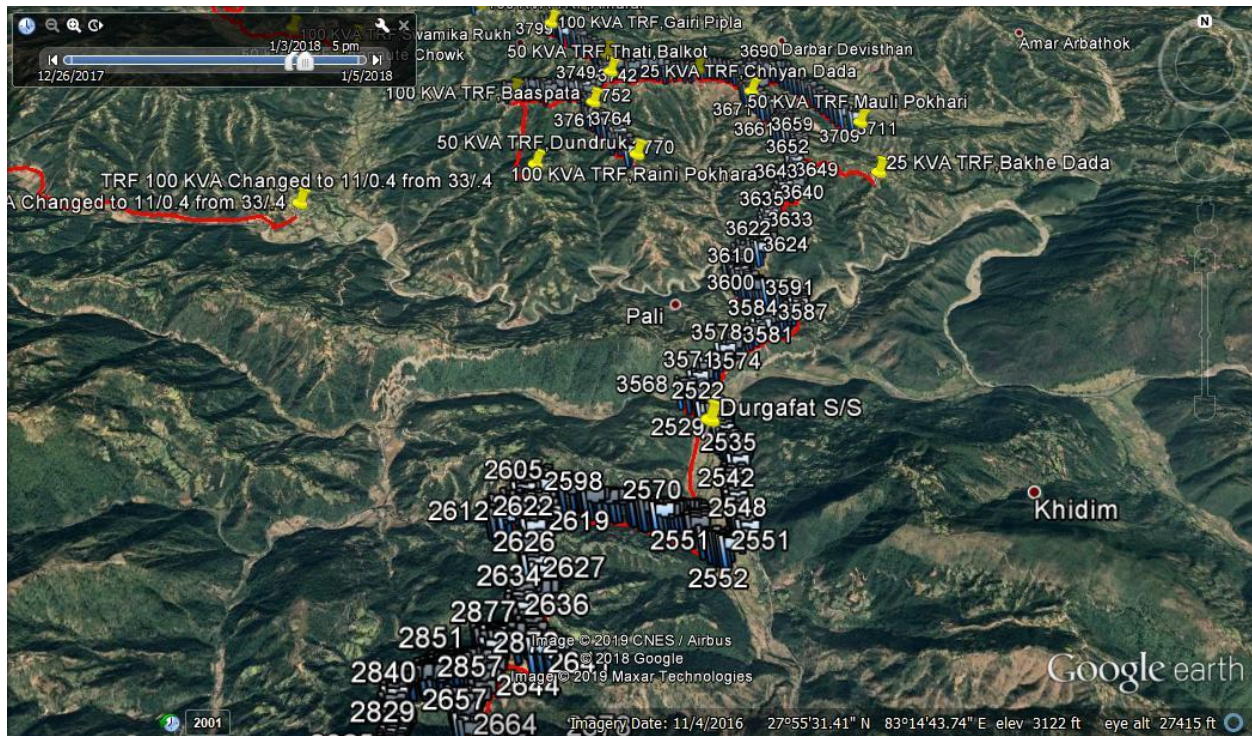
The ongoing construction of 11 kV/0.4kV lines is an important distribution expansion activity benefiting the local people directly. Some recommendation after environment and social screening are made as below:

- Provide high attention for the stretches passing through Community Forest which require tree trimming activities.
- 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
- Sub 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. 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 as follows.
  - 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.
  - The contractors are required to work in close coordination with the local people/ beneficiaries and carry out the construction works as per agreed schedule/norms.
  - 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 consulted/key informants**

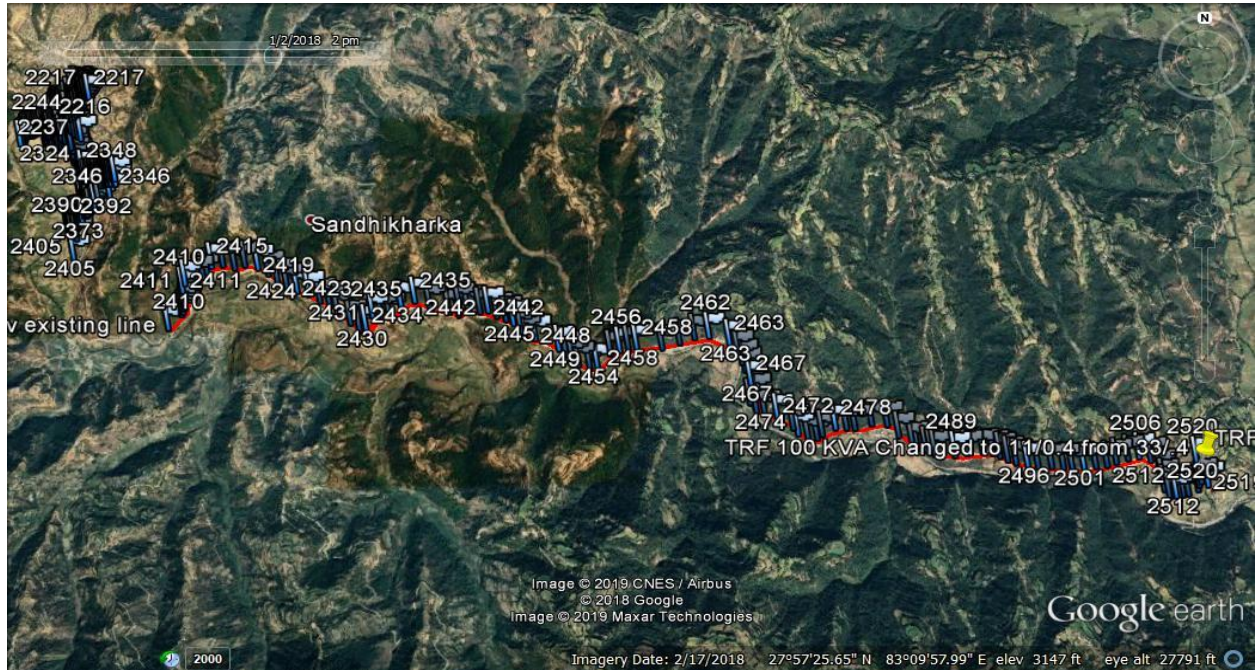
SN	Name	Contact
1	Padam K.C	Nunepani Community Forest User Groups
2	Babi K.C	MathuraCommunity Forest User Groups
3	Gor bahadur Luiche	BaradahaCommunity Forest User Groups
4	Keshab Sharu	MaikhotDanda Community Forest User Groups
5	GirdhariTharu	Yesodhara Community Forest User Group
6	Bhanu Palli	Shanka Community Forest User Group
7	Krishna Bahadur ale	Dhaulagiri Community Forest User Group

**Annex 2: Google maps of some portion of alignment**





**Map showing Durgafaat to Neta Stretch**



**Map Showing Sandhikharkha bazaar area**

**Annex 3: Sample checklists**

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

**Project: Grid Solar and Energy efficiency Project (GSEEP) Comp-4(Gulmi, Arghakhanchi and Kapilvastu)**

- A. District.....Arghakhanchi, (Padini Ga.Pa).....
- B. Name of Sites (Specify the stretch and length km): Durgafaat to Nigali ( 19.84 HT 11kV)
- C. Total number of poles to be erected...389 (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 the poles are along road side.

