ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

SRINAGAR - MANGRI ELECTRICITY DISTRIBUTION LINE SUBPROJECT SUBSTATION (33/11 kV) AND DISTRIBUTION LINE (33 kV)

BSTATION (33/11 KV) AND DISTRIBUTION LINE (33 KV

MUGU DISTRICT, KARNALI PROVINCE

NEPAL ELECTRICITY AUTHORITY

DISTRIBUTION AND CONSUMER SERVICE DIRECTORATE

DISTRIBUTION SYSTEM UPGRADE AND EXPANSION PROJECT (DSUEP)

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ABBREVIATIONS

ACSR Aluminum Conductor Steel Reinforced

AIIB Asian Infrastructure and Investment Bank

BES Brief Environment Study

COVID-19 Corona Virus Disease

CDP Community Development Program

CPA Core Project Area

DCSD Distribution and Consumer Services Directorate

DHM Department of Hydrology and Meteorology

DL Distribution Line

DSUEP Distribution System Upgrade and Expansion Project

EHS Environment, Health and Safety

EIA Environmental Impact Assessment

EPA Environment Protection Act

EPR Environment Protection Regulation

EMF Electromagnetic Field

ESP Environmental and Social Policy

ESMF Environmental and Social Management Framework

ESMP Environmental and Social Management Plan

ESP Environmental and Social Policy

ESSs Environmental and Social Standards

GHG Green House Gas

GIS Geographic Information System

GoN Government of Nepal

GRM Grievance Redress Mechanism

IEE Initial Environmental Examination

IP Indigenous People

IUCN International Union for Conservation of Nature

IUSGS International Union of Geological Sciences

LPG Liquid Petroleum Gas

MDB Multilateral Development Bank

MoEWRI Ministry of Energy, Water Resources and Irrigation

MHT Main Himalayan Thrust

NEA Nepal Electricity Authority

PPE Personal protective equipment

RM Rural Municipality

RoW Right of Way

SPA Surrounding Project Area

SPM Suspended Particulate Matter

SWM Solid Waste Management

US EPA United States, Environment Protection Agency

USGS United States Geological Survey

VC Vulnerable Community

Unit

% Percent/ Percentage

CO₂ Carbon dioxide

dB Decibel

g Gram

ha Hectare

HHs Households

Kg Kilogram

km Kilometer

kV Kilovolt

kWh Kilo Watt Hour

ltr Liter

LV Low Voltage

m Meter

masl Meter Above Sea Level

mm Millimeter

MVA Mega Volt Ampere

MW Megawatt

NRs. Nepalese Rupees

°C Degree Centigrade

sq.m. Square Meter

EXECUTIVE SUMMARY

Description of Project: Nepal Electricity Authority (NEA) under Ministry of Energy, Water Resources and Irrigation is responsible for the implementation of the Distribution System Upgrade and Expansion Project (DSUEP). DSUEP will enhance the distribution system to improve the reliability and quality of electric supply in Karnali Province, Lumbini Province and Sudurpashchim Province. The proposed **Srinagar-Mangri Electricity Distribution Line Subproject** is located within Chhayanath Rara Municipality, Ward No. 1, 2, 4, 11 & 12 and Mugum Karmarong Rural Municipality (RM), Ward No. 8 & 9 of Mugu District in Karnali Province. The Subproject requires 0.53 ha of land (Government Land) and managed by Thensingh Gyalbo CFUG for the construction of the substation. The 33 kV distribution line of 20.3 km passes along the Right of Way (RoW) of the access road, edge of community forest and private land with installation of poles at the edge of the farm and barren land. The proposed subproject is financed with a loan by Asian Infrastructure Investment Bank (AIIB).

Description of Environment

Physical Environment: The proposed Subproject area lies in Himalayan zone of Nepal. The substation lies in the Latitude 29.589 N, Longitude 82.294 E and elevation, of 2372.9 masl. The climate of the Subproject area is lower temperate. The temperature at the project valley varied from -11°C to 10°C. The average annual rainfall is estimated at approximately 34.5 mm per year. The air quality and noise level of the SPA was found within the range of the National Ambient Air Quality Standard and Noise Quality Standard, respectively. The 33 kV distribution line crosses the Chhaina Khola, Ghata Khola, Salim Khola, Lumsa Khola and Mugu Karnali River and there is no any source of water body nearby the proposed substation area.

Biological Environment: The proposed Subproject distribution line of passes along Dasaiya Community Forest (CF), Bhadali CF, Chuketi Belkati CF, Hariyali Bisepani CF, Chulle CF, Balu Kuna Naure Pakha CF, Thensingh Gyalbo CF and National Forest. The proposed substation lies in the area of Thensingh Gyalbo CF. The floral species recorded during the field visit are Chir Pine (Pinus roxburghii), Angeri (Lyonia ovalifolia), Gobre Salla (Pinus wallichiana), Rhododendron (Rhododendron arboreum) and Utis (Alnus nepalensis). Similarly, wild animal recorded during the public consultation as well as direct and indirect sighting are Golden Jackel (Canis aureus), Asiatic Black Bear (Ursus thibetanus), Northern Red Muntjac (Muntiacus vaginalis), Large-eared Pika (Ochotona macrotis), Himalayan Goral (Naemorhedus goral), Common Leopard (Panthera pardus), Rhesus Monkey (Macaca mulatta), and Wild Boar (Sus scrofa). Altogether ten species of birds were noted around the surrounding project area House Crow (Corvus splendens), Western Spotted Dove (Spilopelia suratensis), Slaty-headed Parakeet (Himalayapsitta himalayana), House Sparrow (Passer domesticus), Tree Sparrow (Passer montanus), Himalayan Monal (Lophophorus impejanus), Rock Dove (Columba livia), Chukar Partridge (Alectoris chukar), Cheer Pheasant (Catreus wallichii) and Common Myna (Acridotheres tristis).

The proposed Srinagar-Mangri 33 kV distribution line passes through the 7 different community forests and national forest as shown in **Table 3-3**. A total of 5.356 ha of the forest area will be occupied by RoW of proposed 33 kV distribution line and substation area. The estimated number of trees to be cleared from the Core Project Area of the distribution line alignment passes along different community forests is 1514 and 56 trees at proposed land for substation.

Socio-Economic Environment: The major ethnic compositions within the surrounding project area i.e., Ward No. 1, 2, 4, 11 & 12 of Chhayanath Rara Municipality and Ward No. 8 & 9 of Mugum Karmarong RM, are Chhetri is 50.98%, Bhramin is 0.98%, Tamang is 15.85%, Thakuri is 9.45%, Dalit is 20.91% and Newar is 0.53% of the total population of 8,546. The implementation of the Subproject will increase the electricity beneficiaries to 1,964 HHs, 25 commercial purposes and 10 industries. Gamgadhi Bazaar is the nearest business markets nearby the Subproject area. The transportation facilities in this local level seem to be satisfactory. Tap/piped water is the main source of drinking water in the surrounding Subproject area. People of the Subproject have access to communication facilities mainly through mobile telephone services. The nearest and easily accessible equipped health facility to the proposed Subproject is in Gamgadhi Bazaar i.e., Mugu District Hospital located at 4000 m distance from tapping point. The main occupation of people in the area is agro base with nearly 70% contribution followed by small trade and business/enterprises and services.

Potential Impacts and Mitigation Measures: Civil works will be involved with temporary impacts on air, noise and water quality and occupational and community health and safety; particularly related to working with electricity and in the context of the COVID-19 pandemic. Long-term impacts, although insubstantial, during operation and maintenance include occupational and community health and safety risks related to the presence of electricity infrastructure. The potential environmental issues and mitigation measures identified in screening and the preparation of the ESMP report will be addressed during the compliance monitoring carried out by the safeguard team. The land requirements for the substation and the pole erection there will be no any issues. Since the proposed the substation land is government land and for the distribution line people have suggested to install poles at the edge of farm-lands, without affecting any private structures along the distribution line. The implementation of the proposed Subproject needs 5.356 ha of forest area with estimated loss of 1,514 trees in distribution line alignment and 56 trees at proposed land for substation. The total enumeration of the loss trees and mitigation cost will be incorporated in the Brief Environmental Study (BES) report. The compensatory plantation will be done as per Forest Regulation (2022) in the ration of 1:10. The ESMP cost estimated for the Subproject is NRs 13,00,000.00 associated with mitigation measures and monitoring activities. NEA Project Implementation Unit has agreed on the estimated cost for the mitigation measures and monitoring activities.

Environmental and Social Management Plan: The ESMP serves as a guide to implement environmental and social mitigation measures and the responsibility of the concerned agencies during the construction and operations of the Subprojects. Monitoring and inspection of the environmental and social activities will be carried out by the Environment and Social Management Unit and the Project Supervision Consultant of PIU. ESMP will be an integral part of the contractor's Bidding document which will be updated by the contactor during the sub-project construction period.

Institutional Arrangements: To ensure full compliance with the ESMP, an institutional arrangement for monitoring and reporting has been proposed. All the resources needed for the implementation of ESMP for the construction and operation phase will be provided by the PIU. Project Supervision Consultant's with Environmental and Social Safeguard Specialist will be responsible for compliance monitoring activities during the construction phase. The

Environment and Social Management Unit of NEA will provide regular updates to the site offices regarding the implementation of ESMP. The contractor shall prepare an Environment, Health, and Safety (EHS) plan approved by the PIU before field mobilization. The contractor should mobilize a safety officer at each work site during the construction period.

Public consultation: Public consultations have been conducted in the Subproject area. People in the Subproject area noted that electricity service is poor with frequent interruptions. People have suggested installing poles at the edge of farm-lands, and project components should not affect any houses and structures along the line. The impacts on the crops while stringing lines should be minimized. Prospective electricity consumers and people to be affected are supportive and have recommended quick implementation of the project.

Grievance Redress Mechanism (GRM): A three-tier Grievance Redress Mechanism (GRM) has been established to receive, evaluate, and facilitate the resolution of affected people's concerns, complaints, and grievances about the social and environmental issues at Subproject level. In each Subproject, two levels i.e., Tier-I and Tier-II of the Grievance Redress Mechanism have been established. During the ESMP study period, NEA has disseminated letters to the local level stakeholders regarding the formation of the GRM at the Subproject level.

Conclusion: The environmental impacts envisaged from the implementation of the proposed Subproject are site-specific, short-term, temporary and reversible in nature. The Subproject will provide significant benefits to people and the economy by providing the a reliable and improved electricity supply. The implementation of the proposed Subproject needs 5.356 ha of forest area with estimated loss of 1,514 trees in distribution line alignment and 56 trees at proposed land for substation. The total enumeration of the loss trees and mitigation cost will be incorporated in the Brief Environmental Study (BES) report. This ESMP is considered sufficient to mitigate the environmental and social issues identified for the Subproject and will be updated during the Subproject construction stage.

1. INTRODUCTION

1.1 Project Background

The proposed Distribution System Upgrade and Expansion Project (DSUEP) will enhance the distribution system to improve the reliability and quality of electric supply in the Karnali Province. The project aims improvement in voltage level and reduction in power loss which in turn will improve Nepal Electricity Authority's (NEA) financial health, improve electricity supply reliability, and reduce dependence on petroleum-fueled accessories. The government of Nepal (GoN) has envisaged DSUEP to extend the reach of 33 kV and 11 kV distribution lines "to achieve affordable electricity fulfilling the demands at the local levels for all the households by 2022". Asian Infrastructure Investment Bank (AIIB) is financing a loan to upgrade existing and build new distribution systems in Lumbini Province, Karnali Province and Sudurpashchim Province of Nepal. This ESMP is prepared for Srinagar - Mangri Electricity Distribution Line Subproject of DSUEP.

This Subproject has three major components:

Component 1: construction, extension and augmentation of distribution lines and substations, especially 33 kV lines and 33/11 kV substations.

Component 2: construction of 11 kV lines, distribution transformers, and Low Voltage (LV) lines for new power distribution facilities.

Component 3: Capacity Building, Project Implementation Support, and Technical Assistance.

1.2 Scope of Study

This study ensures that the project meets the requirements of Nepal Government's Environmental Regulations, and Environmental and Social Policy (ESP) & Environmental and Social Standards (ESSs) of AIIB. This report provides the measures for environmental and social management, monitoring, and reporting of the project.

1.3 Objective of ESMP

The Environment and Social Management Plan aims to sets out the measures required to maximize the benefits of the project; and to avoid, minimize and mitigate any adverse environmental and social impacts caused by the project. The objectives of this ESMP are to:

- Describe the existing natural and socio-economical resources in and surrounding Subproject area;
- Based on existing environmental conditions, identify and assess potential significant impacts during project preconstruction, construction, and operation & maintenance stages;
- Identify and recommend mitigation measures to minimize any potential impacts caused by Subproject activities;
- Identify the local concerns on environmental and social issues and address them;
- Develop environmental management plan and monitoring plan including cost;

 Recommend institutional arrangement, including capacity building to ensure proper environmental and social safeguards implementation during construction and operation phases.

1.4 Legal Provision for the ESMP

According to the E & S safeguard Screening report, safeguard risks/issues identified as Category III (ESMF) which trigger for the preparation of ESMP to execute the Subproject. This Subproject has minimal or no adverse environmental and social impact; does not physically displace any family; and does not result in economic displacement of more than 10% of productive assets for any family.

Pertaining to Section 3 (1), Environment Protection Act (EPA), 2019 describes completing Environmental Studies as per Schedule 1 or 2, or 3 under Environment Protection Regulation (EPR) 2020 (First Amendment in 2021/05/24 on Nepal Gazette), detailed environmental studies Brief Environmental Study (BES), or Initial Environmental Examination (IEE), or Environmental Impact Assessment (EIA) is required. For this Subproject, pertaining to Section 3(1), EPA (2019) describes to complete Environmental Studies as per Schedule 1(Cha) Energy, water resources and irrigation sector (1) under EPR (2020) state "use of forest area for the electricity distribution line project up to 66 KV". The proposed Subproject will intercept the Subproject will use the Dasaiya Community Forest (CF), Bhadali CF, Chuketi Belkati CF, Hariyali Bisepani CF, Chulle CF, Balu Kuna Naure Pakha CF, Thensingh Gyalbo CF and National Forest. Thus, as per EPR (2020), a BES is mandatory for the proposed Subproject.

1.5 Methodology for the ESMP

The methodology that was followed while conducting the ESMP study is as follows:

- i. Literature Review: Published literature of government institutions and international organizations were reviewed to collect information on project surroundings. The Municipality/RM and its Ward profiles are used to collect the socio-economic baseline information of the Subproject. National policies, legislative frameworks and Multilateral Development Bank (MDB) policies were reviewed to understand the priorities and any legally binding requirements were studied that should be complied with while implementing the project. The Legislative provisions relevant to the project are listed in **Annex 4**.
- ii. Field Survey and Investigation: Field surveys were conducted to generate information on the physical, biological and socio-economic environment of the project area. The physical environment; air quality data was monitored by Temtop Airing-1000 PM Detector, noise level by UNI-T UT 353 Mini Sound Meter (dB) and water quality by EXTECH ExStik II DO600. Field observation of the core project area and the surrounding vicinity of the project footprint area was applicable for the biological assessment. Trees presence within the Right of Way (RoW) of the proposed distribution line. A total of 5 different sample quadrates were used and trees numbers were estimated by extrapolation within RoW and total enumeration at proposed land for substation. The total enumeration of the trees to be cleared for the

implementation of the Subproject will be estimated during the BES study. The tree clearance approval is made once the Brief Environment Study (BES) is approved from the Ministry of Energy, Water Resources and Irrigation. Priority was given to the consultation with local communities at substation sites and the settlement areas that benefit from the project. Pertaining to Forest Act (2076) and Forest Regulation, (2079), BES report will be prepared and as per Forest Act (2076) Section 42 and Forest Regulation (2079) Rule 87 to 90, NEA/PIU must take approval from Government of Nepal, for the use of forest on the implementation phase. As per Rule 93 (5) and (6), the compensatory ratio for the loss of trees should be made in the ratio of 1:10 and require care, maintenance and upkeep of the planted trees before handover to concerned forest office after 5 years.

- iii. Data Analysis: All potential Subproject impacts on physical, biological, socioeconomic and cultural resources were integrated and assessed using best practice of
 Multilateral Development Banks, and also complied with national requirements. The
 Geographic Information System and SW Maps were used for the field assessment
 and analysis of the CPA and SPS data and presentation of the maps in the ESMP
 report. The project foot print Ward and Municipality/RM are considered for the
 collection of socio-economic and baseline information.
- iv. Impact Evaluation: Significance of impacts are evaluated on the basis of reversibility, nature, magnitude, extent and duration of the impact. Identification of magnitude, extent and duration is as provided in the National EIA Guidelines, 1993 of Nepal. While evaluating the impacts and prescribing mitigation, maximum efforts were made to get expert opinion and input from the DSUEP's technical and safeguard consultant team.
- v. Public Consultation: As per the Government of Nepal EPA and the AIIB Environmental and Social Policy (ESP), pre-notifications with the subject of consultation, venue, and time were given at Subproject foot-print area, local level and affected Ward office in presence of the concerned local stakeholders. Consultations were conducted in the Subproject area, at substations and the distribution line system settlement areas with local stakeholders.
- vi. Report Format: The ESMP report is prepared as per the Environmental and Social Policy (ESP) of the AIIB, which contains an executive summary, a main report, and annexes as appropriate, including one on the nature and findings of consultations undertaken. All the comments and suggestions from the field consultation are mentioned in the ESMP report.

1.6 Classification of Impact Area

The National EIA Guidelines (GoN, 2050) have mentioned on the "Core Project Area", and "Surrounding Project Area" based on the proximity and magnitude of the impacts due to the construction and operation of the proposed project.

Core Project Area (CPA) refers to the temporary and permanent area for the proposed project construction and associated activities. It is the area where direct impacts can be

seen. For the **Srinagar-Mangri Electricity Distribution Line Subproject**, the proposed substation area with 0.53 ha and the 33 kV distribution line with 20.3 km length is considered as CPA. The Subproject components are located within the Ward No. 1, 2, 4, 11 & 12 of Chhayanath Rara Municipality and Ward No. 8 & 9 of Mugum Karmarong RM of Mugu district. The major settlements in the Subproject area are Chhatyalbada, Roba, Lumsa, Chhayal Chaur, Mangri, and Ghat. The distribution line stringing route passes along the edge of cultivated land (0+050 to 0+700, 1+500 to 3+610, 4+000 to 5+620, 5+700 to 6+420, 7+780 to 8+100, 10+800 to 11+330, 17+330 to 17+600), along the public land (0+840 to 1+500, 3+775 to 4+000, 11+330 to 12+000) and along the forest area (5+620 to 5+700, 6+420 to 7+780, 8+100 to 10+000, 10+000 to 10+800 12+300 to 17+000, 17+000 to 17+300, 17+600 to 19+500, 19+500 to 20+500).

Surrounding Project Area (SPA) is the immediate vicinity of the footprint location of the proposed Subproject site. SPA is the moderate and indirect impact area. For this Subproject the 33 kV distribution line will be located within the Ward No. 1, 2, 4, 11 & 12 of Chhayanath Rara Municipality and Ward No. 8 & 9 of Mugum Karmarong RM of Mugu being considered as SPA. The SPA will have impact on the beneficiary's area of 11 kV lines and Low Tension (LT) lines service. The impact area showing the CPA and SPA area is presented in the google map **Figure 1-1**.

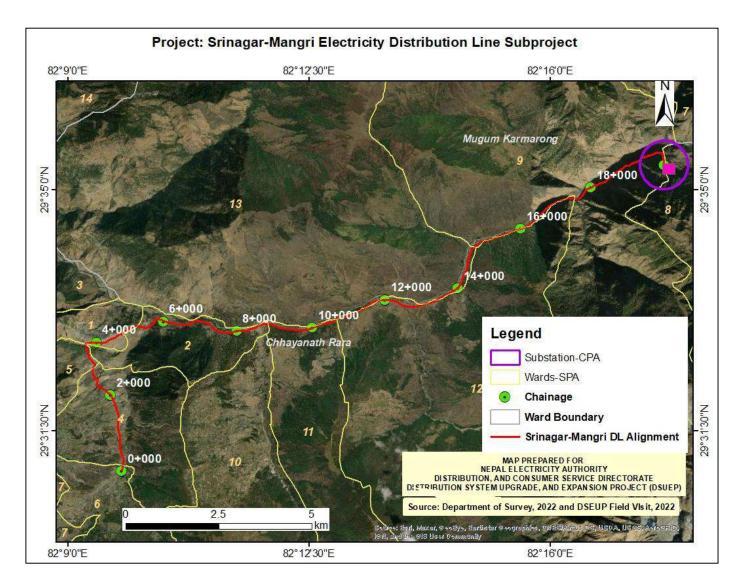


Figure 1-1: Core Project Area (CPA) and the Surrounding Project Area (SPA) Wards of the Srinagar-Mangri DL Subproject

2. DESCRIPTION OF THE SUBPROJECT

2.1 Subproject Location and Accessibility

The proposed **Srinagar-Mangri Electricity Distribution Line Subproject** is located within Chhayanath Rara Municipality, Ward No. 1, 2, 4, 11 & 12 and Mugum Karmarong RM, Ward No. 8 & 9 of Mugu district in Karnali Province. The tapping point of 33 kV line lies in Gamgadhi Substation at Balai, Chhayanath Rara -4, Mugu. The proposed distribution line (33 kV) runs through Dasaiya Community Forest (CF), Bhadali CF, Chuketi Belkati CF, Hariyali Bisepani CF, Chulle CF, Balu Kuna Naure Pakha CF, Thensingh Gyalbo CF and National Forest land along with public and private land till the proposed substation location. The proposed distribution line (33 kV) is 20.3 km in length. There is the accessibility of road transport within the proposed Subproject Ward area. The Subproject location and the accessibility are presented in the map below **Figure 2-1.** The main features of the Subproject are presented in **Table 2-1**.

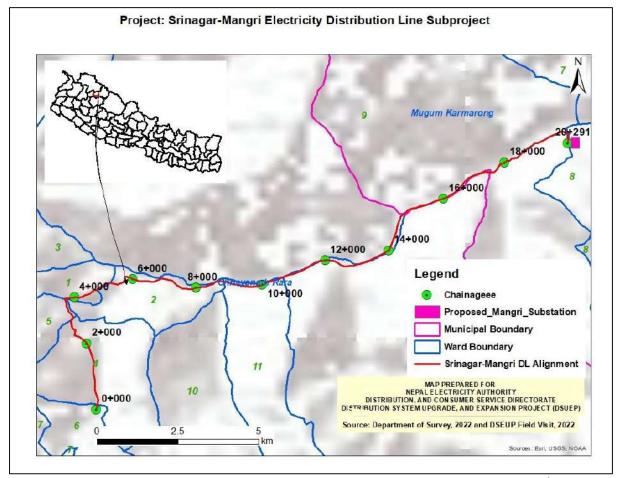


Figure 2-1: Location and Accessibility Map of Srinagar-Mangri Subproject¹

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¹ Source: Department of Survey, 1995 and Field Study 2022

Table 2-1: Technical Description of the proposed Subproject

Features	Attributes
Client	Nepal Electricity Authority
Sub-Project	Srinagar-Mangri Electricity Distribution Line Project
Funding Agency	Asian Infrastructure Investment Bank
Project Location	Chhyanath Rara Municipality and Karmorang Rural Municipality of Mugu District in Karnali Province
Distribution Line	
Starting Point	Gamghadi Substation, Chhyanath Rara, Mugu
End Point	Mangri Substation (Proposed) at Mugum Karmorang, Mugu
System Voltage	33 kV
Length of Line	20.3 km
Right of Way	6 m
Number of Circuit	1
Conductor	ACSR Dog
Type of Pole	Steel Tubular Pole, 11 m
Number of Pole	508
Average Span of Pole	40 m
Insulator	Procelin Disc and Pin Insulator
Line Capacity/Thermal Limit	13.4 MW (Dog) at 0.9 power factor
Substation	
Substation Location	Mangri, Mugum Karmorang RM, Mugu District
Voltage Level	33/11 kV
Substation Capacity	3 MVA
Number of	1 no., 3 MVA
Transformers	
Type of Transformer	3 Phase, ONAN/ONAF, Mineral Oil
Number of 33 kV Line Bays	1
Number of 11 kV Feeders	2
Area of Substation	0.53 ha

2.2 Subproject Components

The major components of the Subproject are the 33/11 kV substation and 33 kV distribution line (DL). The 33 kV DL is tapped from an existing 33 kV network line and acts as a source feeding to the proposed 33/11 kV substation. 11 kV distribution feeders emerge from the substation, eventually supplying the electricity to the consumers. The structures of the Subprojects are briefly described below.

2.2.1 33 kV Distribution Line (DL)

The 33 kV DL serves as the pathway for feeding electricity to the proposed substation. Aluminum Conductor Steel Reinforced (ACSR) type conductors are stringed on Steel

Tubular Pole from the starting point of the line. In general, the 33 kV lines comprises of the Steel Tubular Poles, Insulators, Conductors and Supporting Stays.

Steel Tubular Poles: Steel tubular poles will be installed in this Subproject. 11 m and 13 m long poles shall be used depending upon the location of the poles and the number of circuits used in the line. The poles to be erected will be supported by stays wherever necessary. Insulators will be installed at cross arms to support the conductor from the poles. The length of the proposed 33 kV distribution line is 20.3 km and the total number of steel tubular poles to be erected is estimated as 508.

Insulators: The insulators provide insulation to the poles from the high voltage in the conductors. Pin-type insulators will be employed for suspension poles whereas disc types will be employed for tension poles. Porcelain-type insulators will be used owing to their dielectric strength, better compressive strength, higher resistance to degradation, suitability for extreme climate, and environment friendly characteristics over its counterparts.

Conductor: ACSR Conductor – Aluminum Conductors Steel Reinforced, conductors with stranded layers of aluminum and steel will be used for 33 kV lines. Aluminum strands carry the current whereas the steel in between provides the mechanical strength for the conductor. Typically, 100 sq. mm conductors are used in 33 kV line for this Subproject which is also known as ACSR DOG conductor.

Stay/Guy Sets: Stay Wires are used to support or provide the balancing tension to the poles. These are made up of steel materials and can be used in multiples for a single pole, depending upon the requirements.

2.2.2 Substation

The proposed substation 33/11 kV is of capacity 3 MVA. The substation plays the role of lowering the 33 kV voltage level to 11 kV, which will then be strung as a distribution feeder to supply the consumers. The major component of the substation is the power transformer, which is supported by the switchgear components and Civil Structures. The facility and components sample pictures are shown in **Annex 3**.

Transformers: Transformer is the major component of the distribution substation. It transforms power from higher voltage to lower voltage for distribution purpose. Power Transformers are used for the 33/11 kV substations. These transformers are mineral oil based with ONAN/ONAF (Oil Natural Air Natural/Oil Natural Air Forced) cooling mechanisms. In existing practice, the transformers used for 33/11 kV substations in Nepal are typical of 1 MVA, 3 MVA, 8 MVA and 16 MVA depending upon the load supplied by the substation. This Subproject comprises of power transformer of 3 MVA ONAF type.

Electrical Switchgear: Electrical Equipment comprising of Circuit Breaker, Earth Switch, Current Transformer, Potential Transformers, etc. installed in the substation is called Electric Switchgear. They facilitate the objective of power conversion.

Civil Structures: A control building is essential for the operation of the substation. It houses the operating station, along with battery systems. Guard House and Staff Quarter are other essential buildings for the smooth operation of the substation.

Switchyard, Boundary, Roads, Drainage and Essentials: The outdoor civil structure in the proposed substation includes the boundary wall, main entrance gates and Switchyard. The power transformer and components of the power system are laid in the switchyard based on prudent engineering practice. Steel structures are used to support the components as per component-wise requirements. Roads are paved within the boundary as essential for the transport of power transformers and other components. The substation location also serves as a site store for the storage of distribution system components.

2.2.3 11 kV Lines and LT Lines

11 kV lines and LT lines take the access of electricity to the consumer households. It is why the construction of those lines is always encouraged by the local people. The line route, thus the installation of poles and lines, is envisaged to go through the edge of local roads. If any line route passes through any private lands, permission from the corresponding land owner will be taken before the construction of those lines.

The detailed line route survey for 11 kV and LT lines has not been done yet. A separate screening will be prepared for 11kV lines. The scope of detailed survey is in the scope of the construction Contractor. The construction Contractor will conduct Pre-Construction Survey (PCS) to finalize the line route of 11 kV lines and LT lines for the construction. PCS will prepare the detailed line route of those lines and submit it to PIU for approval. After the detailed line route is submitted by the Contractor and approved by PIU, the E&S team of the Project Supervision Consultant (PSC) will conduct an E&S study and submit the findings that

- Do the lines pose any adverse Environmental or Social issues?
- If there are any Environmental or Social issues, how can they be resolved? If the lines do not pose any adverse Environmental or Social issues, the lines will be cleared by PIU after seeking concurrence from AIIB.
- If the solution measures are not implementable in the field, PCS will suggest any other way to divert or reroute the lines If yes, PCS will propose an alternative line route. The lines will be cleared by PIU after seeking concurrence from AIIB, given that the lines do not pose any adverse Environmental or Social issues.

2.3 Major Construction Activities in the Subproject

Activities in the Subproject area can be sub-divided into three categories viz, Pre-Construction Phase, Construction Phase and Operation Phase. For the proposed Subproject, trees and bushes in the RoW of 33 kV lines have to be cleared whereas, while 56 trees of *Pinus wallichiana* within the proposed substation boundary have to cleared for the construction work. The proposed Srinagar-Mangri Line Subproject intercepts forest area of 5.35 ha. The estimated loss of trees species in the RoW of 33 kV lines are 1,514 and 56 trees at proposed land for substation.

- I. **Preconstruction phase**: The activities to be carried out before the construction phase are:
 - Demarcation of land area for the proposed substation
 - Receive public opinion
 - Make clearance of the substation land area permanently
 - Cutting down the trees in Substation Land
 - Distribution line route selection
 - Approval to cut down trees from the concerned government authorities
- II. **Construction phase**: The activities to be carried out during the construction phase are:
 - Assign the land area for the temporary storage of construction materials
 - Transportation of construction materials
 - Leveling of land area for the proposed substation
 - Cutting down of trees in RoW of 33 kV lines
 - Construction of substation structures
 - Pole erection work for 33 kV, 11 kV and LT distribution lines
 - Stringing of 33 kV, 11 kV and LT distribution line
- III. **Operation phase**: The activities to be carried out during the operation phase are:
 - Maintenance of the substation and 33 kV distribution line route

2.4 Energy to be used

During the construction period, diesel fuel will be used to power construction equipment and transport vehicles, which emit air pollutants and greenhouse gases in insignificant quantities. Use of firewood is restricted in the labor camp, whereas the Contractor shall supply LPG for cooking foods to the workers.

2.5 Land Required

The Srinagar-Mangri Electricity Distribution Line Subproject will require about 0.53 ha of land for building the proposed substation. The land is government land and managed by Thensingh Gyalbo CF and by NEA to construct the substation in the designated area. The 33 kV distribution line of 20.3 km length pass from private farm lands, public land, national forest and community forest. Poles shall be installed at the edge of private farm land which will not affect the usability and valuation of the lands.

2.6 Material Requirement and Sources

A 33/11 kV substation, 33 kV, 11 kV and low-tension distribution lines will be constructed for this Subproject. Minimal excavation at the pole locations will be done to erect steel tubular poles of 11 m and 13 m. The depth of burial for 11 m (approximately 256 kg) and 13 m (approximately 343 kg) poles are 1.8 m and 2.17 m respectively. The construction works for the substation will not produce a significant amount of spoils and thus it will not require a spoil-dumping site. Similarly, excavation works carried out for digging pit holes for poles produces insignificant spoils which do not require the management of earthworks.

Civil construction works will involve excavation for the foundation of the substation, steel reinforcement, cement, coarse aggregates, and fine aggregates (sand). Materials will be procured from legally operating local markets. Following estimated volume of construction materials are required for the proposed 33 kV distribution line and the substation.

Table 2-2: Approximate Quantity of Material for 33 kV line

SN	Particular	Unit	Requirement
1	Amount of Steel	Ton/km	5800
2	M15 concrete for Pole base	Cum/km	12.5

Source: Design Report, DSUEP

Table 2-3: Approximate Quantity of Material for 33/11 kV Substation

SN	Particular	Unit	Support Structures, Road, Drainage	Control Building	Staff Quarter	Office Building	Guard House
1	M15 Concrete	Cum	100	25	224	120	5
2	M25 Concrete	Cum	300	170	125	75	27
3	Reinforcement bar	Ton	7	27	20	12	4

Source: Design Report, DSUEP

2.7 Major Equipment and Power Requirements

Major types of equipment used during the Project implementation are:

One Excavator, One Roller, One Drilling Machine, One Crane, one Grid Supply of 100 kVA Distribution Transformer, and two 50 kVA capacity diesel generators.

2.8 Workforce Requirement

Local people in the surrounding Subproject area will be encouraged for the employment. Based on the skills (skilled, semi-skilled and unskilled labor), local people will be used for the construction in such a way that both males and females will get an equal opportunities during construction. The number of human resources required depends upon the complexity of the project as well as the geographical location of the project. In case of construction of 33 kV lines and 33/11 kV substations, the workforce typically varies from terai to hilly to the mountain region. The expected number of manpower employed is enlisted hereunder.

Table 2-4: Human Resource Required for construction of 33 kV line and substation in a day of Construction

SN	Human Resource/Day	For Distribution Line	For Substation
1	Engineer (No.)	1	2
2	Supervisor (No.)	2	4
3	Foreman (No.)	3	5
4	Skilled (Lineman/Electrician) (No.)	8	10
5	Helper (No.)	5	15
6	Labour (No.)	20	30

Source: Design Report, DSUEP

2.9 Construction and Implementation Schedule

Implementation of the proposed Subproject comprises the construction of a new 33/11 kV substation, 33 kV lines, 11 kV lines, LT lines, and installation of distribution transformers. It includes the construction and installation of components as mentioned in subsection 2.2. The estimated completion period is 24 Months.

 Table 2-5:
 Construction Schedule of Project Implementation

SN	Activities/ Months	Months (After the completion of Detailed Survey Study)						
314	Activities/ Months		4-6	7-10	11-15	16-20	20-24	
1.	Invitation for tender, evaluation, and award							
2.	Implementation of Environmental							
	and Social Safeguards							
3.	Erection of Poles							
4.	Stringing of conductor							
5.	Construction of substation							
6.	Charging and Testing							

Source: Design Report, DSUEP

3. DESCRIPTION OF THE ENVIRONMENT

3.1 Physical Environment

3.1.1 Topography and Land Use

The Subproject area lies in Ward No. 1, 2, 4, 11 & 12 of Chhayanath Rara Municipality and Ward No. 8 & 9 of Mugum Karmarong RM of Mugu district in Karnali Province. The tapping point is situated at Latitude 29.5153 N and Longitude 82.1632 E, with an elevation of 2055.2 masl (**Figure 3-1**). The proposed distribution line (33 kV) of 20.3 km passes along community forest, national forest, edge of private farm lands and public land.

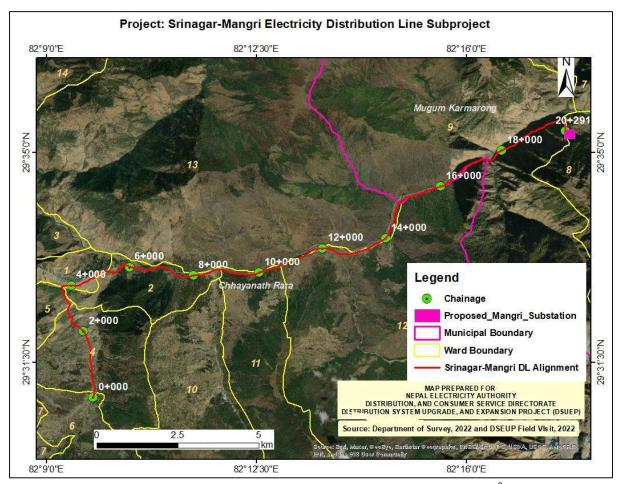


Figure 3-1: Location map and Land use details of the Subproject²

The substation lies at Latitude 29.5892 N, Longitude 82.2943 E and elevation of 2372.9 masl (**Figure 3-3**). The site is primarily within the flat land with little depressed. It is covered by vegetation which is owned by GoN and managed by Thensingh Gyalbo Community Forest User Group. The proposed substation boundary lies within a 0.53 ha area. None of the private and public entities will be affected due to the implementation of the proposed Subproject, as it will be installed within the edges of the private farms land, public land,

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² Source: Topographic Map, Department of Survey, 1995 and Field Study 2022

national forest and community forest. The land use map details with the components of the Subprojects are presented in **Annex 2**.