D2.	Does the distribution route as well as locations of poles (supports) and transformers cross diagonally playground/ common property?	NO	-	All the poles are along road side
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 along road side
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	-	Area being fully hilly but solid land. 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 road side. 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 the minimum clearance.
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	
7.	Other if any			

Mitigation measures:

	Particulars	Mitigation measures	Responsibility	Remarks
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/	NA		Line passes through roadside. No

	risk spot where geological avoidance is not feasible.			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			

**B. Social Screening Checklist: 11 kV Transmission Line, Grid Solar Project**

**C. Subproject Screening Site (Specify the stretch and length km): Durgafat to Chanauta Chowk (23.87 km 11 kV)**

**D. District: Arghakhanchi Palika: Padini Ga. Pa, Chatradev Ga. Pa.**

S.No.	Particulars	Response (Yes/No)	Remarks (Please specify relevant information to supplement the response)
1	Does the transmission line involve physical/ construction works?	No	Only distribution poles (11m) are erected
2	Does the TL pass through private land and settlements? If yes, specify. Also prepare a sketch of the stretch in separate page where the TL passes.	No	Lines passes along the road
3	How many poles are installed in this subproject	477	11 m poles are erected

	in total?		
4	How many poles are installed in private land?	No	Lines passes along the roadside
5	Specify the type of private land where the TL passes (agriculture land, barren land, urban/rural)	Agri land	Very few poles pass through agri land.
6	Is the TL alignment free from encroachers/squatters?	Yes	No any Encroachers/squatters noticed
7	Does the TL affect the land value?	No	Poles are erected at end of land
8	Does the TL damage any private house/structure? If yes, specify the details in separate page (owner, type of damage, value of land, house/structure)	No	No any private house or structure is affected.
8	Are people happy to contribute the land free of cost(donation) for TL construction in private land?	Yes	Usually poles are erected at edge of land ,so people will let us erect pole at their land free of cost.
9	Or do they have any expectations in leu of their lands being used for poles installation and TL stringing? If yes, get more information.	No	People are delighted of being electrified community
10	Does the construction work damage standing crops/ fruit trees/ other trees? If yes, what is the value?	No	Usually erection is done at harvesting time.
11	Does the line damage public properties/ resources/utilities? If yes, get more information.	No	Poles are erected alongside road, so no any public properties damaged.
12	Does the TL affect private land temporarily during construction? If yes, get more information.	No	Lands are affected only while erecting the poles , which requires very area land
13	Are they going to get electricity from the DL?	Yes	
14	Are people ready to cooperate the construction of lines?	Yes	
16	What other benefits are locals getting from the DL (electricity, employment etc.)?		Local people are getting electricity and employment

16	Other issues, if any?		
	<b>Indigenous People/Vulnerable Ethnic Group</b>		
16	Are any vulnerable households including Janaatis/ Dalits affected directly by TL?	No	No any households are affected
17	If yes, how many and where? Please get more information separately? Also specify the IP/ethnic groups affected.	NA	
18	What is the income and livelihood sources of the IPs/ ethnic groups and Dalits?	NA	
19	Are the IPs/Dalits informed about the TL construction?	Yes	Every people in community knows about the project.
20	Are they ready to contribute /donate the land for poles installation?	Yes	If needed they will allow are willing the project to erect the pole on their land
21	Are they involved in construction works?	Yes	Some are working as labors.
22	If yes, how much wage do they get on daily basis?	Yes	As per regulation of country
23	Are these people getting electricity from this TL?	Yes	Whole Community is getting electricity.
24	Are local women also involved as workers? If yes, how many? How much is their wage?	No	
25	Other information		
<p><b>Screening result</b>(please summarize the finding of the checklist and specify the key adverse impacts as well as the benefits from the TL, expectation of peoples from the TL and their views/perception about the TL)</p> <p>While screening this stretch no any adverse effect on the society is seen. Since the villages are going to electrified, the peoples are very optimistic about the project. They are willing to help the project. Very few poles might pass through the agri-land and the owners are supportive and letting the project to erect the poles. Poles are erected at the edge of the land so that its value does not decrease. Community is ready to help as they can.</p> <p><b>Recommended Social Plans</b> as revealed by Screening (Simple Social Management Plan, RAP, IPDP/VCDP, Cash assistance, no plan required etc.)</p>			

	<p><b>Name of Informants</b>(Please list the names of the people met during screening; take some pictures of the affected people/locations)</p> <p>No any cash assistance is required.</p> <p>Also, the conductor is covered type, it is safety for the local peoples.</p> <p>People are happy to be electrified so are very supportive in nature.</p> <p>Poles are erected in harvesting time , so cash assistance for crops are not needed.</p>
--	---

Annex 4: Assurance letter to avoid tree felling



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

Ratna Park, Kathmandu, Nepal  
Tel. No.: -01-4153153  
Fax: -1-4153146  
e-mail: dmd\_dcs@nea.org.np

Ref. No.: 74, 076/077

Date: 23<sup>rd</sup> Aug, 2019

To,  
World Bank Office  
Yak and Yeti Hotel, Kathmandu

Ref : Contract No.: GSEEP/W/ICB-04, Design, Supply, Installation/Erection, Testing and Commissioning of  
11/0.4 kV Distribution System

Subject: Avoiding tree felling along the 11 kV Line

Dear Sir,

During the Environmental and Social Screening process, we have discussed environmental and social aspects of 11kV Distribution Lines (DLs). Planning and Design of the 11kV DLs have been revisited in recognition 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 11kV DLs and the poles of the DLs will be adjusted to avoid the need of tree felling. Trimming of branches of trees, if needed, will be done in consultations and coordination with the respective forest authority and community forests groups. This will be strictly enforced. The bimonthly compliance monitoring report will be shared with the World Bank.

Thank You

Sincerely Yours

Pyaru Rana  
Project Chief,  
Nepal Electricity Authority,  
Grid Solar and Energy Efficiency Project,  
Distribution and Consumer Services Directorate,  
Durbar Marg, Kathmandu Nepal

CC : Project Coordinator, GSEEP, DCSD, NEA

**Final Report**  
**NEPAL ELECTRICITY AUTHORITY**  
**(GOVERNMENT OF NEPAL UNDERTAKING)**  
**DISTRIBUTION AND CONSUMER SERVICES DIRECTORATE**



Nepal Electricity Authority  
Nepal

**Environmental and Social screenings Report of 11kV distribution system expansion in  
(Gulmi District)**

**Project:** GSEEP/W/ICB-04 Design, Supply, Installation/Erection, Testing and Commissioning of 11/0.4 kV Distribution System.

**Submitted by:** Grid Solar and Energy Efficiency project (GSEEP/W/ICB-04 )

**August 2019**



## Table of Contents

1. Background .....	3
2. Objectives.....	3
3. Methodology .....	3
4. Site Description .....	3
5. Findings .....	4
6. Conclusion and Recommendations .....	6

## **1. Background**

This project, Design, Supply, Installation/Erection, Testing and Commissioning of 11/0.04 KV Distribution System is part of overall Grid Solar Energy Efficiency Project (GSEEP) component 2 implemented through Nepal Electricity Authority (NEA). This project is expanding the distribution system in three districts, i.e. Arghakanchi, Gulmi and Kapilvastu. There will be 359.33 km High tension (HT) line and 500.17 KM Low Tension (LT) line in total. There will be 160 transformers. This project plans to electrify 28 VDCs of Arghakanchi, 28 VDCs of Gulmi and 12 VDC of Kapilvastu-Taulihawa and 19 VDCs of Kapilvastu-Krishnanagar.

The project will use All Aluminum Alloy Covered 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 value of safety. This might not affect while touching the branches of tree. So, these conductors and cables can be used in forest areas and in a dense locality where ROW (Right of Way) is less than usual. This report consists of site specific environment and social screening of Gulmi district.

## **2. Objectives**

Broader ESMF of the GSEEP project has mentioned to require the Environment and Social screening for sub project with low impacts. The 11 and 0.4 KV distribution lines have no severe impacts to human settlements, society, and surrounding environments. So, it is planned to prepare environment and social screening reports. The major objective of environment and social screening is to assess the suitability of the subproject 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 potential environmental and social issues/risks caused by the 11 kV/ 0.4 kV lines in the subproject area and take appropriate mitigation measures for their management,
  - To identify the need to obtain any regulatory clearances (such as from Ministry of Forest and Environment (MoFE) for specific site/s like clearing/felling of trees, from District Development Council (DDCs) and VDCs for approved quarry sites etc., and
  - To establish the need to carry out any further investigation/survey/ assessment for preparation of safeguard plans like Environment and Social Management Plans (ESMPs), Resettlement Action Plan (RAP) , Vulnerable Community Development Plans (VCDP) etc.

## **3. Methodology**

The environment and social screening checklist (see Annex 3) was used for information collection. Contractor engineer, site in charge and NEA project engineer jointly filled the checklist for the sites identified and prepared the summary report.

## **4. Site Description**

This subproject in Gulmi district consists of Installation/Erection of 11kV and 400V lines across the different area of district. The subproject consists of a total of 152km 11kV line and 195 km 0.4 kV line which are spread in 10 stretches of different lengths. A total of 3116 HT poles and 60 transformers will

be installed. The project mainly consists of new line alignment. Almost all the lines are aligned through the road side attempting to avoid the forest and private lands. Nevertheless, some sections of the lines pass through the forest area and private land. Transformers are installed at new load center except some place where old 33kV distribution transformers are replaced by new 11kV distribution transformers. The google map of all stretches is available. The sample of two stretches is attached in annex 2.

Brief description of line alignment is listed below.

Table 1: Description of line alignment in Gulmi District

SN	Site Location	District	GaunPalika	Length( R-km)	No. of Poles
1	Kishantari s/s to Hwangdi	Gulmi	Malika Ga. Pa.	22.78	458
2	Mulabari to Kot kateri gaun	Gulmi	Malika Ga. Pa.	11.54	243
3	Kishantari s/s to Purkot daha	Gulmi	Dhurkot Ga. Pa.	8.78	186
4	Wagla to Saurpani	Gulmi	Dhurkot Ga. Pa.	9.24	188
5	Bajhkateri-Hadhade	Gulmi	Dhurkot Ga. Pa.	6.47	159
6	Kishantari s/s to Purkot	Gulmi	Madane Ga. Pa.	21.72	443
7	Tamghas to Paralmi	Gulmi	Resunga Ga. Pa.	9.32	185
8	Tamghas to Bansdada	Gulmi	Resunga Ga. Pa.	12.12	279
9	Birbas-Neta	Gulmi	Resunga Ga. Pa.	20.4	391
10	Khoyagau to Juhang khaireni	Gulmi	Satyawati Ga. Pa.	29.61	584
	Total	–	–	<b>151.98</b>	<b>3116</b>

Map of Wagle feeder is in Annex 2.

## 5. Findings

Separate screenings were carried out for each site. Gulmi District consists of 10 different stretches where distribution expansion works are being carried out. Out of 10 stretches, 8 stretches do not have any kind of environmental and social issues. However, in 2 stretches, some issues require high attention and due diligence during construction time due to community forest area (see table 2). It was also observed that most of the construction sites are in accessible areas and comfort zone (road sides) where construction works will be accomplished more easily. The environmental and social issues required for needful actions are briefly described below.

### 5.1 Environmental Screening: Key Issues and Findings

The forest lying along the line is the major issue.

- Firstly, the stretch from Kishantari to Hwangdi (22.78 km) requires attention. Almost 20 to 25 trees fall along the line alignment across Ghamir VDC. area. The forest is of Sal Tree (small trees), along with the bushes across the forest. The line pass through road which is in the forest

area and when line passes Ghamir area. There is good accessible road where the poles are erected along the roadside. The line lies in five different community forest users 'groups (see table 2). Members of community forest user groups are highly willing to trim the tree if required as their village is getting electrified and they are highly delighted for the completion of the project so that they could get electricity. Existing road corridor within ROW has been given high priority for selection of 11kV distribution route alignment. For example, Ridi to Juhang Khaireni stretch, the total number of poles to be erected are 435. One of the works routes is along the Kali Gandaki corridor accessible road.

- b. Secondly, stretch from Birbas to Neta (20.4 km) requires attention. This stretch also consists of some forest (name of trees not exactly known). Some private land also lies in this alignment. Route of line alignment was changed as much as to avoid the forest, but still some (15/20) poles lies in forest area. Since the conductor is of covered type very few trees might be blocking the alignment else only trimming of branches can make the route for line accessible. Poles in private land are erected at the edge of land so that their values do not decrease.