Figure 3-2: Tapping point (Chhayanath Rara Municipality Ward No. 4)

Figure 3-3: Srinagar-Mangri Substation View

3.1.2 Geology

Geologically the proposed project distribution line lies within the Higher Himalayan Zone of Mid-Western Nepal. Geology is well defined, and consists of a huge pile of highly metamorphosed rocks. It is situated between the fossiliferous sedimentary zone, the Tibetan-Tethys Himalaya in the north, separated by STDS and the Lesser Himalaya, separated by the MCT in the south. Major rock types are Quartzite, Schist and Gneiss. The geological structures like joints, folds and local scale shear zones occasionally encountered along line. At the tapping point, the lithology is composed of quartzite and schists, colluviums deposit and alluvium deposit Then line follows rock exposure of gneiss, schist quartzite's and colluvium soil. Lithology of proposed substation site in Mangri is composed of colluvium soil with sparse rock exposures of Gneiss and Quartzite.

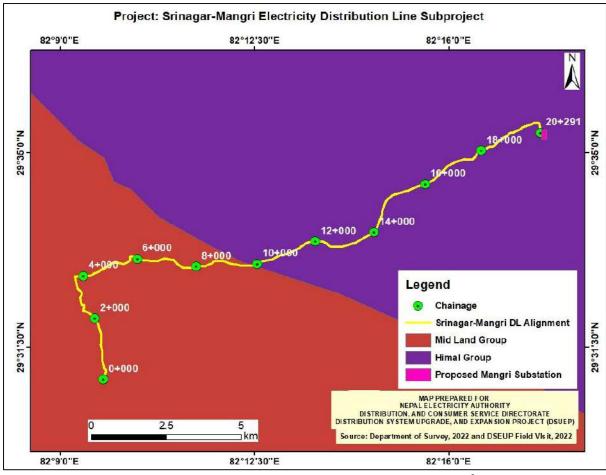


Figure 3-4: Geological Map of proposed Subproject Area³

3.1.3 Seismology

The entire country of Nepal is in a seismically active zone caused by the subduction of Indian tectonic plate under the Tibetan Plate. According to the National Seismological Center of Nepal several big earthquakes have been felt in Nepal, the earthquakes of magnitude 6 to 7 are mostly confined to the Main Himalayan Thrust (MHT) between the foot hills and the Higher Himalaya. Moreover, earthquake generation is confined to the crustal depth of 20 km. However, shallow earthquakes at depths down to 6 km are generated as a result of strikeslip faults. Therefore, the substations and distribution lines of this Subproject will be designed and operated per seismic design requirements and best engineering practice. The seismic activity in Nepal between 1964 and 2019 as in the IUSGS portal is shown in **Figure 3-5**.

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³ Source: Department of Mines and Geology (DMG), 2020

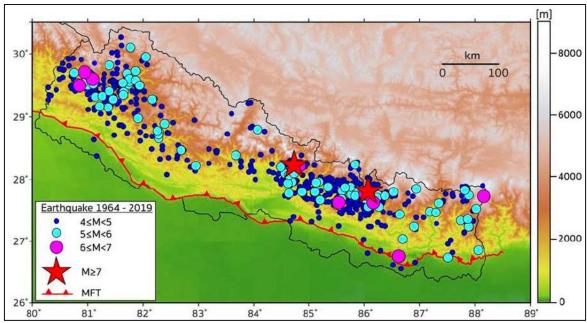


Figure 3-5: Seismicity map of Nepal from 1964 -2019⁴

3.1.4 Climate

The climate of the project area is lower temperate type. Based on record of DHM (2020), the temperature at the project area varied from -11.0°C to 10.0°C with total annual rainfall being 34.5 mm. Almost 80% of rainfall occurs during monsoons (June to September).

3.1.5 Air, Noise, Water Quality and Polluting Sources

The major air polluting sources recorded are only vehicular emission and dust problem from plying of vehicles and high wind velocity. Noise-polluting sources noted at the time of field study are similar to the air polluting sources. Unnecessary honking along the access road of the site is the source of noise generation. The following table shows the real-time quality of air and noise during a field study.

Table 3-1: Ambient Air and Noise Quality within the Proposed Subproject Site

		Air Quality ⁵ -Temtop Airing-1000 PM Detector					Noise Level -UNI-T UT 353		
	Location/			(µg	_J /m ³)		Mini Sound Meter (dB)		
SN	Chainage					Average Time			
	onamago	$PM_{2.5}$	Level	PM_{10}	Level	of	Measured	Ref. ⁶	Area
						Measurement			
1	Tapping	15.7		13.2			23		
'.	Point	13.7	100 13.2 200		200	1-hour	25	50	Residential
2.	Substation	6.9		5.7			20		Area

Source: Field Visit, 2022

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⁴ Source: USGS catalogue, 2019

⁵ National Indoor Air Quality Standard, 2009

⁶ National Ambient Sound Quality Standard, 2012

The air quality and noise level of the SPA were found within the range of the National Ambient Air Quality Standard and Noise Quality Standard, respectively.

The DL also crosses the Mugu Karnali River, along with Chhaina Khola, Ghata Khola, Salim Khola, Lumsa Khola where a strong foundation is needed on both banks. The construction activities of the Subproject components will not have impact to the local stream.

3.1.6 Solid Waste Management

Wastes were found littered in front of HHs and along the side of the access road near the Subproject areas. People in the nearby area were found managing organic wastes within the household premises. Recyclable waste (large quantities) was sold to scrap collector occasionally. The estimated quantity of solid waste generation from the labor camp is shown in **Table 3-2**.

SN	Description	Calculation	Remarks
1.	Total Labors within the Campsite	= 20 Labors	
2.	Total Waste Generation to be Expected	= 20 * 123.62 g/capita/day = 2472.4 g/capita/day = 2.4724 kg/day	
3.	Organic Waste Composition Responsible for Foul Smell, and Rodents	= 1.26 kg/day	Assuming 51% organic waste

Table 3-2: Estimated Daily Solid Waste Generation from Campsite

The rest of the other waste is recyclable, and non-decomposable which could be stored for long period, and have less impact on the environment if properly managed. The amount of organic waste is manageable within the Subproject site as organic waste per day will be expected to be only 1.26 kg/day.

3.2 Biological Environment

The proposed Subproject distribution line passes along Dasaiya Community Forest (CF), Bhadali CF, Chuketi Belkati CF, Hariyali Bisepani CF, Chulle CF, Balu Kuna Naure Pakha CF, Thensingh Gyalbo CF and National Forest. The proposed substation lies in the area of Thensingh Gyalbo CF.

The floral species recorded during the field visit are Chir Pine (*Pinus roxburghii*), Angeri (*Lyonia ovalifolia*), Gobre Salla (*Pinus wallichiana*), Rhododendron (*Rhododendron arboreum*) and Utis (*Alnus nepalensis*). Similarly, wild animal recorded during the public consultation as well as direct and indirect sighting are Golden Jackel (*Canis aureus*), Asiatic Black Bear (*Ursus thibetanus*), Northern Red Muntjac (*Muntiacus vaginalis*), Large-eared Pika (*Ochotona macrotis*), Himalayan Goral (*Naemorhedus goral*), Common Leopard (*Panthera pardus*), Rhesus Monkey (*Macaca mulatta*), and Wild Boar (*Sus scrofa*). Altogether ten species of birds were noted around the surrounding project area House Crow (*Corvus splendens*), Western Spotted Dove (*Spilopelia suratensis*), Slaty-headed Parakeet (*Himalayapsitta himalayana*), House Sparrow (*Passer domesticus*), Tree Sparrow (*Passer montanus*), Himalayan Monal (*Lophophorus impejanus*), Rock Dove (*Columba livia*), Chukar

Partridge (Alectoris chukar), Cheer Pheasant (Catreus wallichii) and Common Myna (Acridotheres tristis).

The proposed Srinagar-Mangri 33 kV distribution line passes through the 7 different community forests and national forest as shown in Table 3 2. A total of 5.356 ha of the forest area will be occupied by RoW of proposed 33 kV distribution line and substation area. The estimated numbers of trees to be cleared from the Core Project Area of the distribution line alignment passes along different community forests are 1,514 and 56 trees at proposed land for substation. The proposed Subproject development site does not lie within any protected area or conservation area.

SN	Name of Forest	Chainage	District	Municipality/RM	Ward
				Chhayanath Rara	
1	Dasaiya CF	5+000-5+400	Mugu	Municipality	1
			Mugu	Chhayanath Rara	
2	Bhadali CF	5+600-5+700		Municipality	1
			Mugu	Chhayanath Rara	
3	Bhadali CF	6+600-8+000		Municipality	1
			Mugu	Chhayanath Rara	
4	Chuketi Belkati CF	8+400-10+000		Municipality	12
			Mugu	Chhayanath Rara	
5	Hariyali Bisepani CF	12+200-17+000		Municipality	12
			Mugu	Chhayanath Rara	
6	National Forest	10+200-11+200		Municipality	12
7	Chulle CF	17+200-17+400	Mugu	Mugum Karmarong RM	9
	Balu Kuna Naure Pakha		Mugu	Mugum Karmarong RM	
8	CF	17+600-19+500			9
9	Thensingh Gyalbo CF	19+500-20+500	Mugu	Mugum Karmarong RM	8

Table 3-3: The community forest along the proposed 33 kV distribution line

3.3 Socio-economic Environment

Demography and Ethnic Compositions: The proposed Subproject area lies in Ward No. 1, 2, 4, 11 and 12 of Chhayanath Rara Municipality and Ward No. 8 and 9 of Mugum Karmarang RM. Gamgadhi Bazaar is the nearest business markets nearby the Subproject area. The general demographic information of the affected Municipality is presented in **Table 3-4**. The major ethnic compositions within the surrounding project area i.e., Ward No. 1, 2, 4, 11 & 12 of Chhayanath Rara Municipality and Ward No. 8 & 9 of Mugum Karmarong RM, are Chhetri (50.98%), Tamang (15.85%), Thakuri (9.45%), Dalit (20.91%), Bhramin (0.98%) and Newar (0.53%) of the total population of 8,546. The majority of people follow the Hinduism and rest follow Buddhism and Christianity. The people from indigenous community are living Core Project Area (CPA) of the Subproject but this subproject will not affect any indigenous people.

Population S.N. **Local Level** Ward No. HH Male **Female** Total 1 1 718 713 1431 280 2 Chhayanath Rara Municipality 2 313 664 654 1318 274 770 4 779 1549

Table 3-4: General Demographic Characteristic of Subproject Municipality

C NI	Lacal Laval	Mand Na		Population		
S.N.	Local Level	Ward No.	rd No. HH		Female	Total
4		11	176	510	498	1008
5		12	269	807	773	1580
7	Mugum Karmarang RM	8	130	342	362	704
	iniugum Kamarang Kivi	9	180	506	450	956
	Total			4,326	4,220	8,546

Source: (CBS, Rural Municipality-Municipality Profile of Mugu District, 2018)

Road Accessibility: Tapping Point along with Wards 1, 2, 4, 11, and 12 of Chhayanath Rara Municipality and Ward 8 and 9 of Mugum Karmarang RM is connected with local road section. The transportation facilities in this locality are good. It will take just 30-45 minutes to reach Municipality/RM office from the Subproject area.

Electricity Beneficiaries: The implementation of the Subproject will increase the electricity beneficiaries to 1964 HHs, 25 commercial purposes, and 10 industries. This will expand the electricity supply in the Subproject area with clean energy sources.

Water and Sanitation: Tap/piped water is the main source of drinking water in the surrounding Subproject area. Besides, the tap and piped water most of the houses of this sub project site are using spout water. Almost all households of this sub project site have toilet facilities.

Health Facility: The nearest and easily accessible equipped health facility nearby the proposed Subproject area is in Gamgadhi Bazaar i.e., Mugu District Hospital located at a distance of 4000 m from tapping point.

Communication: People of the Subproject have access to communication facilities mainly through mobile telephone services. In the Subproject area, people have access to local and national FM Radio networks and local newspaper facilities.

Occupation: Agriculture is the main occupation of people in the Subproject area with nearly 70% contribution; small trade and business/enterprises and services are other occupations of people in the Subproject area. Intermittent tripping and voltage drop of electricity were adversely affecting the irrigation of crops and daily household chores activities.

COVID-19: The coronavirus (COVID-19) pandemic has been defined as a global health crisis; the virus has spread in almost all parts of Nepal. Heedful of its vulnerabilities, the Government of Nepal enforced a nationwide lockdown in 2020/2021 and activated its federal, provincial and local level mechanisms to respond to the crisis. In case of any sudden surge or outbreak of COVID-19, quarantine facilities and immediate health supports should be provided to the workers and personnel involved in construction.

Other seasonal and minor diseases like fever, sneezing, cough, gastritis, diabetes, pneumonia and mental disorder have been reported within the Subproject area.

4. ANTICIPATED ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATION MEASURES

The environmental and social impacts predicted during the construction of the proposed Subproject are discussed in this chapter. National Environmental Impact Assessment Guidelines (GoN, 2050) have been referred for the predicting magnitude, extent, and duration of the project-induced environmental impacts in the Subproject area. This chapter identifies the basic environmental and social impacts in the Subproject area that will arise during the construction. The detailed impacts of each domain of environmental and social safeguards have been addressed in this chapter.

4.1 Anticipated Beneficial Impacts

Construction Phase

4.1.1 Local Employment

Local employment will be created during the construction phase. As mentioned in section 2.8 Workforce Requirement, the typical construction team will have 27 skilled manpower and 78 unskilled manpower for the period of 10-12 months for the erection of poles and stringing the distribution lines and 16-18 months of time for the building the substation. Local people within the SPA and OPA will be encouraged for employment during construction phase. Both males and females will get equal opportunities during the construction. Based on the skill levels (skilled, semi-skilled and unskilled labor) local people will be used for the construction as far as possible. The magnitude of impact is considered moderate, the extent is local, and the duration is short-term.

Operation Phase

4.1.2 Local Economy and Enhancement in Rural Electrification

The local economy will benefit through improved reliability of electricity supply, which is a necessary condition for economic growth. Different industries within/nearby the proposed Subproject area will be established. Intermittent tripping and voltage drop problems nearby the settlement areas will be reduced. Upgrading and expansion of electricity distribution help to way-out many electricity-related issues and promotes the use of new types of home appliances, the use of electric motors for irrigation, and the establishment of small and large industries. The magnitude of impact is considered high, the extent is local, and the duration is long-term.

4.1.3 Greenhouse Gas Emission Balance

Net Green House Gas (GHG) emissions resulting from the Subproject area are expected to be low as the distribution lines will improve and expand the electricity supply from clean energy sources. It will reduce the emission of GHG from traditional source like Guitha (made from cow dung), firewood and timber along with commercial fuel Kerosene for cooking/lighting, heating, and diesel for water pumping. The magnitude of impact is high, the extent is local, and the duration is long-term.

4.2 Anticipated Adverse Impacts

A. Physical Environment

Construction Phase

4.2.1 Change in Land Use

The Subproject requires about 0.53 ha of land for the substation. The proposed substation land area belongs to Thensign Gyalbo Community Forest User Group, i.e., government land. The land will be managed by NEA and will be converted to the substation area surrounded by proper boundary wall. Distribution Line passes through edge of private land, public land, national forest and community. The construction of the Subproject will bring change in land use permanently. Potential impacts caused by distribution lines will be limited to approximately 0.22 m of land for each pole, at the edge of forests, public and cultivated lands. The impacts due to the use of land will be moderate in magnitude, site-specific and long-term in duration.

Mitigation Measures

- Steel Tubular Pole for distribution lines will be planted at the edge of public, national and community forests land. In the case of cultivated land, minimal land will be used at the edge for planting the poles.
- A cropping calendar will be followed while planting poles and stringing conductors so that standing crops will not be damaged.
- In case of loss of standing crops, compensation will be made to the respective land owner as per the prevailing market rate.

4.2.2 Erosion and Landslide

The proposed distribution line crosses the Mugu Karnali River and other small streams and is susceptible to high erosion and landslide from during rainy season. The distribution line length is 20.3 km and about 500 m length passes nearby and crosses to the Mugu Karnali River along with small stream adjoining edge of private land, public land and community forest land up to the proposed substation at Mugum Karmarong - 9, Mangri. The magnitude of impact is moderate, the extent is site-specific, and the duration is long-term.

Mitigation Measures

- Concrete foundation is recommended for Steel tubular pole installation for 33 kV lines.
- Pit hole prepared for the installation of steel tubular pole shall not be left open as possibility of accident may arise.
- Protection works along the eroded section of the Mugu Karnali River and small stream at 500 m of the distribution line stretch.
- The client needs to coordinate with local level governments and request the local government to give priority for the embankment activities for the protection of cultivated land and proposed 33 kV distribution lines.

4.2.3 Air Quality

The impact on air quality during the construction period is expected to be insignificant, as site clearance, excavation, stockpiling of construction materials, waste burning at camp

sites and equipment installation are localized and short-term. Transportation of the materials and movement of construction crew and equipment will have minor impact on air quality. The impact on air quality will be minor in magnitude, site-specific in terms of extent, and of short duration.

Mitigation Measures

- Contractors' vehicles and equipment should meet Nepali vehicle emissions standards.
- Dust emissions will be controlled with using water sprays on earthen roads nearby settlements in the substation area.
- · Open burning of wastes should be strictly prohibited.
- · Construction workers should use face masks at all times.
- All dust-generating loads carried in open trucks should be covered.

4.2.4 Noise

Noise is inevitable during construction. As noted in section 3.1.5, noise is less around the substation area as the area is rural and settlement is sparse. Construction-related noise will be limited to vehicular movement and inside-the-fence construction activities at substations sites; construction-related noise is not expected to exceed acceptable levels. The impact on noise level will be minor in magnitude, site-specific in terms of extent, and of short duration.