Table 2: List of Community Forest lying within the feeders

SN	Name of Forest	Chairperson of CFUG	Feeder	Tentative Line Length that touches Forest Area	Affected Area
1	Namuna Community Forest User Groups	Ram Bahadur Thapa	Birbas	800 m	Raja, Urleni, Gaudakot, Deurali
2	Tap Community Forest User Groups	Durga Bahadur Lamsal	Hwangdi	400 m	Siladi
3	Hula Community Forest User Groups	Himal Kc	Hwangdi	1000 m	Arkhang
4	Community Forest User Groups	Madhav Bhusal	Bastu	1000 m	Sirseni, Panchami Pokhara
5	Community Forest User Groups	Gyan Bahadur Panthi	Hwangdi	200 m	Vanpokhara

The project will use Arial Bundled Cable (ABC) in the 11/0.4 kV **distribution** line, and the poles of the **distribution** line will be adjusted to avoid the need for tree felling. Hence, there will be no tree feeling along the 11kV alignment passing through forests<sup>1</sup>. Trimming of branches of trees, if needed, will be done in consultations and coordination with the respective forest authority and community forests groups.

## 5.2 Social Screening: Key Issues and Findings

The installation of 11 kV and 0.4 kV poles and lines may cause minimal or no impacts to the households of the subproject sites. Hence, there is no need to prepare RAP, SMP and VCDP. However, it is crucial for the Project staff and contractors to make close supervision of the works during construction considering the followings.

<sup>1</sup> Assurance letter of no tree felling from NEA is provided in Annex 4

- Birbas -Neta (20.40 km) is one of the longest stretches of the ongoing electrification work in Gulmi District. Some sections of the lines 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.
- The lines in Gulmi District will provide reliable electrification to both new and old consumers. Because of this, the electrification works will be supported by the local people.
- In Gulmi District, most of the alignment pass through hilly areas and the lines pass largely through road sides. 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.
- 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 work will not be carried out 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.
- Poles will be installed in proper points if they happened to fall along the cultural and religious sites (temples/gumbas and heritages). This will be done in consultation and full consensus of the locals.
- People are not expecting any kind of cash assistance and are fully willing to support the subproject allowing the 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 will make close supervision of the works and ensure that the workers get fair wage as per the contract.
- Consultations with the beneficiaries revealed that they will be benefitted through reliable power supply after the completion of rural electrification works. Reliable power supply is expected to benefit not only the consumers but also to small and medium entrepreneurs in operating micro enterprises.

## **6. Conclusion and Recommendations**

The screening results show that 11/0.4 kV poles and distribution lines alignment may cause minimal or no environmental issues and impacts to the subproject sites. Kishantari to Hwangdi (68.33km) is one of the stretches which is envisaged that 20 to 25 trees require high attention while stringing the line. Some part of the line is blocked by trees. Little deviation of the route alignment needs to be done to avoid these sorts of problem in the forest. Tree trimming is required to clear the right of way for the line. Since the cable ( conductor) used in the project are of covered type and no leakage of current occurs even if any branches touch the lines and trees felling is not required.

Project needs to consult with the Community Forest User group for trimming the trees and make proper agreement with users group committee for periodic trimming and compensatory plantation 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 should not propose 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 should maintain minimum GON/NEA Clearance standards.

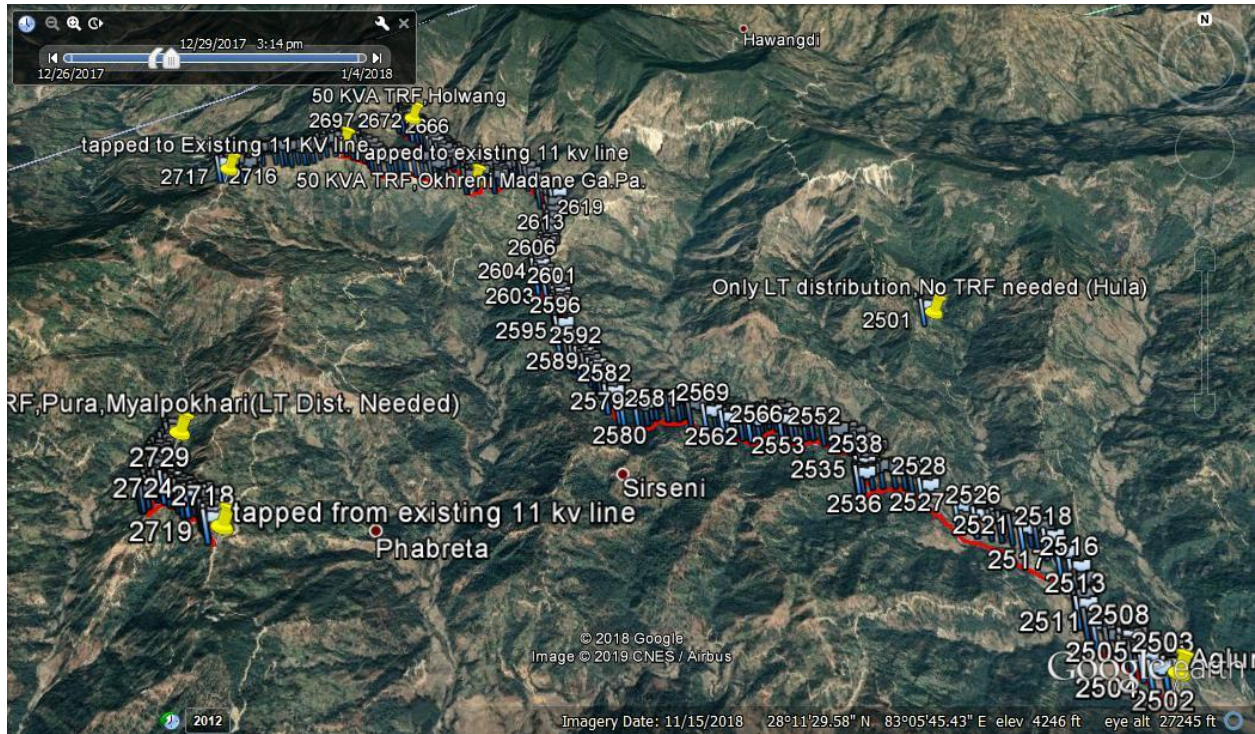
Recommendations:

- High Attention for the stretches passing through Community Forest which require tree cutting activities.
- 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
- Sub 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.
- 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.
- The contractors are required to work in close coordination with the local people/ beneficiaries and carry out the construction works as per agreed schedule/norms.
- 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.

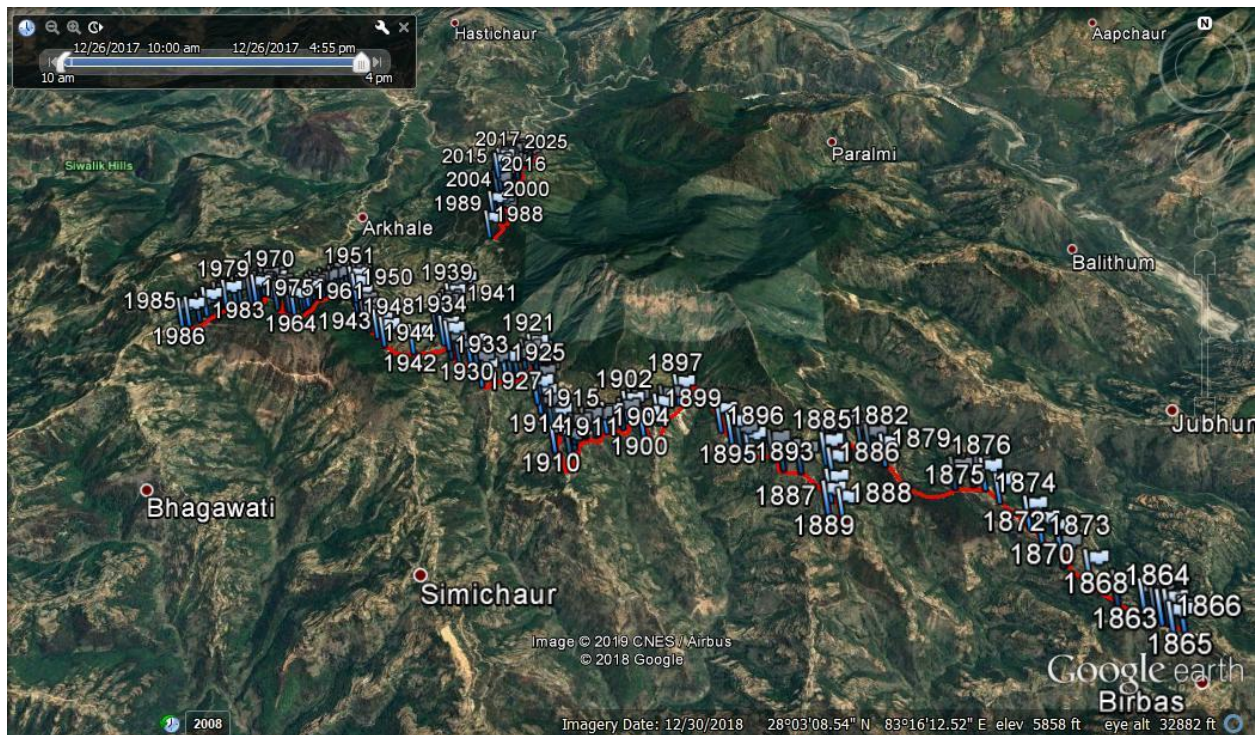
**Annex 1: List of people consulted/key informants and photographs.**

<b>Chairperson of CFUG</b>	<b>Name of Forest</b>
Ram Bahadur Thapa	Namuna Community Forest User Groups
Durga Bahadur Lamsal	Tap Community Forest User Groups
Himal Kc	Hula Community Forest User Groups
Madhav Bhusal	Community Forest User Groups
Gyan Bahadur Panthi	Community Forest User Groups

**Annex 2:- Survey Map/Google Map**



Map showing Aaglung Feeder



Map Showing Wagla Feeder



**Annex 3: Sample checklists**

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

**Project: Grid Solar and Energy efficiency Project (GSEEP) Comp-4( Gulmi, Arghakhanchi, and Kapilvastu)**

- A. District.....**Gulmi, (DhurkotGa.Pa)**.....
- B. Name of Sites (Specify the stretch and length km): Bajhkateri to Hadhade ( 5.1 HT 11kV)
- C. Total number of poles to be erected...136 (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 the poles are along road side.
D2.	Does the distribution route as well as locations of poles (supports) and transformers cross diagonally playground/ common property?	NO	-	All the poles are along road side.
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 along road side.
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	-	Area being fully hilly but solid land. 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 road side . 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:**

	Particulars	Mitigation measures	Responsibility	Remarks
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.

**Conclusion and Recommendation:**

The works in this site does not consist of forest tree that needed to be cut down or the branches to be trimmed. The work route is along the accessible road. This site is fully new line alignment, so the

community is very joyful to help the project if needed. Since this project is electrifying the villages, the community is helpful too. In any cases, if trees or branches cutting are needed, trees cutting, and branches trimming can be done in the presence of local committee officers. Also, this project is of covered conductor and Arial Bundled Cable (ABC) cable it has high value of safety to people benefitted by these lines.

**B. Social Screening Checklist: 11 kV Transmission Line, Grid Solar Project**

**Subproject Screening Site (Specify the stretch and length km): Tamghas to Bhadgaun (12.833 KM 11 kV)**

**District: Gulmi Palika:Resunga Na. Pa.**

S.No.	Particulars	Response (Yes/No)	Remarks (Please specify relevant information to supplement the response)
1	Does the transmission line involve physical/ construction works?	No	Only distribution poles (11m) are erected
2	Does the TL pass through private land and settlements? If yes, specify. Also prepare a sketch of the stretch in separate page where the TL passes.	No	Lines passes along the road
3	How many poles are installed in this subproject in total?	90	11 m poles are erected
4	How many poles are installed in private land?	No	Lines passes along the roadside
5	Specify the type of private land where the TL passes (agri land, barren land, urban/rural)	No	No pole passes through agri land.
6	Is the TL alignment free from encroachers/squatters?	Yes	No any Encroachers/squatters noticed
7	Does the TL affect the land value?	No	Poles are erected at end point of land
8	Does the TL damage any private house/structure? If yes, specify the details in separate page (owner, type of damage, value of land, house/structure)	No	No any private house or structure is affected.
8	Are people happy to contribute the land free of cost(donation) for TL construction in private land?	Yes	Usually poles are erected at edge of land, so people will let us erect pole at their land free of cost.
9	Or do they have any expectations in leu of their lands being used for poles installation and TL stringing? If yes, get more information.	No	People are delighted of being electrified community
10	Does the construction work damage standing crops/ fruit trees/ other trees? If yes, what is the value?	No	Usually erection is done at harvesting time.
11	Does the line damage public properties/ resources/utilities? If yes, get more information.	No	Poles are erected alongside road, so no any public properties damaged.
12	Does the TL affect private land temporarily during construction? If yes, get more	No	Lands are affected only while erecting the poles , which requires