Mitigation Measures

- Contractors will be required to monitor noise during construction.
- For the substation site, boundary walls serve a noise barrier, and they should be constructed as early as possible.

4.2.5 Drainage and Water Quality

Substation sites of 0.53 ha. will result in a slight alteration of drainage patterns, although the alterations in drainage will not be quantifiable. Interference with drainage patterns will be temporary during the construction phase only. The impact on water quality during the construction period is expected to be insignificant. Water will be used primarily as a cement additive for the construction of substation foundations and boundary walls, and to control dust. The magnitude of impact is considered low, the extent is site-specific, and the duration is short-term.

Mitigation Measures

- Storm water run-off from substation sites will be minimized and controlled by bundling temporary dikes (constructed boundary walls will also help contain run-off water).
- Proper management of ground drainage from camps as a preventive measure against the breeding places of mosquitoes, and other pests.

4.2.6 Soil and Muck

As the proposed substation land's ground level is sloppy, cutting and filling of soil is necessary. The required filling materials will be generated by cutting of proposed land but if it required to purchase, it shall be purchases from nearby authorized crusher plant approved by the local government. For distribution lines the excavation activity will be

insignificant. The magnitude of impact is low, the extent is site-specific, and the duration is short-term.

Mitigation Measures

- Soil required for filling shall be purchased from the nearby authorized crusher plant under local government.
- Soil shall be covered with a tarpaulin while transporting it from earth-borrowing areas.
- Simultaneous water sprinkling and compaction of spoil shall be done using the roller.

4.2.7 Solid Wastes

The wastes generated during construction within the Subproject area are cement bags, iron bars, and other leftover construction materials, and waste generated by the labor camp. It might cause an adverse impact if not properly managed. Organic wastes generated from labor camps may give a foul smell, and attract rodents if not manage properly. Inorganic wastes generated during implementation shall be managed through source segregation. The magnitude of impact is low, the extent is site-specific, and the duration is short-term.

Mitigation Measures

- Source segregation of organic and inorganic wastes in different storage areas or facilities in the designated location.
- The organic waste generated from the campsite shall be managed within the substation premises, through composting in the bin or by constructing a ground pit, and covered by a thick layer of soil on daily basis.
- Reusable waste like debris, broken brick pieces, sand, stone, waste cement, and sand mix shall be used as refills for ground leveling.
- Packing materials used for casing components should be recyclable.
- Recyclable wastes like left out/non-usable reinforcement bars and packing materials shall be sent or sold to scrap vendors.
- Chemical waste generated from the transformer shall be collected in leakage-proof, corrosion-free, and specially-designed containers and sealed carefully.
- Effective coordination shall be done with the local level government for proper waste management during the construction period.

4.2.8 Electric and Fire Hazard

Employees performing servicing or maintenance of substations may be exposed to electric shock, burns and injuries from the unexpected energization or release of stored energy in the equipment. The magnitude of impact is considered moderate, the extent is site-specific, and the duration is long-term.

Mitigation Measures

For this, the following mitigation measures will be practiced:

- are
- Boundary walls and security fences around the substation are recommended to prevent unauthorized access.
- Only trained and authorized personnel shall be allowed for electrical work.
- · Warning signs shall be installed.

B. Biological Environment

The distribution line of proposed Subproject passes through the forest area but avoids other sensitive biodiversity area. Hence, there will be no significant impact to biological environment because of construction of substation and distribution lines.

Construction Phase

4.2.9 Loss of Habitat

The proposed substation area lies at Thensign Gyalbo CF and covered with trees and poles whereas the 33 kV distribution line passes through the edges of farm lands public lands and forest areas. The total area of the forest area that will be occupied within RoW of the proposed 33 kV distribution line and substation area is 5.35 ha. The estimated numbers of trees to be cleared from the Core Project Area of the distribution line alignment passes along different community forests are 1514 and 56 trees from proposed land for substation. The possible use of firewood should be restricted during the construction activities. The magnitude of impact is moderate, the extent is site-specific, and the duration is long-term.

Area (ha)			Name of species	No.	No. of trees	
33kV line	Substation	Total		33kV line	Substation	
4.82	0.53	5.35	Pinus roxburghii	840	-	
			Lyonia ovalifolia	83	-	
			Pinus wallichaina	248	56	
			Rhododendron arboreum	220	-	
			Quercus leucotrichophora	41	-	
			Alnus nepalensis	83	-	
			Total	1514	56	
			Grand Total		1570	

Table 4-1: Detail of impacted forest area and trees loss

Mitigation Measures

- Compensatory plantation shall be done as per Forest Regulation, 2079 (2022).
- Compensatory plantation to be made in the ratio 1:10, including cost for seedling and management cost for 5 years.
- Labors and staffs should be restricted to use firewood for cooking.
- Providing LPG based stoves in Labor camp.
- Labors and staff shall be made aware to avoid illegal activities in adjoining forest.

Operation Phase

4.2.10 Bird electrocution and collision

The Subproject area is located in a rural setting and there is no presence of critical habitat of avian fauna. Electrocution is a risk to bird species that perch on power line infrastructures (substations and distribution lines). List of birds presented in section 3.2,

may collide to distribution lines and substation. Minimizing bird collision and electrocution risk is therefore a win-win for biodiversity and the power sector. The magnitude of impact is low, the extent is site-specific, and the duration is long-term.

Mitigation Measures

• Bird guards should be installed above the poles and white spirals in the conductors to improve visibility electrical structures.

C. Socio-Economic and Cultural Environment

The anticipated impacts regarding the socio-economic and cultural environment associated with Subproject are discussed below:

Construction Phase

4.2.11 Land Requirement

The land required for the proposed substation area is 0.53 ha and is the government land, managed by Thensingh Gyalbo Community Forest User Group. This has been confirmed officially through Community Forest User Group and Ward Office, Mugum Karmarong RM. The proposed physical activities of the Subproject will not be involved in private land. Therefore, there will be no land acquisition and resettlement impacts. In case of 33 kV distribution line, 20.3 km length which passes through private land, public land, national forest and community forest land. The impacts on the crops while stringing of lines should be minimized. During the public consultation people have agreed to support the implementation of the Subproject (**Annex 5**). Compensation shall be made based on crop types and quantity of loss equivalent to the market price. *The impacts will be low in magnitude, site-specific and long-term in duration*.

Mitigation Measures

- A distribution pole of diameter 0.22 m should be installed on the edge of cultivated land making no loss of standing crops.
- If there is a loss of crops, appropriate compensation shall be made.

4.2.12 Public Health

Construction activities will be of small scale, causing no significant adverse impact to existing quality of air, water and sound. Local people except the workers do not involve in construction activities. Considering the COVID-19 pandemic as an example, workers will be advised to avoid unnecessary contact with local people. The magnitude of impact is low, the extent is site-specific, and the duration is short-term.

Mitigation Measures

- Contractors shall implement health and safety plans.
- Awareness of HIV/AIDS and other sexually transmitted disease should be provided to the labors.
- Awareness of basic sanitation and waste management should be provided to the labors.
- For coronavirus (COVID-19) pandemic situation, contractor needs to handle the situation in case of any sudden surge and standardize the quarantine facilities with health aid to the labors.

4.2.13 Occupational Hazards and Safety of Workers

Occupational hazard and the safety of workers is the major issue during the construction period. Working without adopting safety measures during excavation work, spoil management work, mechanical and electrical equipment handling activities, chemical handling, etc. during construction may call the risk of accident. The primary victims are the workers involved in the construction. So, the envisaged direct impact is high in magnitude, site-specific in extent, and short-term in duration.

Mitigation Measures

- The contractor shall prepare the Environmental, Health and Safety plan and take approval from the Client (NEA/PIU). The contractor shall employ Safety officer during the construction period.
- All employees shall be provided with the necessary training, and safety equipment as required for their responsibilities and duties. The Contractor will adhere to labor Act 2074 and Labor Rules 2075.
- The basic facilities of drinking water, sanitation & clean resting place, canteen, and first aid are required for the campsite.
- All the workers shall have health insurance throughout construction.
- Installation of warning signs (High Voltage, Fire Safety Signs, and Emergency Signs) as shown in ANNEX 7.
- NEA will be responsible to supervise the EHS performance of the construction Contractor, and workers' health and safety.

4.2.14 Child Labor, and Gender Issues

During the construction period, people employed on daily wages for excavation, transportation of construction materials, and other construction-related works should avoid the involvement children and should avoid gender discrimination. Gender discrimination may occur as the Contractor may not be sensitive towards gender equity. Contractors should equally pay men and women workers. Construction area should be gender friendly with required facilities. The envisaged impact is high in magnitude, site-specific in extent, and short-term in duration.

Mitigation Measures

The Subproject will ensure to:

- Provide equal wage to male and female for similar nature of work.
- Prohibit the use of child labor i.e., below 16 years of age (which is as per government and ILO guidelines).
- Provide female friendly construction environment with separate cabins and toilet for women in the camp.
- Prepare suitable work categorization for women.

4.2.15 Socially Undesirable Activities

The workers may use alcohol and other forms of intoxication, gamble and quarrel with locals, disrespect local culture and religion, and may promote socially undesirable activities in and around the project area. So, the envisaged impact is low in magnitude, local in extent, and short-term in duration.

Mitigation Measures

- · Restrict movement of workers out of camp after dinner time at the night.
- Prohibit the use of alcohol and gambling in the camp.
- Supply water supply, daily consumable items, and communication facility in the camp so as not to create additional pressure on the local services.
- Orient workers to show respect for local tradition and culture.
- Prepare a code of conduct for all project staff, orient them and monitor that these are effectively followed by all.
- Assign a public relation officer to keep close and regular consultation and coordination with local communities.
- Regular monitoring of workers' behavior and taking appropriate measure on rule violators.

Operation Phase

4.2.1 Hazards and Safety

Occupational health hazard and the safety of staff are the major issues during the operation phase of the substation. The possible electric shock and fire hazard might cause injury or death to working staff thus protection measures should be taken all the time. The envisaged direct impact is high in magnitude, site-specific in extent, and long-term in duration.

Mitigation Measures

- There will be the use of insulation, guarding, grounding, electrical protective devices, and safe work practices.
- Boundary walls and / or security fences around substations to prevent unauthorized access.
- Only trained and authorized personnel will be allowed for the electrical works.
- No electric wire shall be stringed above the house.
- · Security fences around the substation.
- · Establishment of warning signs
- Shutdown shall be taken during work on the DL route

4.2.2 Electric and Magnetic Field Effect

Electric power distribution lines create electric and magnetic fields together, referred to as electromagnetic fields (EMF). Electrical flux density declines in inverse proportion to the square of the distance and magnetic fields decline in inverse proportion to the cube of the distance; so, there will be no impact outside of the substation boundaries. ⁷ Research on the long-term effects of EMF associated with distribution lines is inconclusive for health risks. As noted in the World Bank EHS guidelines for transmission and distribution systems, there is no empirical data demonstrating adverse health effects from exposure to typical EMF levels from power transmission lines and equipment.

5. INFORMATION DISCLOSURE, CONSULTATION, AND PARTICIPATION

 $^{^{7}}$ E.g., at a distance of 10 meters from a single distribution line or conductor, electrical flux density drops to 1% of the field strength at a distance of 1 meter from the conductor: 1/(10*10) = 1%. Likewise, the magnetic field drops to 0.1% of the field strength at the conductor: 1/(10*10*10) = 0.1%.

5.1 Methodology in Information Disclosure, Consultation and Participation

The following methodologies were followed for information disclosure, consultation and participation:

i. Identification of the stakeholder is important to understand how the Subproject activities will relate different institutions/groups/individuals. Stakeholders are the groups that might be affected by the Subproject or might influence Subproject outcomes. The identified stakeholders are considered into three groups (**Figure 5-1**).

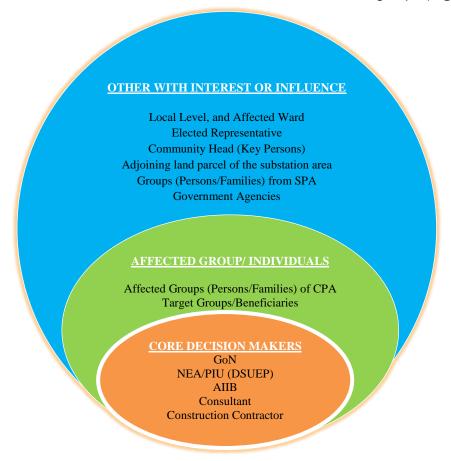


Figure 5-1: Identified Stakeholder in the Subproject⁸

- ii. The notice with the subject of consultation, venue, and time were pasted at the Subproject footprint area, local level and affected Ward office in presence of concerned local stakeholders. People were explained about the notices and their views were noted and agreed upon as Minutes.
- iii. Study team members visited all the local government offices within the Subproject influence area. Representatives from each local body were also consulted. All local governments were given request letters for their active support in project implementation. Municipalities were requested to provide written suggestions. The deed of inquiry (Muchulkas) and Letter of Declaration from the stakeholders are presented in **Annex 6**.

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⁸ Referenced Meaningful stakeholder engagement: a joint publication of the MFI working group on environmental and social standards / Reidar Kvam, PP-19, 2019.

- iv. Local communities nearby the substation area and along the distribution line routes were consulted, and were briefed about the Subproject activities and likely benefits with their suggestions (included in the Minutes).
- v. During the Subproject construction phase, booklets informing about the Subproject activities, likely impacts, and mitigation measures together with the complaints handling mechanisms will be developed and distributed in the Subproject area.

5.2 Consultation and Information Disclosure

The consultation aims to encourage the participation of stakeholders and communities of the Subproject area in the identification of issues, comments, and suggestions. The Subproject affected groups (persons/families) were given more emphasis during the field consultations. Public consultations were conducted at Chhayanath Rara Municipality, Ward No. 2, Gamgadhi, 1st June 2022, Chhayanath Rara Mun, Ward No. 1, Chhatyalbada on 3rd June 2022, Ward 11 of Chhayanath Rara Municipality and Ward 12 Lumsa on 5th June 2022, Chhayanath Rara Municipality, Ward No. 8 & 9 on 5th June, 2022 and 6th June 2022, Mugum Karmarong RM, Ward No. 1, Ghata on 8th June, 2022, Chhayanath Rara Mun, (**Figure 5-2**). The concerns expressed and issues/ raised during the consultation were documented as in the form of minutes (**Annex 5**).

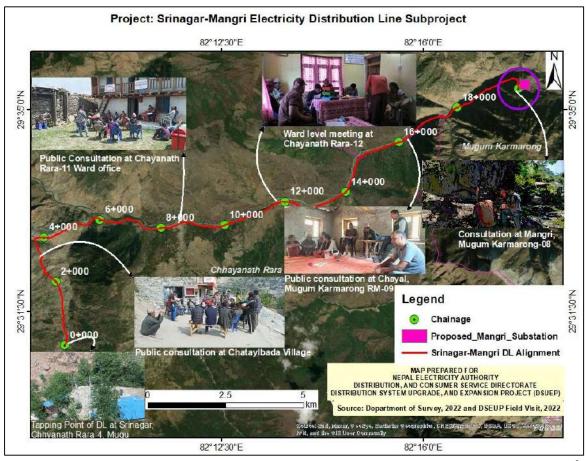


Figure 5-2: Consultation with the stakeholders and communities in the Subproject Area.⁹

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⁹ Field Study, 2022. Used SW Map and GIS

Major benefits expected from the implementation of the Subproject through the perspective of local people were identified from public interaction, and that included improvement in the rural electrification facilities ensuring uninterrupted electricity in the households and better functioning of industries in the locality. The issues, comments and suggestions received in the consultation are presented in **Table 5-1**.

5.3 Comments and Suggestion Received

Table 5-1: Summary of issues, comments and suggestions received in Consultations

Source: Field Visit, 2022

Date	Location	Issues, comments and suggestions received	Participants
3 rd June, 2022	Chhayanath Rara Municipality-1, Chhatyalbada	 The expert team from NEAEC has described and shared the information about the proposed subproject. While this sub-project start working on the distribution line, the pole should take from outside 	31,1F-30M
5 th June, 2022	Chhayanath Rara Municipality- 11, Raba	 the settlement area and placed on the edge or side of the land when it is taken from a private property. When the distribution line is extended, the project will have to provide information to the landlord before the line is started, otherwise the project will 	25,5F-20M
5 th June, 2022	Chhayanath Rara Municipality- 12 Lumsa	 have to be compensated for the damage to the crop and the plant. During the project construction period a priority should be given employment for families directly affected. There are no proper electricity supplies in the region. 	25,4F-21M
6 th June, 2022	Mugum Karmarong RM-9, Chhayal Chaur	 So, this sub-project should be conducted as quickly as possible. There are no impacts on the cultural, occupation, religion and customary right of our aboriginal tribes by the extension of distribution line of this sub- 	18,6F-12M
6 th June, 2022	Mugum Karmarong RM-8, Mangri	 project in our community. The proposed sub-project will remain full support from the family affected by the distribution line. There are no proper electricity supplies in the region so, this sub-project should be conducted as quickly 	15,0F-15M
10 th January, 2022	Chhayanath Rara M-1, Ghhat	 as possible. The ward office must coordinate with the affected household and community in case of any issues arise The proposed land for substation of this subproject lies at Thaensingh Gyalbo Community Forest 	11,4F-7M

6. INSTITUTIONAL ARRANGEMENT AND GRIEVANCE REDRESS MECHANISM

6.1 Institutional Arrangement

The Ministry of Energy, Water Resources and Irrigation (MEWRI) is responsible for the overall planning and execution of the plans for the overall development of the water and energy sector in Nepal. Nepal Electricity Authority (NEA) under MEWRI is the responsible agency for the implementation of the DSUEP. The project comes under the Distribution and Consumer Services Directorate (DCSD) of NEA. Project Implementation Unit (PIU) under DSUEP is the implementing unit of the project. The Environment and Social Management Unit will be within PIU. All the resources needed for the EMP implementation for the construction and operation phase will be provided by the PIU. The site offices under PIU will have a supervision consultant with an environmental and social safeguard specialist, who will be responsible for compliance monitoring activities during the construction phase. He will also provide technical support in preparing the monitoring report.