	information.		very area land
13	Are the hhs going to get electricity from the TL?	Yes	
14	Are people ready to cooperate the construction of lines?	Yes	
16	What other benefits are locals getting from the TL (electricity, employment etc)?		Local people are getting electricity and employment
16	Other issues, if any?		
	<b>Indigenous People/Vulnerable Ethnic Group</b>		
16	Are any vulnerable households including Janaatis/ dalits affected directly by TL?	No	No any households are affected
17	If yes, how many and where? Please get more information separately? Also specify the IP/ethnic groups affected.	NA	
18	What are the income and livelihood sources of the IPs/ ethnic groups and Dalits?	NA	
19	Are the IPs/Dalits informed about the TL construction?	Yes	Every people in community knows about the project
20	Are they ready to contribute /donate the land for poles installation?	Yes	If needed they will allow are willing the project to erect the pole on their land
21	Are they involved in construction works?	Yes	Some are working as labors.
22	If yes, how much wage do they get on daily basis?	Yes	As per regulation of country
23	Are these people getting electricity from this TL?	Yes	Whole Community is getting electricity
24	Are local women also involved as workers? If yes, how many? How much is their wage?	No	
25	Other information		
<p><b>Screening result</b>(please summarize the finding of the checklist and specify the key adverse impacts as well as the benefits from the TL, expectation of peoples from the TL and their views/perception about the TL)</p> <p>While screening this stretch no any adverse effect on the society is seen. Since the villages are going to electrified, the peoples are very optimistic about the project. They are willing to help the project. Very few poles might passes through the private land and the owners are supportive and letting the project to erect the poles. Poles are erected at the edge of the land so that its value does not decrease. Community is ready to help as they can. This particular site is in city area, so little difficulties might arises while erecting the poles but with proper coordination with the community leader, land owner and contractor, the problem can be solved either by convincing the owner or slightly changing the alignment of line.</p> <p><b>Recommended Social Plans</b> as revealed by Screening (Simple Social Management Plan, RAP, IPDP/VCDP, Cash assistance, No plan required etc)</p>			

	<p><b>Name of Informants</b>(Please list the names of the people met during screening; take some pictures of the affected people/locations)</p> <p>No any cash assistance is required. Also the conductor is covered type; it is safety for the local peoples. People are happy to be electrified so are very supportive in nature. No any plans are required actually.</p>
	<p><b>Prepared by: Kapil Joshi</b></p> <p><b>Date: 10-March-2019</b></p>

## Annex 4: Assurance letter to avoid tree felling



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

Ratna Park, Kathmandu, Nepal  
Tel. No.: -01-4153153  
Fax: -1-4153146  
e-mail: dmd\_dcs@nea.org.np

Ref. No.: - ७५,०७६/०७७

Date: 23<sup>rd</sup> Aug, 2019

To,  
World Bank Office  
Yak and Yeti Hotel, Kathmandu

Ref: Contract No.: GSEEP/W/ICB-04, Design, Supply, Installation/Erection, Testing and Commissioning of  
11/0.4 kV Distribution System


Subject: Avoiding tree felling along the 11 kV Line

Dear Sir,

During the Environmental and Social Screening process, we have discussed environmental and social aspects of 11kV Distribution Lines (DLs). Planning and Design of the 11kV DLs have been revisited in recognition 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 11kV DLs and the poles of the DLs will be adjusted to avoid the need of tree felling. Trimming of branches of trees, if needed, will be done in consultations and coordination with the respective forest authority and community forests groups. This will be strictly enforced. The bimonthly compliance monitoring report will be shared with the World Bank.

Thank You

Sincerely Yours

  
Pyaru Rana  
Project Chief,  
Nepal Electricity Authority,  
Grid Solar and Energy Efficiency Project,  
Distribution and Consumer Services Directorate,  
Durbar Marg, Kathmandu Nepal

CC : Project Coordinator, GSEEP, DCSD, NEA

**Final Report**  
**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 11kV distribution system expansion**

**in**

**KAPILVASTU District ( Krishnanagar And Taulihawa)**

**Project:** GSEEP/W/ICB-04 Design, Supply, Installation/Erection, Testing and Commissioning of 11/0.4 KV Distribution System.

**Submitted by:** Grid Solar and Energy Efficiency project (GSEEP/W/ICB-04 )

**August 2019**

## Table of Contents

1. Background .....	3
2. Objectives.....	3
3. Methodology .....	3
4. Site Description .....	4
5. Findings .....	4
6. Conclusion.....	6
7. Recommendations:.....	7



## 1. Background

This project, Design, Supply, Installation/Erection, Testing and Commissioning of 11/.04 KV Distribution System is a subproject 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. Arghakanchi, Gulmi and Kapilvastu. There will be 359.33 km High tension (HT) line and 500.17 KM Low Tension (LT) line in total. The scope also includes installing 160 distribution transformers . This project plans to electrify 28 village development corporation (VDCs) of Arghakhanchi, 28 VDCs of Gulmi and 12 VDCs of Kapilvastu-Taulihawa and 19 VDCs of Kapilvastu-Krishnanagar.

The project will use All Aluminum Alloy Covered 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 value of safety. This might not affect while touching the branches of tree. So, these conductors and cables can be used in forest areas and in a dense locality where ROW (Right of Way) is less than usual standards. This report consists of site specific environment and social screening of Kapilvastu district.

## 2. Objectives

**Environment and Social Screening and its objectives:** The site screening report has been prepared following the ESMF of the GSEEP project that mentions the requirement of the Environment and Social screening for sub project with low impacts. The 11 and 0.4 kV distribution lines have no severe impacts to human settlements, society, and surrounding environments. So, environment and social screening reports will suffice and lead to identify any major impacts. The major objective of environment and social screening is to assess the suitability of the subproject 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 potential environmental and social issues/risks caused by the 11 / 0.4 kV lines in the subproject area and take appropriate mitigation measures for their management,
- To identify the need to obtain any regulatory clearances (such as from Ministry of Forest and Environment (MoFE) for specific site/s like clearing/felling of trees, from District Development Council (DDCs) and VDCs for approved quarry sites etc., and
- To establish the need to carry out any further investigation/survey/ assessment for preparation of safeguard plans like Environment and Social Management Plans (ESMPs), Resettlement Action Plan (RAP) , Vulnerable Community Development Plans (VCDP) etc.

## 3. Methodology

The environment and social screening checklist (see Annex 2) was used for information collection. Contractor engineer, site in charge and NEA project engineer jointly filled the checklist for the sites identified and prepared the summary report.