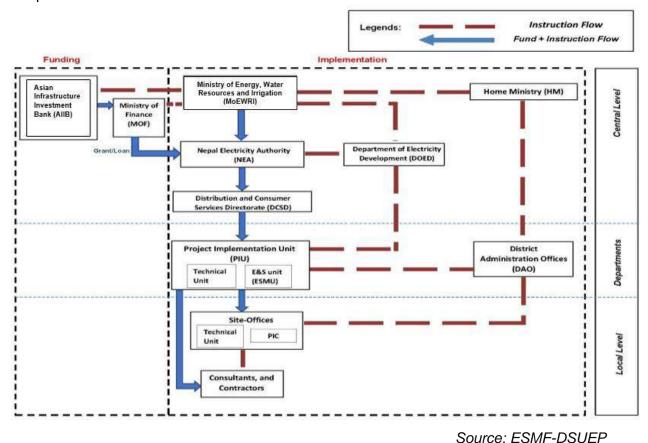


Figure 6-1: Institutional Arrangement for Environmental and Social Management

The contractor shall have the main responsibility to ensure compliance. The Contractor shall prepare an Environment, Health and Safety (EHS) report that would be approved by DSUEP/PIU before field mobilization. They need to strictly follow the EHS plan requirements. The contractor shall urgently comply with corrective actions for any noncompliance as instructed by PIU. The ESMU of PIU shall provide safeguard compliance orientation to all environment monitors and safeguard team of the contractor, one month before the construction works start.

6.2 Grievance Redress Mechanism

The Grievance Redress Mechanism (GRM) has been established to receive, evaluate, and facilitate the resolution of affected people's concerns, complaints, and grievances about social and environmental-related issues at the subproject level. The GRM is designed to be simple, transparent, and responsive. GRM shall address only the concerns arising due to the project implementation activities, mainly during the construction stage. Social Comment Addressed -In each subproject, three levels of Grievance Redress Mechanism will be established. During the ESMP study period, NEA disseminated letters to the local level stakeholders regarding the formation of the GRM at the subproject level. To date, NEA has established Tier-I and Tier-II GRM has been established at the local wards level and Municipality/RM level. Tier-II will be established before construction work starts.

GRM process entails the concerned party submitting a grievance either in-person, via phone, letter, or email to the Site-Engineer or the concerned Municipality Chief or the concerned Ward Chair. The Site-Engineer will record the complaint. In cases where Ward Chair has received such a grievance, he/she should forward the grievance to the field office Engineer. The Site-Engineer shall notify the committee members of Tier-I and arrange a meeting to resolve the received grievances. If not resolved such grievances will be carried to Tier II and Tier III. The three levels of GRM will be based on time-bound schedules as mentioned in Table 6-1. The subproject will carry the regular meeting for Tier-I, once a month to follow up if any grievances are received or not and to resolve the grievances received and update its status to PIU. Figure 6-2 describes the Workflow Diagram of GRM for the Subprojects.

Table 6-1: Levels of Grievance Redress Mechanism Based on Time Bound

		Levels of Grievance Redress Mechanism							
Provisions	First Level	(Tier-I)	Second Level (Tier-II)		Third Level (Tier-III)				
Level	Local Level	Local Level		headed by the ct Implementation	District Level				
Supervisory	NEA Site-Engineer		PMO		Chief District Officer (CDO)				
Assistance	Chief/Mayor of Concerned Local Level and Chairperson/ Representative of Ward, Construction Contractor's (CC) Representative and Project Supervision Consultant's (PSC) Safeguards Officer		NEA Site-Engineer and PSC's Construction Contractor	Social Expert, and	PMO, affected persons, representative from Municipality/Municipality, Site-Engineer, PS If deemed necessary, representative from Frepresentative from Land Revenue Office, a from Land Survey Office are invited.	C's Social Expert. Forest Office,			
Days for Resolving Complain	7 days of receipt of a complaints/ grievance		15 days of complaints forwarded by Site-Engineer		15 days				
	Committee Member	Designation	Committee Member	Designation	Committee Member	Designation			
	Municipality Chief	Coordinator	Project Manager	Coordinator	Chief District Officer (CDO)	Chair			
	Site-Engineer-NEA	Member secretary	Site-Engineer	Member Secretary	Project Manager	Coordinator			
Committee	Safeguards Expert from Consultant	Member	Municipality Chief	Member	Site-Engineer	Member Secretary			
Members	Contractor Engineer	Member	Safeguards Expert from Consultant	Member	Municipality Chief/Ward Chair	Member			
	Ward Chair	Member	Contractor Engineer	Member	Safeguards expert from consultant	Member			
					Contractor Engineer	Member			
					Representative from affected people	Member			

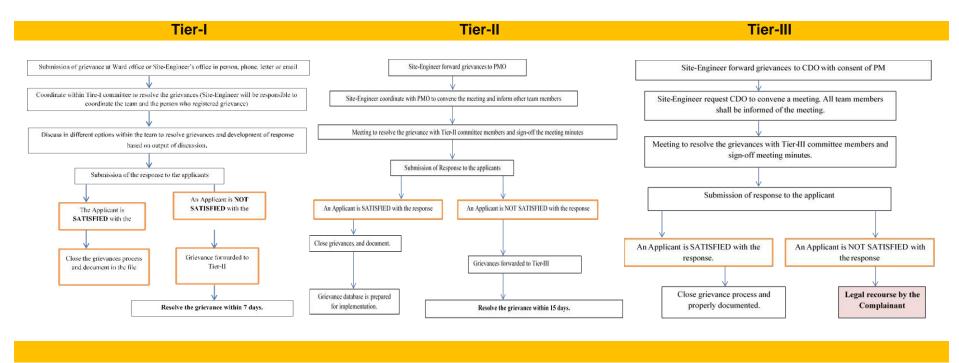


Figure 6-2: Workflow Diagram for GRM from NEA¹⁰

* Affected People (AP) have the right to refer the grievances to appropriate courts of law if not satisfied with the redress at any stage of the process i.e., the AP will have the choice to approach country's judicial system.

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Grievance Redress Mechanism (GRM) Prepared for the sub-projects financed by Asian Infrastructure Investment Bank (AIIB) under Distribution System Upgrade and Expansion Project (DSUEP), Nepal Electricity Authority (NEA), May 2021.

7. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

7.1 Environmental and Social Management Plan and Mitigation Measures

Table 7-1. The ESMP will be implemented in three stages: (i) pre-construction (ii) construction, and (iii) operations and maintenance. This ESMP is a living document and will be updated and modified under the supervision of ESMU of PIU.

Table 7-1: Environmental and Social Management Plan (ESMP)

			Mitigation Cost	litigation Cost Responsib	
Project Activity	Environmental and Social Issues	Management/Mitigation Measures		Planning and Implementation	Supervision and Monitoring
Pre-construction Ph	ase				
Approvals, permits and clearances	Installation of poles along the edge of private farm lands	Site office and the contractor must inform the community prior to the installation of poles and stringing of the line along DL route		Site Office/ Contractor/	DSUEP (PIU)/NEA
Construction Phase					
	Inadequate/unsafe working conditions	Appropriate contract clauses to ensure satisfactory implementation of contractual environmental, health, and safety measures.		Site Office/Contractor	PIU/NEA
Construction work in substation area and distribution line alignment	Accident may arise if the pit hole (depth-2m and diameter-0.22 m) prepared for steel tubular poles remains open for long time	 Pit holes for the steel tubular pole shall not be left open and should be filled instantly by erecting poles and concrete-cement around the base, should be used to strengthen the pole erection Contractors should follow the guideline provided by the PIU 	Project Cost	Contractor/ Site Office	PIU/ESMU/ PIU
	Dust emission - transportation of materials and	Water sprays to be used for dust control as necessary in the earthen roads of the settlements nearby the substation area and	Air Quality Monitoring- 1,50,000.00 (NRs.)	Contractor/ Site Office	PIU/ESMU

movement of construction crew and equipment will cause minor impact		proper storage of the construction materials (sand, cements, aggregates and spoil) to be stored in substation area. Steel poles firstly stocked in the substation area and secondly in the open barren area in coordination with Municipalities and Rural Municipalities. No social and environmental issues for the stockpiling of the steel poles and stringing wires	Sprinkling water (Dust Management) 2,00,000.00 (NRs.)		
Noise emission- Construction related noise will be limited to vehicular movement and inside-the-fence construction activities at substations sites	•	Boundary walls serves as a noise barrier, and these shall be constructed as early as possible. Construction equipment to meet national emissions and noise control standards.	Noise Level Monitoring- 50,000.00 (NRs.) Provision of PPE in Project Cost	Contractor/ Site Office	PIU/ESMU
Interference with drainage patterns will be temporary at substation during construction phase	•	A proper drainage system should be managed within the substation area. Storm water run-off need to be minimized and controlled with bundling temporary dikes Drainage management as a preventive measure against breeding of mosquitoes and other pests	Project Cost	Contractor/ Site Office	PIU/ESMU
 Possible erosion and flooding in Mugu Karnali River and small streams 		Concrete foundation is recommended for Steel tubular pole installation for 33 kV lines. Pit hole prepared for the installation of steel	Project Cost	Contractor/ Site Office	PIU/ESMU

	 tubular pole shall not be left open as possibility of accident may arise. Protection works along the eroded sections in the Mugu Karnali River 20-30 m distance from the distribution line. Client needs to coordinate with local level governments to give priority for the embankment activities for the protection of cultivated land and proposed 33 kV distribution lines. 	Cost from Local Government	Chhayanath Rara Municipality, Mugum Karmarong RM	Chhayanath Rara Municipality, Mugum Karmarong RM
 Construction associated wastes generated within substation area and campsite location 	 Organic waste generated from the campsite shall be managed within the substation premises, through composting in the bin or by constructing a ground pit, and covered, by a thick layer of soil Reusable waste like debris, broken brick pieces, sand, stone, waste cement, and the sand mix should be used as refills for ground leveling. Recyclable wastes like left out/non-usable reinforcement bars, and packing materials to be sent or sold to scrap vendors. Effective coordination with the local level government for the proper waste management 	Solid wastes management – 1,00,000.00 (NRs.)	Contractor/ Site Office	PIU/ESMU
 Illegal fishing and bird hunting by the labors 	 Discouraged by supplying adequate food items (poultry and fish) requirement within the camp. Awareness of legal provisions upon illegal hunting of biodiversity need to be disseminated 	Project Cost	Contractor/ Site Office	PIU/ESMU

	 About 5.35 ha of forest area occurs within RoW of the proposed distribution line and substation area Estimated number of trees that need to be cleared from the Core Project Area of the proposed DL alignment are 1514 and 56 trees at proposed land for substation 	 Compensatory plantation shall be done as per Forest Regulation, 2079 (2022). Compensatory plantation to be made in the ratio 1:10, including cost for seedling and management cost for 5 years. 	The total enumeration of the loss trees and mitigation cost will be incorporated in the Brief Environmental Study (BES) report	Contractor/ Site Office	PIU/ESMU
	Use of firewood from nearby forests	 Workers and staffs should be restricted to use firewood for cooking. Providing LPG-based stoves in Labor camp. 	Project Cost	Contractor/ Site Office	PIU/ESMU
	Loss of standing crops at pole installation locations (depth- 2m and diameter- 0.22 m)	 Pole to be installed at the edge of cultivated land making no loss of standing crops Need to make prior consultation with landowner during installation of the pole and stringing of distribution lines If there is a loss of crops, appropriate compensation will be made by the project 	Project Cost	Contractor/Site Office	PIU/ESMU
Environment, Health and Safety	Injury and sicknesses workers and members of the public	Contractor shall prepare the Environmental, Health and a Safety plan and take approval from the client. Provision of safety officer in the work team shall be made during the construction period.		Contractor/Site Office	PIU/ESMU

	Potential fecal coliform contamination in drinking water	 necessary training, and safety equipment as required for their responsibilities and duties. Basic facilities of drinking water, sanitation & clean resting place, canteen, and first aid shall be made available for the campsite. Provision of health insurance to employees. Security fences around the substation. Installation of warning signs (High Voltage, Fire Safety Signs, and Emergency Signs). Awareness of HIV/AIDS and other sexually 	Establishment of Labor Camp with basic facilities – In Project Cost		
		 transmitted disease. Awareness of providing basic sanitation facilities and waste management control to the labors. For coronavirus (COVID-19) pandemic situation, Contractors should arrange for quarantine and health services for infected workers. 	EHS Awareness Trainings - 1,50,000.00 (NRs.)		
			COVID-19 measures 2,00,000.00 (NRs.)		
Management of electric equipment, toxic materials of chemical wastes	Possible spills resulting in contamination of soil, water, and air	Chemical waste generated from the transformer shall be collected in leakage-proof, corrosion-free, specially designed containers, and sealed carefully	1,00,000.00 (NRs.)	Contractor/ Site Office	PIU/ESMU
Operation and Main	tenance Phase				
Electric shock and fire hazard	Injury or death to the workers and public	 Use of insulation, guarding, grounding, electrical protective devices, and safe work practices. 	Project Cost	NEA	NEA

		 Boundary walls and / or security fences around substations to prevent unauthorized access. Only trained and authorized personnel shall be allowed for the electrical works. No electric wire is to be strung above the house. Installation of warning signs. 			
Routine operations and maintenance	 Potential disturbance to other utility functions and vehicular traffic. 	 Maintain warning / advisory signs in the good and visible condition Visual and technical inspection 	Project Cost	NEA	NEA
Oil spillage	Contamination of land/nearby water bodies	Substation transformers should be stored within secure and impervious bundled areas with a storage capacity of at least 110% of the capacity of oil in transformers and associated reserve tanks.	Project Cost	NEA	NEA
Bird electrocution and collision	Electrocution can cause a risk to bird species that perch on power line infrastructures	Provision of bird guards above the poles and white spirals on the conductors to improve visibility	Project Cost	NEA	NEA

(The provision of an environment and social management cost should be included in the project cost making each item visible in BOQ of bidding document for the safeguard compliance by the construction contractor)

7.2 Proposed Monitoring Plan

The monitoring proposed in **Table 7-2** will be of value primarily for establishing baseline conditions in the Subproject area, and then for ambient quality monitoring.

Table 7-2: Minimum Provisions for Environmental Monitoring

Parameters to be	Location	Measurements	Frequency	Responsibility
Monitored				
Construction Stage				
Clearing of construction site	Substation boundaries	Field inspection of Subproject Sites and ensuring that appropriate safety measures are implemented	Clearing and restoration: Weekly	Contractors to implement corporate EHS plan, drainage management and solid waste control in the substation area.
Use of forest area and loss of trees	33 kV DL alignment and substation	 Field inspection of Subproject sites and ensure the compensatory plantation of 1:10 Related approval document for tree clearance 	Prior to the construction work	Contractor responsibility under the supervision of PIU/DFO
Air: SPM, Noise: dB	Substation boundaries and nearest receptor to substation		Air, and noise: quarterly during construction period	Contractors need to conduct air and noise monitoring during the construction period at the substation location

Construction wastes: on-site inspection	Visual inspection of active construction areas, including equipment staging areas and camps	 Spot check / visual inspection of solid waste (spoil, muck etc.) generation and disposal. Analysis of transformer oils to determine if polychlorinated biphenyls are present. 	Monthly spot checks for construction waste management	PIU safeguard officers to provide oversight via regular field inspections, and submit monitoring reports to the Bank
Occupational health and safety Child involvement in	Substation boundaries Substation work	No. of Toolbox talk and safety orientation to the workers No. of workplace accidents Use of PPE by workers	Daily Inspection during construction Monthly Inspection during the operation phase	Inspection of the construction site by the safety officer and PIU safeguard officer Site Office
construction work (needs to be prohibited)	Substation work	Spot inspection at construction sites	Monthly Inspection during construction	Site Office

7.3 Environmental and Social Management Plan Cost Estimates

Preliminary cost estimates for the ESMP implementation are shown in **Table 7-3Error! Reference source not found.** These estimates cover the basic monitoring activities and the mitigation measures to be complied from the contractor's side. The ESMP cost estimated for the **Srinagar-Mangri Electricity Distribution Line Subproject** is NRs 13,00,000.00. The community support activities and the costs will be presented in the Community Development Plan (CDP). NEA has agreed to the effective implementation of the mitigation and monitoring cost items as mentioned in table below.

Table 7-3: Environmental and Social Management Plan Cost Estimates

SN	Budget Items	Unit	Rate (NRs.)	Estimated Amount for Monitoring (NRs)-Lump Sum
1	Air Quality Monitoring (at substation)	6 (Times)	25,000.00	150,000.00
2	Noise Level Monitoring (at substation)	6 (Times)	8,334.00	50,000.00
3	Sprinkling of water to be used for dust control necessary in the earthen roads of the settlements nearby the substation area and proper storage of the construction materials (sand, cements, aggregates and spoil)	200 (Times) During Excavation and Civil works	1000.00	2,00,000.00
4	Management of electric equipment's, toxic materials of chemical wastes		L.S.	1,00,000.00
5	Segregation and management of solid wastes	-	L.S.	1,00,000.00
6	COVID-19 measures (considering pandemic situation) standardize the quarantine facilities with health aid to the labors	-	L.S.	200,000.00
7	EHS Awareness raising training to the labors	10 (Events)	15,000.00	1,50,000.00
8	Meeting of Safeguard Desk and Grievance Redress Committee at Field Level	24 (Months)	14,583.00	3,50,000.00
	Total			13,00,000.00

8. CONCLUSION

Potential environmental impacts of this Subproject are not diverse and are all site-specific i.e., confined to the Core Project Area. Civil works will have minimal temporary impacts on air, noise and water quality. Erection of poles during construction shall follow the RoW of the road, edge of national forest, community forest and the edge of farmlands. The PIU should give prior information before installation of the poles. In the ESMP consultations conducted in the settlement area, people have agreed for the implementation of the Subproject and have suggested installing poles on the edge of farm-lands, without affecting any private structures along the distribution line. If there is a loss of crops, appropriate compensation shall be provided. The implementation of the proposed Subproject needs 5.35 ha of forest area with estimated loss of 1,514 trees at distribution line and 56 trees at proposed land for substation. The total enumeration of the loss trees and mitigation cost will be incorporated in the Brief Environmental Study (BES) report. Mitigation measures are suggested in this ESMP to avoid any possible environmental and social impacts. The total ESMP cost for this Subproject is NRs. 13,00,000.00. NEA Project Implementation Unit has agreed to implement the estimated cost for the mitigation measures and monitoring activities.

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ANNEXES

Annex 1: SAMPLE NOTICE FOR PUBLIC CONSULTATION AND GRM FORMATION LETTER TO STAKEHOLDERS



नेपाल विद्युत प्राधिकरण

(नेपाल सरकारको स्वामित्व)

फ्याक्सः ०१-४१५३१४४ फोन नं : ०१-४१५३१४५ दरवारमार्गः, काठमाण्डौ ।

वितरण तथा ग्राहक सेवा निर्देशनालय

नेपाल वितरण प्रणाली स्तर्भेजनी सूथा विस्तार आयोजना

नेपाल वितरण प्रणाली स्तरोन्नित स्थानित आयोजनाको वातावरणीय तथा सामाजिक अध्ययन प्रतिवेदन तयारी सम्बन्धि सूचना

सूच	वना प्रकाशन मिति:		
	(नगरपालिका/गाउँपालि	 का/महानगरपालिका/उप	जिल्ला महानगरपालिका)
मा एसियन इन्फ्रास्ट्रकचर इ वितरण तथा ग्राहक सेवा f	रूभस्टमन्ट बक्का ऋण नेर्देशनालय, वितरण प्रण कार्यान्वयन	गाली स्तरोन्नति तथा	विस्तार आयोजना
प्रस्तावक रही अघि सो आयोजनाले त्यस भनि स्थानीय सरोकारव सरोकारवालाहरुको निम्न स्	क्षेत्रको वातावरण तथा स ालाहरु सँग छलफल	आयोजना का गमाजिक पक्षहरूमा के-व गर्न आयोजना क्षेत्र	र्यान्वायन हुनुभन्दा कस्तो प्रभाव पार्दछ का सम्पूर्ण सबै
सार्वजनिक छलफल हुने स्थ स्थानः मितिः समयः	थान, मिति र समय:		



नेपाल विद्युत प्राधिकरण

(नेपाल संस्कृरिको स्वामित्व)

वितरण तथा ग्राहक सेवा निर्देशनालय नेपाल वितरण प्रणाली स्तरोन्नती तथा विस्तार आयोजना (ए.आई.आई.बि.)

पयाक्स: ०१-४१५३१४४ फोन नं : ०१-४१५३१४५ दरवारमार्ग, काठमाण्डौं।

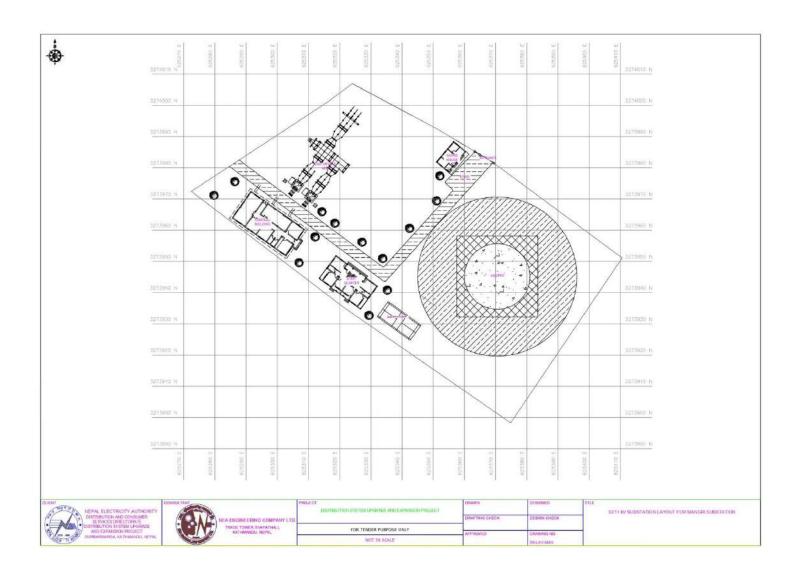
प.सं. ०७८/७९: 239	मिति: २०७९/०२/१२
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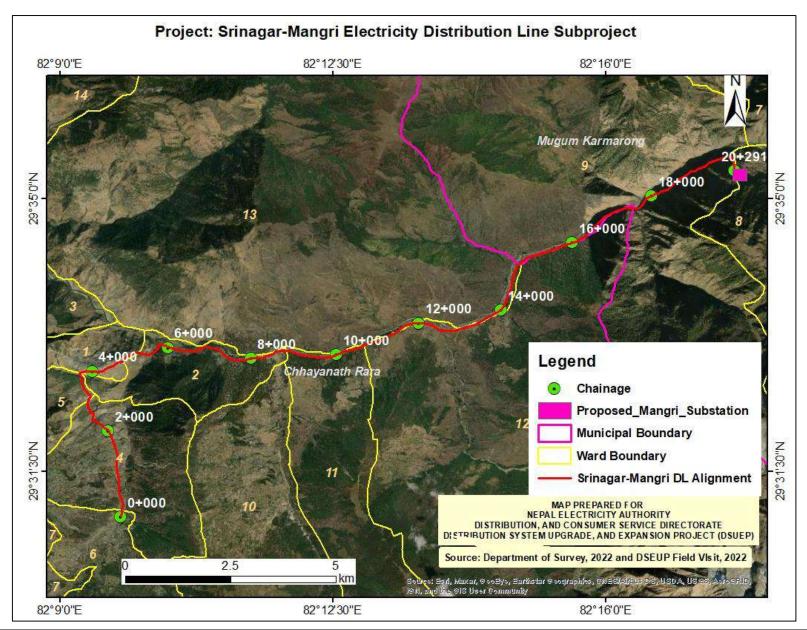
विषय: गुनासो समाधान संयन्त्र गठन भएको सम्बन्धमा ।

भवदीय.

(केशव श्रेष्ठ) आयोजना प्रमुख

Annex 2: LAYOUT MAPS OF SUBSTATION AND DISTRIBUTION LINE ALIGNMENT

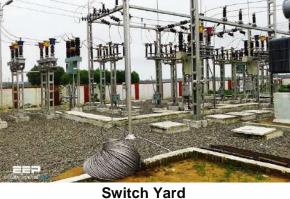


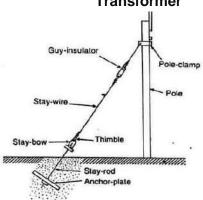


Annex 3: FACILITY AND COMPONENTS



Transformer





Stay/Guy Sets



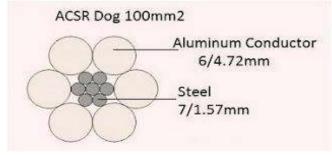
Steel Tubular Pole



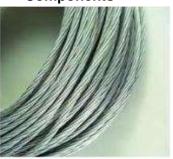
Insulator

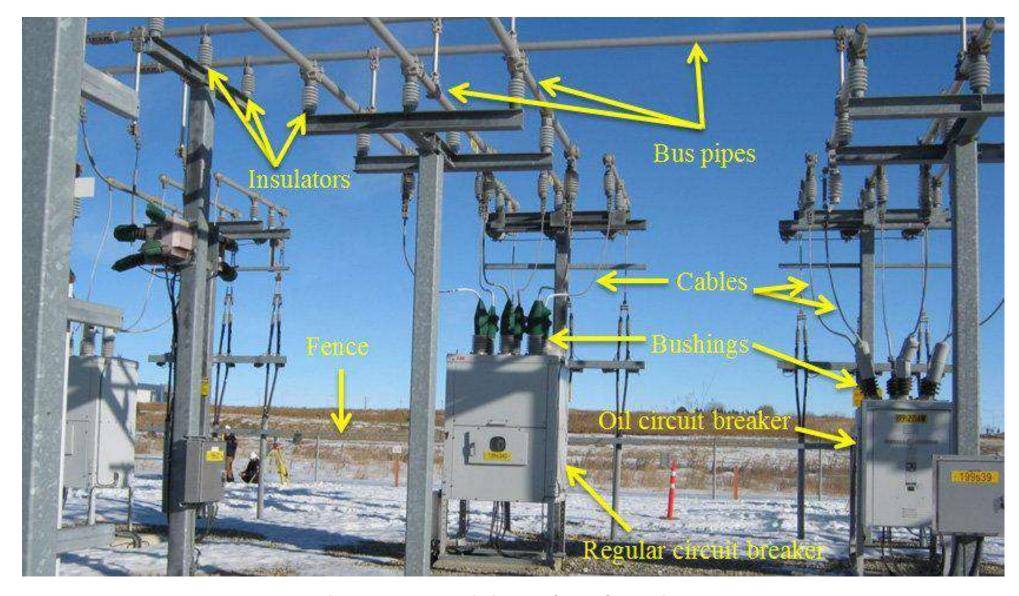


Civil-Structures Supporting Electrical Components



Conductor



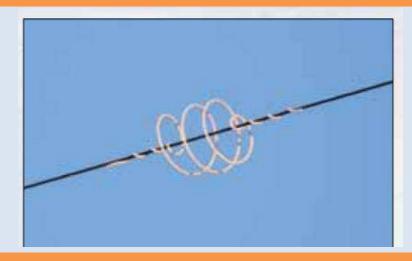


Possible components within 33 kV/11 kV Substation



Bird Diverting Reflector

Wishbone Prevents Bird Landing on Wire



White Spiral in Wire Improves Visibility of Wire



Construction of Nest at Poles also divert Brid not sitting at Wires

Annex 4: LEGISLATIVE PROVISIONS

S	Legal Provisions	Description	Relevancy
N		•	concerning Project
1.	Constitution of Nepal	 The Constitution of Nepal is the main legal document, which emphasizes the right to a clean environment of the people, natural resources protection, preservation, and its prudent use. Rights regarding the clean environment, under article 30: It includes making multi-purpose development of water resources, while according priority to domestic investment based on public participation to ensure a reliable supply of energy affordably, and easily, and make proper use of energy for the fulfillment of the basic needs of citizens, by generating, and developing renewable energy in article 51 (g). 	DSUEP helps to fulfill the rights of people to live in a clean environment along with fulfilling the basic needs by providing access to sufficient energy.
2.	Environment Protection Act 2076 (2019 AD)	 Section 3 of the Act requires the proponent to conduct environmental studies concerning the prescribed proposals of any developmental works. Subsection 2 of this act provides the framework for the environmental study report prepared according to sub-section (1) shall, in fulfillment of the process as prescribed, be submitted to the relevant bodies of the Government of Nepal for approval. 	Environmental Studies, and approval of the report from the authorized body before construction of any project is mandatory to minimize the negative impacts in Nepal which is addressed in EPA, 2076.
3.	Environmental Protection Rule, 2077 (2020 AD) [First Amendment on 2078 (2021)]	 Under the Environmental Protection Rules (2077) first amendment (2078), rule (3) as mentioned in annex (1), Section (F) (Energy, Water Resources, and Irrigation Sector) subsection (1), a proponent shall be required to carry out the Brief Environmental Studies for construction of transmission line project less than 66 kV in forest land for another purpose. Pertaining to Rule 3(1), Environment Protection Act (EPA), 2019 describes to complete Environmental Studies as per Schedule 1(Cha) Energy, water resources and irrigation sector (1) under Environment Protection Regulation 2020 (First Amendment in 2021/05/24 on Nepal Gazette) state "use of forest area for the electricity distribution line project up to 66 KV" 	This rule provides the overall guidance to what type of environmental studies is required according to the project by the Government of Nepal. The proposed Subproject will use the along Dasaiya Community Forest (CF), Bhadali CF, Chuketi Belkati CF, Hariyali Bisepani CF, Chulle CF, Balu Kuna Naure Pakha CF,

			Thensingh Gyalbo CF and National Forest land for the purpose of 33 kV distribution line extension and substation construction. For which, BES is mandatory.
4.	Nepal Environmental Policy, and Action Plan, 2050(1993)	 The aims of NEPAP are: To manage natural, and physical resources efficiently, and sustainably To balance the development efforts, and environmental conservation for sustainable fulfillment of basic needs To preserve endemic, and endangered species, and their habitats; the promotion of private, and public institutions for biological resources inventory, and conservation To safeguard national heritage To mitigate the adverse environmental impact of development projects, and human actions To integrate environment, and development through appropriate institutions, adequate legislation, and economic incentives, and sufficient public resources 	DSUEP should follow the aims of NEPAP to protect, and conserve the physical, biological, and social environment during the construction of a 33 kV distribution line along with a substation.
5.	Forest Act 2076 (2019)	 Pertaining to the chapter 12, Section 42(1), if there is no other alternative to the using of forest area for the operation of a national priority project, plan of which investment is approved by the Investment Board, project of national pride and it appears from the environment examination referred to in the prevailing law that the operation of such plan does not result in significant adverse effects on the environment, the Government of Nepal may give approval, as prescribed, to use any part of the national forest for the purpose of operating such plan, Similarly, in providing the forest area for the operation of a plan pursuant to sub-section (1), to the extent possible, a land that is adjoining to the national forest area near the project site and situated in the same geographical and ecological belt and has such landscape where forest can be developed shall be provided for the purpose of planting trees at least in the area 	 About 5.35 ha of forest area occurs within RoW of the proposed 33 kV distribution line and the substation area Estimated number of trees that need to be cleared from the Core Project Area of the proposed DL alignment are 1514 and 56 at Substation land. Total estimation of tree and approval of tree clearance will be proceeded after the approval of BES report.

		equal to the forest area that has to be used.	
6.	Forest Regulations, 2079 (2022)	 Pertaining to Rule 87 (2) in case of the development project related to the use of forest land, the coordination has to be done with the concerned division forest office during the feasibility study and environmental study. Rule 88, Application need to be submitted in case of use of national forest land from the feasibility study and application need to submitted to the Ministry of Forests and Environment through the subjective ministry Rule 89, following the Rule 88, the Ministry of Forests and Environment direct Division Forest Office through its respective department for the detail field information and the that information should also be submitted to provincial ministry. Rule 90, following the Rule 89, Division Forest Office should submit the information with field monitoring (if necessary) to the Ministry of Forests and Environment. The ministry will ensure the use of forest land if the applicable information and letters are received, and give permission to the respective project by binding in the rules states in the Forest Regulations. Rule 91, following the Rule 90, after the decision made by the government of Nepal for the permission to use the forest land, development project should made the availability of the applicable land for the forest development as per the Forest Act (2076), Section 42 (2). Rule 92, following the Rule 91, in case of failure in the availability of the applicable land, it has to go through the Land Acquisition Facilitation Committee in the district level Rule 93, following the Rule 92, in case failure of the land acquisition through the Committee respective department should give permission to the project for the Collection of amount in the government fund as per the land purchases for development project specified in Shedule-51. Rule 93 (5), the amount should base on the cost of the trees in the ratio of 1:10 and Rule 93 (5), the amount must include bi-annual production or purchase of trees, trees transporta	 About 5.35 ha of forest area occurs within RoW of the proposed 33 kV distribution line and the substation area Estimated number of trees that need to be cleared from the Core Project Area of the proposed DL alignment are 1514 and 56 at Substation land. Total estimation of tree and approval of tree clearance will be proceeded after the approval of BES report.
7.	1992	generation, transmission, or distribution of electricity without obtaining a license under	project is to distribute a sufficient amount of

		this act.	electricity by
		• The Electricity Act of 1992 has the provision of land procurement for the development of Subprojects that involve electricity generation, transmission, or distribution. The Act states that the licensee may apply to GoN to purchase the land or house of any person if it is required for the generation, transmission, or distribution of electricity. Upon the receipt of such an application, GoN may make the land or house, so requisitioned, available to any corporate body under the prevailing laws.	constructing a 33 kV line, and substation by surveying to minimize the impacts.
8.	Rural Energy Policy, 2006	The rationale of formulating, and implementing this policy is to create a conducive environment that will self-motivate, and mobilize local institutions, rural energy user groups, non-government organizations, cooperatives, and private sector organizations for the development, and expansion of rural energy resources. The government will facilitate, and promote to involve private development, and expansion of new technologies. It has also envisioned subsidy provision for the promotion of such renewable energy technologies.	This project helps to improve the distribution, and motivate use the of electricity in rural areas of western Nepal.
9.	Labor Act, 2074 (2017 AD)	This labor Act was made under the management of parliament under sub-clause 1 of clause 296 of the Constitution of Nepal. Sub-section 3 of Section 2 states that the employees should not be compelled to other work other than they are assigned for. In addition, Sub-section 5 of Section 2 states about the prohibition of child labor in any organization, and sub-section 6 of Section 2 states that there should not be any kind of discrimination among the employee's regard of religion, ethnicity, gender, origin, language, or intelligence or other kinds of characters.	The construction of a project is only possible when the rights of labor are secure. In this project, the Contractor should follow this act strictly.
10.	Child Labor (Prohibition, and Regulation) Act, 2056 (2000 AD)	As per section 3 of this act, no child has not attained the age of 14 years shall be engaged in works as a laborer.	Child labor is strictly prohibited in this project, and Contractors should follow this act.
11.	Solid Waste	This act has been formulated to minimize solid	These acts provide

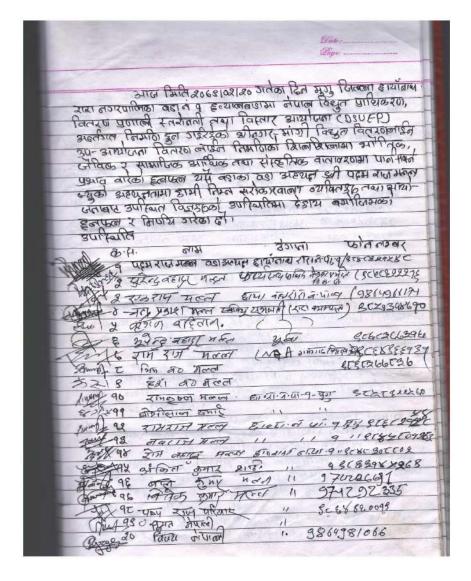
	Management Act, 2068 (2011 AD)	waste products from the target area by setting rules, and regulations on solid waste management (SWM) in the country to develop a better environment for the systematic, and effective management of solid waste, and to involve all the concerned stakeholders in SWM practice. The main features of this act are the discussion of the 3R principle (Reduce, Reuse, and Recycle). 3R principle seems to be very beneficial as it not only increases the life of landfill site but also saves the money which could be used for other infrastructure development. Section 4 of the act assigns the local body to manage or use the solid waste discharged or dumped in the collection center, transfer station, or treatment plant or collected during cleaning.	the overall framework to manage the solid waste generated from households to the project level. Also, the proponent should manage the waste generated during construction.
12.	Solid Waste Management Rules, 2070 (2013 AD)	The solid waste management rule was formulated as per the provision made in article 50 of the Solid Waste Management Act, 2068. This regulation has emphasized the segregation of waste at source, and mentioned that the responsibility of proper disposal, and management of source belongs to the producers themselves. Section 3 of the rule describes the segregation, and management of solid waste. It has been mentioned that it is essential to segregate degradable, and non-degradable solid waste at the source.	These rules provide the overall framework for how to reduce the volume of waste disposed of at the source during the construction of the substation.
13.	Fifteenth Plan	The vision of the 15th plan is to contribute to the prosperity of the nation through sustainable, and reliable development of hydropower by setting the goal which is to ensure energy security through intensifying hydropower generation. In addition, one of the strategies of the government of Nepal in the 15th plan is to make the distribution system effective, and reliable to increase energy efficiency, and increase power consumption by expanding access to electricity by formulating the required policies:	This 5-year interim plan sets the goal about the generation, and distribution of hydroelectricity in Nepal which is directly related to this project.
14.	United Nations Framework Convention on	UNFCCC, Signatories: 165. Parties: 195. (1), Article (4), commitment (f) states climate change considerations into account, to the	The goal of this project is to replace the traditional form of