#### 4. Site Description

This subproject in Kapilvastu district consists of Installation/Erection of 11kV and 0.4 kV line across the different area of district. The subproject consists of 77.93km 11kV line and 86.73 km 0.4kV line. The number of HT poles are 1537. A total of 38 transformers will be installed in this subproject. The project mainly consists of new line alignment and almost all the lines are designed to pass through the existing right of way of the national/rural roads in order to avoid the forest and private lands. Nevertheless, some sections of the line pass through the forest area and private agricultural land. New transformers will be installed at new load centers. Brief description of line alignment is listed below. Map of Gorusingey is shown Annex 2.

Table 1: Description of line alignment in Kapilvastu district

S N	Site Location	District	Length (km)	No. of Poles	Feeder	NP/VDC
1	Buddi Chowk -Pachakaiya	Kapilvastu	10.44	196	Gorusingey	Bhudda Bhumi NP
2	Gorusingey-Bakaharaiya-basnatpur-belai	Kapilvastu	6.01	118	Gorusingey	Bhudda Bhumi NP
3	Pattharkot-Dhaura Takura-Khola	Kapilvastu	4.58	113	Gorusingey	Bhudda Bhumi NP
4	Krishnagars/s-Badhani-parasiya	Kapilvastu	28.17	502	Krishnanagar	Maharajung Np
5	Balapur-Near Gahira-Karahiya	Kapilvastu	7.65	162	Krishnanagar	Shivraj NP
6	Baraiya-Fulika- Mahadev Gaun- Jaynagara	Kapilvastu	13.66	261	Taulihawa	Labani VDC
7	Tilaurakot- Fulwapur	Kapilvastu	3.29	82	Taulihawa	Tilaurakot VDC
8	Fulwapur-Tarapur-Phulwapur- Bargadawa	Kapilvastu	4.13	103	Taulihawa	Taulihawa NP
	Total		<b>77.93</b>	<b>1537</b>		

#### 5. Findings

##### 5.1 Environmental Screening: Key Issues and Findings

Separate screenings are carried out for each site of the subproject. Kapilvastu district consists of 8 different stretches where Distribution expansion works are being carried out. Out of 8 stretches, 6 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 (see table 2). 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 particular locations with environmental and social issues needing attention, the two locations are are briefly described below.

- a. First, Buddi Chowk -Pachakaiya (10.44km) stretch, which required little attention during construction This segment is started from Bhuddhichowk east west highway to north of it. There is road in between the forest. Line alignment is along the road, however another 33kV line from another project also passes through the same 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. Hence, trimming of branches is required. Community people has agreed to trim the tress and support the project. Project team should make agreement with community forest user groups (CFUGs) committee for regular trimming of trees.
- b. Second, the stretch from Pattharkot to Daulaha( 4.58kM) needs attention This stretch also consists of some forest. Route of line alignment was modified as much as possible to avoid the forest area. However, in some places, trimming of some trees might needed. The main disturbance in this stretch is aligning new line and old line at same place in some part. There is possibility of touching the old lines by the new poles, which might cause the tripping of the line. Hence, to mitigate this problem, the old line is re-stringed. In some place the route of new line is changed. Some private land also lies in this alignment. Route Poles in private land are erected at the edge of land so that their values do not decrease.

Table 2: List of Community Forest lying within the feeders

SN	Name of Forest	Chairperson of CFUG	Feeder	Tentative Line Length that touches Forest Area	Affected Area
1	Surpani Community Forest User Groups	Piigal Tharu	gorusinghe	400 m	Gorusinghe, Buddhabhumi
2	Aadasha Community Forest User Groups	Ram Naresa Tharu	gorusinghe	800 m	Gorusinghe, Buddhabhumi
3	Jaya Mahalaxmi Community Forest User Groups	Eklamani Bhattarai	gorusinghe	100 m	Gorusinghe, Buddhabhumi
4	Jana Mukhi Community Forest User Groups	Indra Mani Paudel	gorusinghe	200 m	Gorusinghe, Buddhabhumi

The project will use Arial Bundled Cable (ABC) in the 11/0.4 kV **distribution** line, and the poles of the **distribution** line will be adjusted to avoid the need for tree felling. Hence, there will be no tree feeling along the 11kV alignment passing through forests<sup>1</sup>. Trimming of branches of trees, if needed, will be done in consultations and coordination with the respective forest authority and community forests groups.

## 5.2 Social Screening: Key Issues and Findings

<sup>1</sup> Assurance letter of no tree felling from NEA is provided in Annex 4

The installation of 11 kV and 0.4 kV poles and lines in the district may cause minimal or no impacts to the households of the subproject sites. Hence, there is no need to prepare RAP, SMP and VCDP. It is crucial for the Project staff and contractors to make close supervision of the works during construction considering the followings

- The site screening of the 11kV/ 0.4 kV lines revealed that limited sections of two stretches in Kapilvastu 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.
- In Kapilvastu District, most of the poles and distribution lines are designed to pass through the road sides. In case of the private /agricultural land, the owners will be consulted ahead and the poles will be installed along the edges/ bonds and borders of the parcels to avoid the potential loss of land value.
- 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.
- All the poles will be installed in proper points if they happened to fall along the cultural and religious sites (temples/gumbas and heritages). This will be done in consultation and full consensus of the locals.
- People are not expecting any kind of cash assistance and are fully willing to support the subproject. 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 will make close supervision of the works and ensure that the workers get fair wage as per the contract.
- Consultations with the beneficiaries revealed that they will be benefitted through reliable power supply after the completion of rural electrification works. Reliable power supply is expected to benefit not only the consumers but also to small and medium entrepreneurs in operating micro enterprises.

## **6. Conclusion**

The screening results show that 11/0.4 kV poles and lines alignment may cause minimal or no environmental issues and impacts to the subproject sites. However, it is crucial for the route alignment passing through community forest area, where some part of the line is blocked by trees. Little deviation of the line is done to avoid this sort of problem in the forest. Tree trimming is required to clear the right

of way for the line. There might not need to cut down the trees because the cable (conductor) used in the project are of covered type and no leakage of current happens even if any branches touch the lines. Project needs to consult with the Community Forest User group for trimming the trees and make proper agreement with users 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 sub 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:**

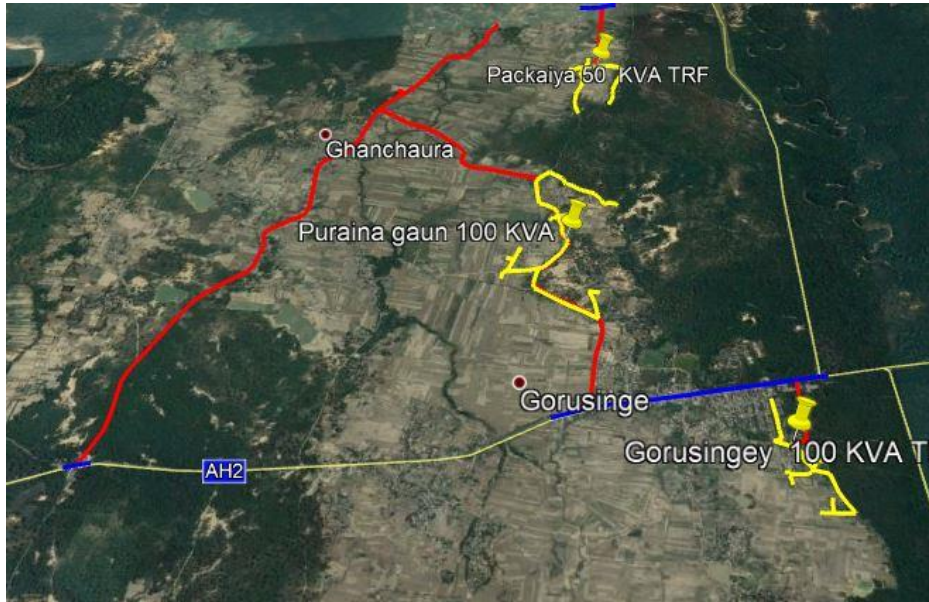
The ongoing construction of 11 kV/0.4kV lines is an important distribution expansion activity benefiting the local people directly. To carry out the erection of poles and stringing of cables smoothly, the Project needs to implement the works with proper planning and due diligence as follows.

- Proper Survey and high attention for the stretches passing through Community Forest which require tree trimming activities.
- 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
- Sub 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.
- 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.
- The contractors are required to work in close coordination with the local people/ beneficiaries and carry out the construction works as per agreed schedule/norms. 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.

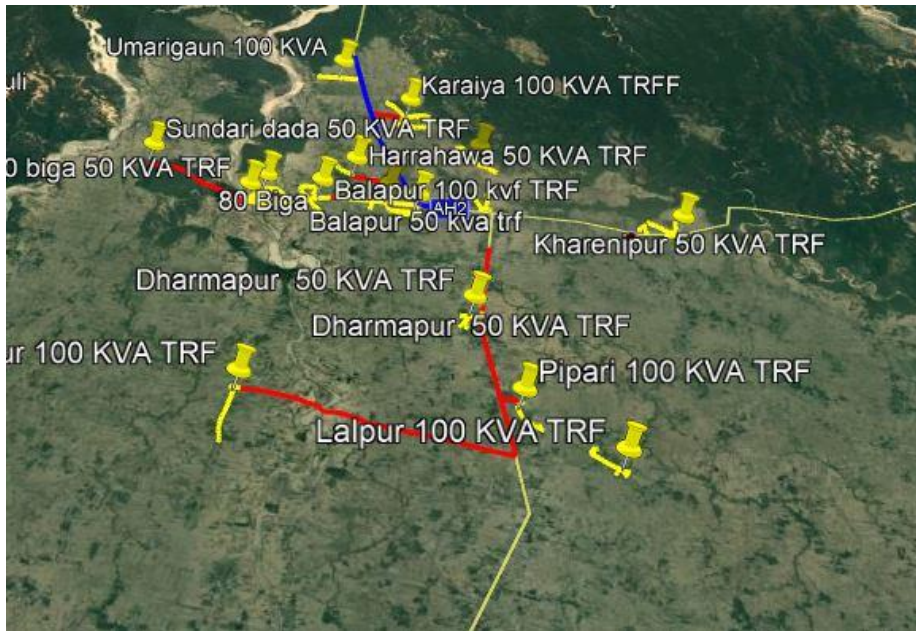
**Annex 1: List of people consulted/key informants name/photographs**

<b>Chairperson of CFUG</b>	<b>Name of Forest</b>
Piigal Tharu	Surpani Community Forest User Groups
Ram Naresa Tharu	Aadasha Community Forest User Groups
Eklamani Bhattarai	Jaya Mahalaxmi Community Forest User Groups
Indra Mani Paudel	Jana Mukhi Community Forest User Groups

**Annex 2: Google map showing the alignment**



**Map of Goringinghe, Kapilvastu.**



**Map of Krishnagar , Kapilvastu**

### Annex 3: Sample Checklist

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

**Project: Grid Solar and Energy efficiency Project (GSEEP) Comp-4( Gulmi, Arghakhanchi, and Kapilvastu)**

- A. District.....**Kapilvastu, (Taulihawa)**.....
- B. Name of Sites (Specify the stretch and length  
km):**Baraiya to Jayanagar (13.66HT 11kV)**
- C. Total number of poles to be erected...**261 (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 the poles are along road side.
D2.	Does the distribution route as well as locations of poles (supports) and transformers cross diagonally playground/ common property?	NO	-	All the poles are along road side
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 along road side
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	-	Area being fully hilly but solid land. 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 the minimum clearance.
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	
7.	Other if any			

**E. Mitigation measures:**

	Particulars	Mitigation measures	Responsibility	Remarks
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	NA		New Line

	manage to those replaced one			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 to avoid tree felling



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

Ratna Park, Kathmandu, Nepal  
Tel. No.: -01-4153153  
Fax: -1-4153146  
e-mail: dmd\_dcs@nea.org.np

Ref. No.: - 74, 076/077

Date: 23<sup>rd</sup> Aug, 2019

To,  
World Bank Office  
Yak and Yeti Hotel, Kathmandu

Ref: Contract No.: GSEEP/W/ICB-04, Design, Supply, Installation/Erection, Testing and Commissioning of  
11/0.4 kV Distribution System

Subject: Avoiding tree felling along the 11 kV Line

Dear Sir,

During the Environmental and Social Screening process, we have discussed environmental and social aspects of 11kV Distribution Lines (DLs). Planning and Design of the 11kV DLs have been revisited in recognition 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 11kV DLs and the poles of the DLs will be adjusted to avoid the need of tree felling. Trimming of branches of trees, if needed, will be done in consultations and coordination with the respective forest authority and community forests groups. This will be strictly enforced. The bimonthly compliance monitoring report will be shared with the World Bank.

Thank You

Sincerely Yours

Pyaru Rana  
Project Chief,  
Nepal Electricity Authority,  
Grid Solar and Energy Efficiency Project,  
Distribution and Consumer Services Directorate,  
Durbar Marg, Kathmandu Nepal

CC : Project Coordinator, GSEEP, DCSD, NEA