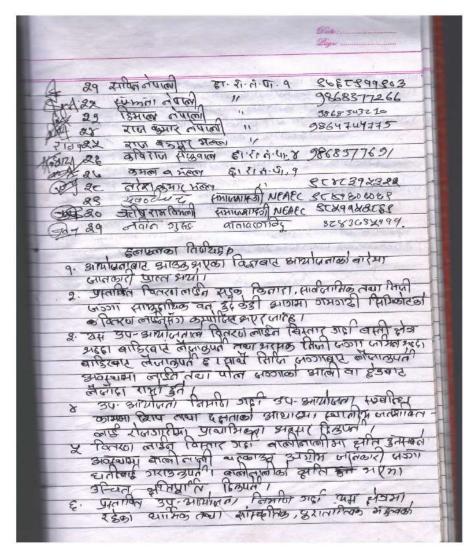
	Climate Change (UNFCCC), 1992	extent feasible, in their relevant social, economic, and environmental policies, and actions, and employ appropriate methods, for example, impact assessments, formulated, and determined nationally, to minimize adverse effects on the economy, on public health, and the quality of the environment, of Subprojects or measures undertaken by them to mitigate or adapt to climate change. After it entered into force on 21 March 1994, it mandates the individual state for prioritization of resource conservation with development.	energy with clean energy i.e. electricity which ultimately reduces air pollution, and smoke.
15.	ILO 169	The main objective of this convention is to secure the rights of indigenous, and tribal people along with the gender equality, and non-discrimination of workers during work. Article 1 on the First Part of this convention mainly focused on the following points: (a) the social, cultural, and economic conditions of tribal peoples in independent countries differentiate from other parts of the national community, and their status is managed fully or partially by their customs or traditions or by special laws or regulations; (b) peoples in independent countries who are regarded as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonization or the establishment of present state boundaries, and who, irrespective of their legal status, retain some or all of their own social, economic, cultural, and political institutions. Self-identification as indigenous or tribal shall be regarded as a fundamental criterion for determining the groups to which the provisions of this Convention apply. The use of the term people in this Convention shall not be construed as having any implications as regards the rights which may attach to the term under international law.	Nepal is the part of ILO convention that's why ILO 169 should strictly follow during construction, and implementation of any types
	Environment and	ESMF is to guide DSUEP sub-projects in the	Main guiding
16.	Social Management Framework	area of E&S management using appropriate instruments, methodologies, procedure and responsibilities during the project cycle. NEA	document for E&S study to identify issues and

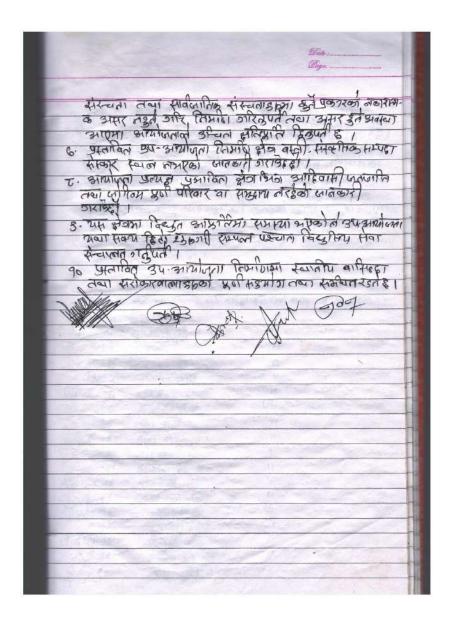
		and the project partners shall apply during design and development of the sub-projects in order to comply with the Government of Nepal E&S regulations and the Financiers' standards on E&S assessment and management, Involuntary Resettlement, Indigenous People, Gender, etc.).	recommending appropriate practical augmentation/ mitigation measures
17.	Environmental and Social Policy (ESP)	 This policy speaks for the mandatory E&S requirements for each Project like, screening, DDR, E&S Assessment, ESMP, ESMF, Information Disclosure, Consultation and Monitoring and Evaluation. 	Mandatory requirement for ESMP study
18.	Environmental and Social Standards of AIIB	Three associated mandatory environmental and social standards (ESSs) set out more detailed environmental and social requirements relating to the ESMP	ESMP requirement

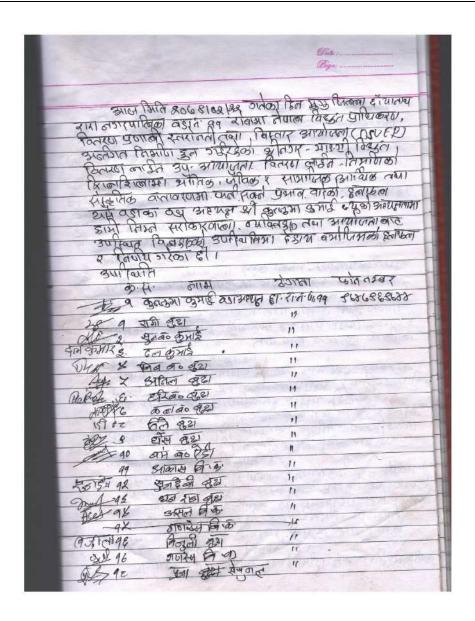
¹¹ https://www.aiib.org/en/policiesstrategies/download/environmentframework/20160226043633542.pdf

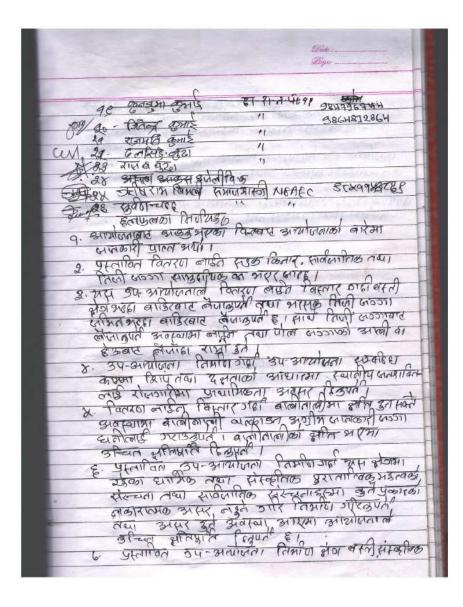
Annex 5: CONSULATATION MEETING MINUTES

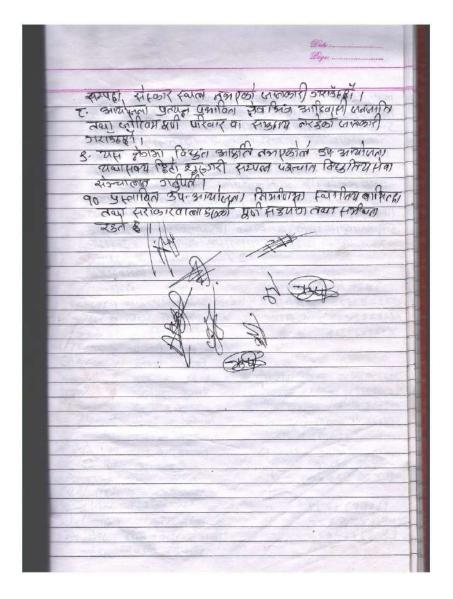


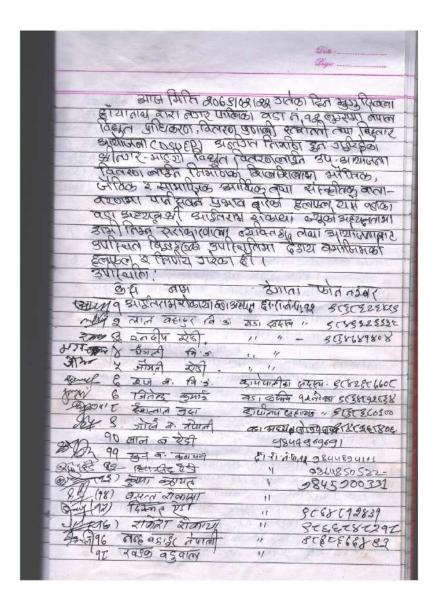


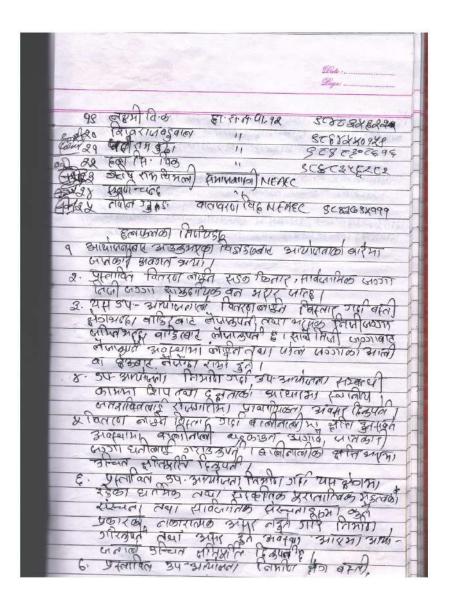


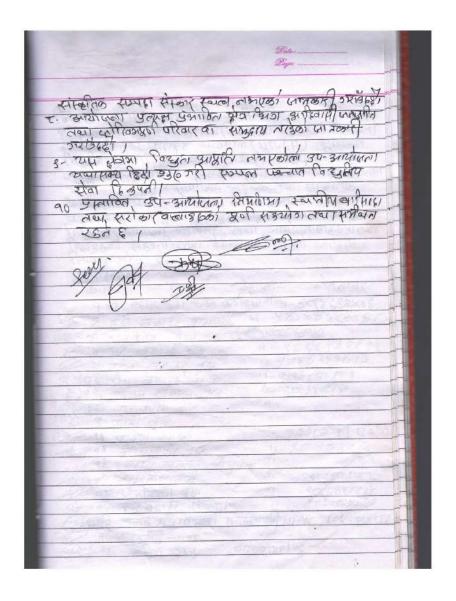


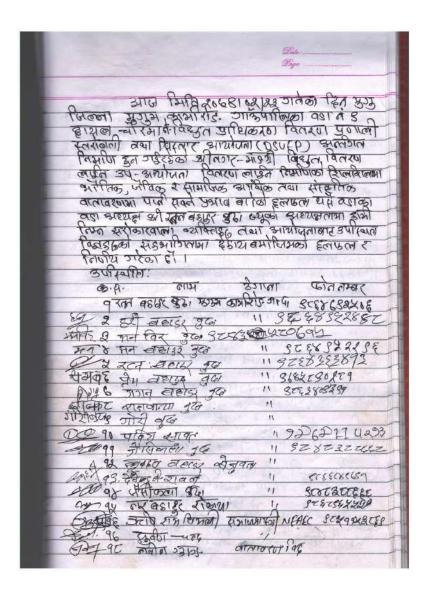


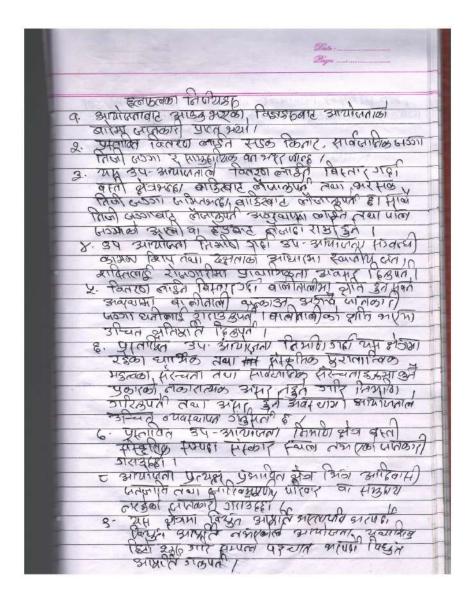


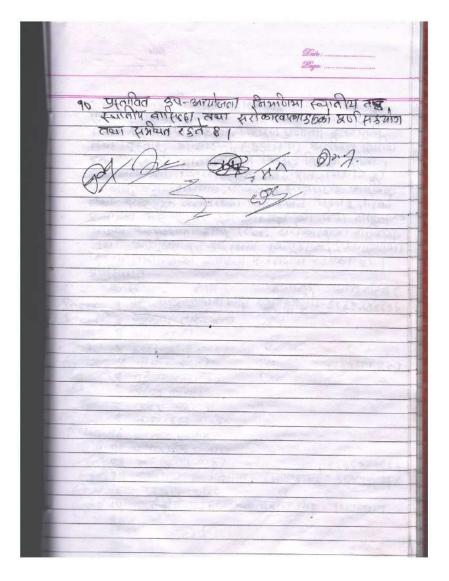




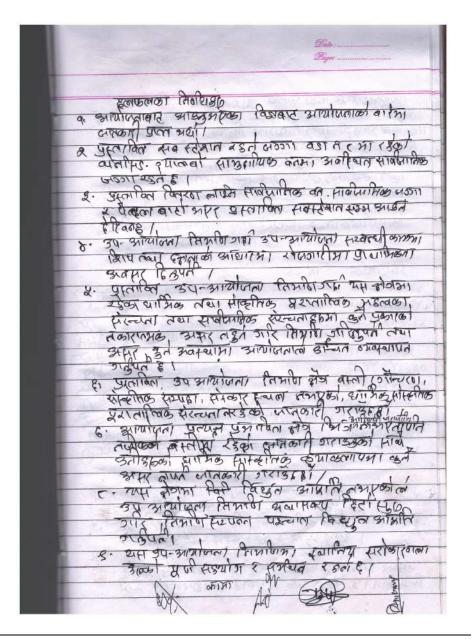


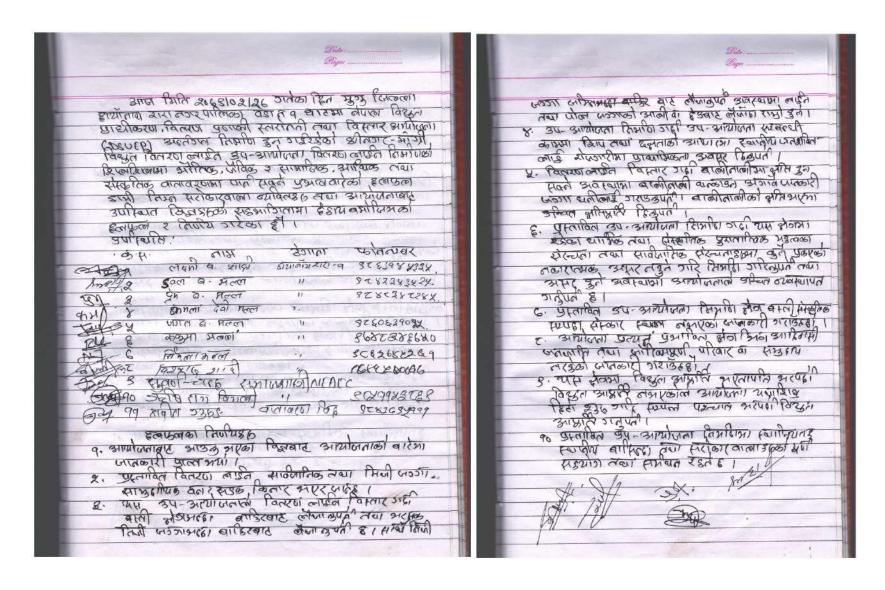






उगाम मिलिकार हैशिका है। कि मिलिका मिलिका मिलिका किल्ला अंग्रेम कामरिंद जारेगालका वडा ते ट्रमांग्रीमा तेपाला विद्युत प्राधिक्रका, वितरण प्रवाली द्वरोत्ती पना विस्तार अवायाया (ठार्किक) अध्याम विमान निर्देशका क्रीतार-मणी विद्युति विताला क्रामी छप-आयोग्ना वितरण व्यक्त समितियात त्रामाणकः विशासिकामा अमिक, जातिक,र मामापिक आर्थिक तथा संस्कृतिक वातावरणमा वार्त मकत पुशाव वार्का हलाकिका मन वटाका वटा अहमझ की त्या मिल्लाम क्यूको अहम्बसाम डामी (तिका सर्राकाश्वाका) वर्धाकारह तथा अधिकपानि उपिमा विक्राक्ती मिन्नािमामा हडाय ब्रमीतिमको हलाइल र तिर्धाय नारेका ही 3 yilanin फोल लाउन त पेमा राष्ट्रनलामा काअस्म कारमकामाराङ उद्देशवर्ति । क्षा मार्थित कार्य X 6915. 41 1 81'n1 y moun oun PC846KT2K2 है शह जिल्लान प्राप्त अंगुन लामाडन T TOTOS ONTAT 2111 1859 aini. 90 लेक ना पहली व लाग्र लीपाउ वव क्लामहोंड वामाड़-4492 SINIBEZIOINI 8786329688 Graga Still ain Fanol saget -crop लावीत ग्रुक्ड. विताव(की विद





Annex 6: DEED OF INQUIRY (MUCHULKAS)





पत्र संख्या ०७८।०७९

च.नं...96%

छायाँनाथ रारा नगरपालिका

नगर कार्यापालिकाको कार्यालय

गमगढी,मुगु

मिति : २०७९।०२।१९ कर्णाली प्रदेश, नेपाल

श्री नेपाल विधुत् प्राधिकरण वितरण तथा ग्राहक सेवा निर्देशनालय दरबार मार्ग काठमाडौ ।

विषय : आयोजनाले आदिवासी जनजाती तथा दलितलाई असर गर्न-नगर्ने सिफारिस सम्बन्धमा ।

उपरोक्त सम्बन्धमा तहाँ कार्यालयको च.नं.२३१ मिति २०७९।०९।१२ को प्राप्त पत्र अनुसार नेपाल विधुत् प्राधिकरण वितरण प्रणाली स्तर उन्नती तथा विस्तार आयोजना द्धारा निमाण गर्न लागिएको श्रीनगर-माग्री विधुत् वितरण लाइन उप आयोजना निर्माण हुने क्रममा यस छायाँनाथ रारा नगरपालिकाकामा आयोजनाले आदिवासी जनजाती तथा दलितको बसोबास भएता पनि प्रतक्ष्य प्रभावित क्षेत्र भित्र नपर्ने भएकोले उक्त आयोजना कार्यान्वय गर्दा आदीवासी जनजाती तथा दलित हरुको विग्रुर्गकलापमा कुनै नकरात्मक असर नपर्ने व्यहोरा सिफारिस साथ अनुरोध छ ।

ललितजेङ्ग मल्ल नि.प्रमुख प्रशासकीय अधिकृत

्र लिलसञ्जू ६००० ५ नि. प्रमुख प्रशासकीय अजिन्ह



छायाँनाथ रारा नगरपालिका

नगर कार्यापालिकाको कार्यालय गमगढी,मुगु

पत्र संख्या ०७८।०७९

कर्णाली प्रदेश, नेपाल

मिति:२०७९।०२।१८

श्री नेपाल विधुत् प्राधिकरण वितरण तथा सेवा निर्देशनालय दरवार मार्ग काठमाडौ ।

विषय : गुनासो समाधान सयन्त्र गठनको जानकारी प्राप्त भएको सिफारिस सम्बन्धमा ।

उपरोक्त सम्बन्धमा तहाँ कार्यालय च.न.३३१ मिति २०७९।०२।१२ गतेको प्राप्त पत्र अनुसार नेपाल विधुत् प्राधिकरण वितरण प्रणली,स्तरवृद्धि,तथा विस्तार आयोजना अर्न्तगत निर्माण हुन गइरहेको श्रीनगर-माग्री विधुत् विस्तार उप आयोजना सम्बन्धी गुनासो समाधान संयन्त्र गठन भएको जानकारी प्राप्त भएको व्यहोरा सिफारिस साथ अनुरोध छ ।

> लितजङ्ग मल्ल नि.प्रमुख प्रशासकीय अधिकृत ु.' लिलतजङ्ग अल्ल ् जि. प्रमुख प्रशासकीय अधिकृत



श्रीनगर्भंगु

कर्णाली प्रदेश ,नेपाल

प.सं :- 067/068 च.नं :- 9062 FHET 2068 108 108 120

विषयः आयोजनाते आदिवाही अनज्याती तथ्य दिनित लाई अस्तर अते । नजरे दिलाधि सम्बन्धमा।

भ नेपाल निद्युत पाधिकर्ष नितर्ष तथा न्त्राह्य सेवा निर्देशनालय दूरमार मार्जि क्राहमार्वे

प्रस्तुत निषयमा त्यहाँ ठार्यालयम् य. हां ये व मिति २०६१/- ०६१११ की प्राप्त पत्र अनुप्तार नेपाल निष्युत प्राष्टिनप्रण नितरण प्रणले स्तरोबती तथा निस्तार कार्योजमा द्वारा निर्माण जिमाण स्ति प्रणाने प्राप्ता प्राप्ता प्राप्ता प्राप्ता निर्माण द्वारा निर्माण कार्योजमा निर्माण द्वारा निर्माण द्वारा निर्माण द्वारा अग्रेमाण कार्या कार्या कार्या कार्या कार्या कार्या कार्या प्रभावित क्षेत्र जित्र प्राप्ता कार्या कार्या

> वडा अध्यक्ष वडा अध्यक्ष



श्रीनगर, मुगु

कर्णाली प्रदेश नेपाल

प.सं :- 067/068 च.नं :- 9063 मिति थै० ७ १७० । ००

विषय: गुनायी स्नाहान स्थल गाउनके जानकारिपाल जल्की श्रिकारिस स्नान्वकारा।

भी नेपाल निधुत प्राह्मिक्र्रण नितर्ण गाहक स्वा निर्देशनालय स्रिक्षारमार्गी, कार्रमार्गी

प्रस्तुत निष्यमात्यहाँ कार्यालयको ध्व हाँ ३३१ मिति २०६८। ६५१११ में प्राप्त निवेदन अनुदार नेपाल निद्धुत प्राह्मिकरण नितरण प्रक्षात्मी स्तरी-हती तथा विस्तार आयोजना आ हतर्यात निर्माण हुनै भाउरहेर् श्रीनगर-म्य निद्धुत पिस्तार उप - आयोजना सम्बाद्ध सुनारी सम्महान स्थान गठन अस्त्री जातकरी प्राप्त भएको त्यहारा सिकारिय स्ताथ अनुरोह्य यात्रिह

> पदम राज मल्ल वडा अध्यक्ष



छायाँनाथ शेशः नम्सपालिका Chhayanath Rara Municipality नगरकार्यपालिकाको कार्यालय

प सं ०७६/०७९ च.नं.४69 २ नं. वडा कार्यालय (2N0.Ward Office) गमगढी, मुगु (Gamgadhi ,Mugu) कर्णाली प्रदेश नेपाल (Karnali Province Nepal)

मिति :२०७०/०२/१८

विषय:-आयोजनाले आदिवासी जनजाती तथा दलितलाई असर गर्ने /नगर्ने सिफारीस सम्बन्धमा।

श्री नेपाल विद्युत प्रधिकरण वितरण तथा ग्राहक सेवा निर्देशनालय दरवारमार्ग ,कामाण्डौ ।

प्रस्तुत विषयमा त्यहाँ कार्यालयको चं.नं.२३१ मिति:-२०७९/०९/१२ को प्राप्त पत्र अनुसार नेपाल विद्युत प्रधिकरण,वितरण प्रणाली स्तरोन्ती तथा विस्तार आयोजना द्वारा निर्माण गर्न लागिएको श्रीनगरु -मांग्री विद्युत वितरण लाईन उप-आयोजना निर्माण हुने कममा यस २ नं. वडामा आयोजनाले आदिवासी जनजाती तथा दिलतको वसोवास भएता पनि प्रत्यक्ष प्रभावित क्षेत्र भित्र नपर्ने भएकोले उक्त आयोजना कार्यन्वयन गर्दा आदिवासी जनजाती तथा दिलतहरूको कियाकलापमा कुनै नकारात्मक असर नपर्ने व्यहोरा सिफारीस साथ अनुरोध गरीन्छ।



प.सं.०७८/०७९ च.नं.&& ह्यायाँनाथ रोरो नगरपालिका
Chhayanath Rara Municipality
नगरकार्यपालिकाको कार्यालय
२ नं. वडा कार्यालय (2NO.Ward Office)
गमगढी, मुगु (Gamgadhi ,Mugu)
कर्णाली प्रदेश नेपाल (Karnali Province Nepal)

मिति :२०७९/०२/१५

चीलागाई

बिषय :-गुनासो समाधान संयन्त्र गठनको जानकारी प्राग्त भएको सिफारीस सम्बन्धमा ।

श्री नेपाल विद्युत प्राविधिकरण वितरण ग्राहक सेवा निर्देशनालय दरवारमार्ग ,काठमाडौ ।

प्रस्तुत विषयमा त्यहाँ कार्यालयको च.न. ३३१ मिति :- २०७९/०२/१२ को प्राप्त पत्र अनुसार नेपाल विद्युत प्राविधिकरण वितरण प्रणाली स्तररोन्ती तथा विस्तार आयोजना अर्न्तगत निर्माण हुन गई रहेको श्रीनगर - माग्री विद्युत विस्तार उप- आयोजना सम्बन्धी गुनासो समाधान संयन्त्र गठन भएको जानकारी प्राप्त भएको व्यहोरा सिफारीस साथ अनुरोध गरीन्छ।



छायाँनाथ रारा नगरपालिका



४ नम्बर वडा कार्यालय, भामवाडा मुगु।

प.स. : -२०७८१०७९

च.न. :- 880

कर्णाली प्रदेश, नेपाल

मिति :२०७९।०२।२४

अं हो. यहा अध्यक्ष

विषय : गुनासो समाधान संयन्त्र गठनको जानकारी प्राप्त भएको सिफारिस वारे ।

श्री : नेपाल विद्युत विधुत प्रधिकरण वितरण तथा ग्राहक सेवा निर्देशनालय दरवारमार्ग, कामाण्डौ ।

प्रस्तृत विषयमा त्यहाँ कार्यालयको च.नं. ३३१ मिति २०७९।०२।१२ को प्राप्त पत्र अनुसार नेपाल विधृत प्रधिकरण,वितरण प्रणाली स्तरोन्ती तथा विस्तार आयोजना अर्न्तगत निर्माण हुन गर्ड रहेको श्रीनगर मांग्री विद्युत विस्तार लाईन उप आयोजना सम्बन्धी गुनासो समाधान संयन्त्र गठन भएको जानकारी प्राप्त भएको व्यहोरा सिफारिस साथ अनुरोध गरिन्छ ।

छायाँनाथ रारा नगरपालिका



४ नम्बर वडा कार्यालय, भामवाडा मुगु।



प.स.: -२०७८।०७९

च.नं. :- SZ 6

कर्णाली प्रदेश, नेपाल

मिति :२०७९।०२।२५

विषय : आयोजनाले आदिवासी जनजाती तथा दलितलाई असर गर्ने / नगर्ने सम्बन्धमा ।

श्री : नेपाल विद्युत विधुत प्रधिकरण वितरण तथा ग्राहक सेवा निर्देशनालय दरबारमार्ग, कामाण्डौ ।

प्रस्तुत विषयमा त्यहाँ कार्यालयको च.नं. २३१ मिति २०७९।०९।१२ को प्राप्त पत्र अनुसार नेपाल विधुत प्रधिकरण,वितरण प्रणाली स्तरोन्ती तथा विस्तार आयोजना द्वारा निर्माण गर्न लागिएको ,श्रीनगर श्रीनगर मांग्री विद्युत वितरण लाईन उप आयोजना निर्माण हुने ऋममा यस ४ नं. वडामा ,श्रीनगर श्रीनगर मांग्री विद्युत वितरण लाईन उप आयोजना निर्माण हुने ऋममा यस ४ नं. वडामा अयोजनाले आदिवासी जनजाती तथा दिलतको वसोवास भएता पनि प्रत्यक्ष प्रभावित क्षेत्र भित्र नपर्ने आयोजना कार्यन्वयन गर्दा आपदवासी जनजाती तथा दिलतहरूको ऋियाकलापमा कुनै भएकोले उक्त आयोजना कार्यन्वयन गर्दा आपदवासी जनजाती तथा दिलतहरूको ऋियाकलापमा कुनै नकरात्मक असर नपर्ने व्यहोरा सिफारिस साथ अनुरोध गरिन्छ ।



कर्णाली प्रदेश नेपाल

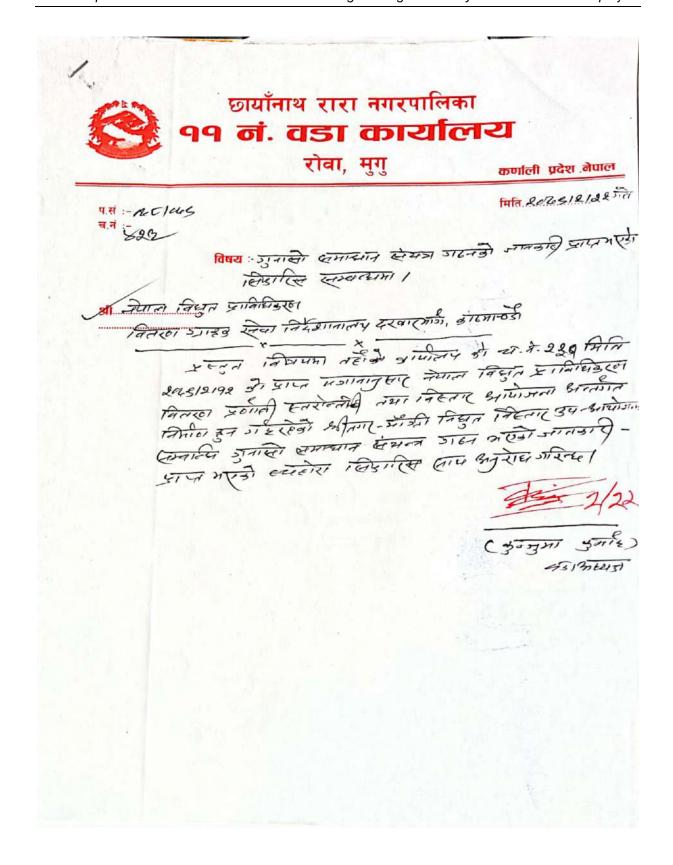
प.सं :-06-1465 च.नं :624 मित्रिश्य ६ १८।२१ मते

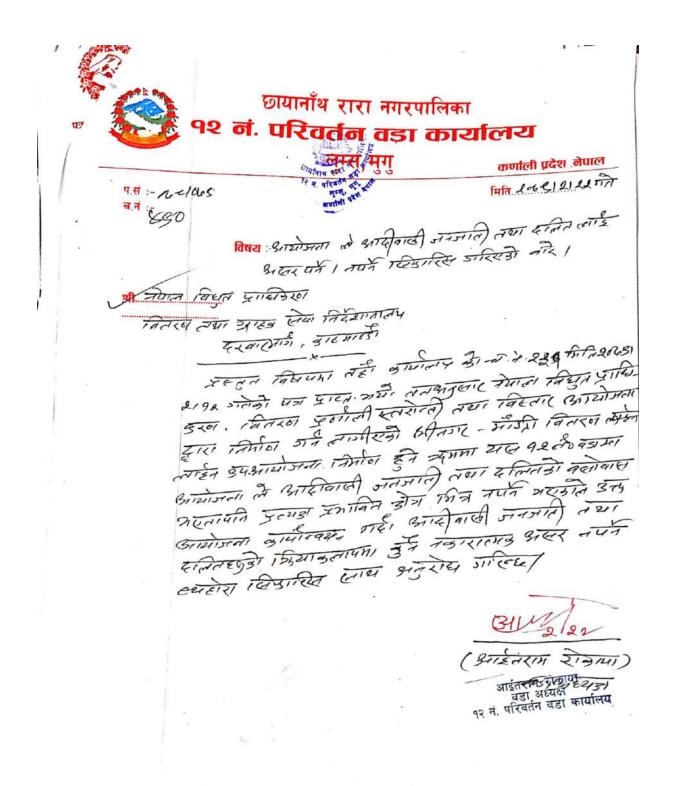
विषयः देशयोजना लें द्राक्रीवासी जनमाली तथा द्रानित वर्णेह अल्स् प्रेंत) नर्जेन स्टिडाल्स गरिएके वरि ।

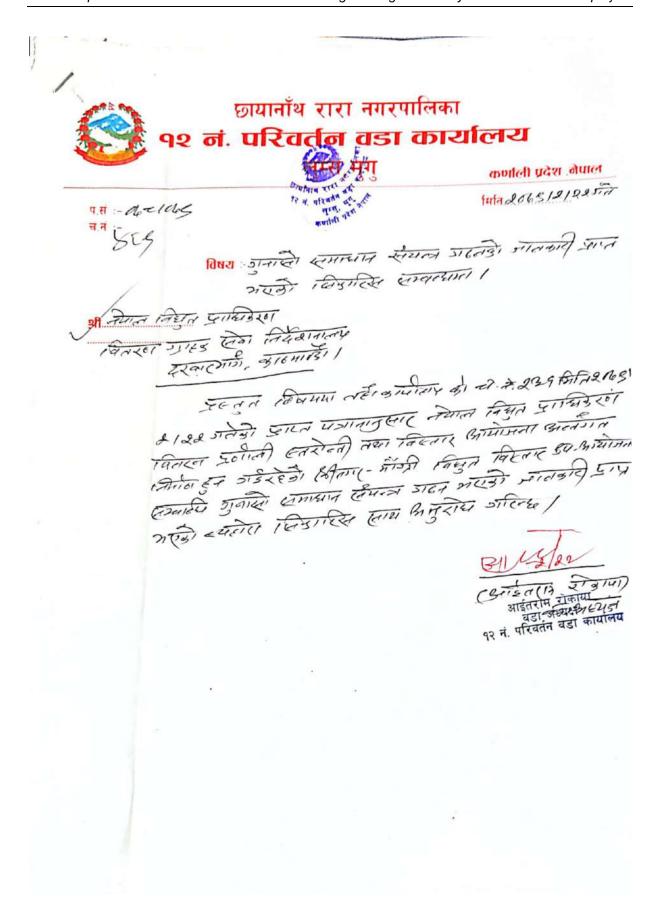
भी नेपाल विधान प्राचीनका

वितरण तथा अव्हर स्टेम निर्देशनालिए दरवात्मार्जा कुराकार्लं ।

> के के जीम कुमीई मार्ड वका अम्मिन जी









मुगुम कर्मारोङ गाउँपालिका

पत् मग

पत्र मः DEC(1669 चलानी मः 828 fula 2063102128

विषय: आयोजनाल द्रमहिमापी अन्तमानी तथा द्रावित

भी नेपाल विष्तुत प्रामिकका, भाह्य खेरा विद्यानालास, दर्गामानी, कादमानी।

प्रतित विकाम तहां का विवाद में 239 मितिका शिष्टा के में वे अव मितिका शिष्टा के में वे पाटत प्रविद्या के पाटत प्रविद्या विद्या विद्या का विद्य का विद्या का विद्या का विद्या का विद्या का विद्या का विद्या का

हि टिड क्याप्न लाजा जारेपालिका अस्माप्त्र हिरिड क्याप्त लामा



मुगुम कर्मारोङ गाउँपालिका

fula: 2068102124

पत्र नं.: 66C1068 चलानी नं. ६,८३

> विषय: जुलासी सम्मधात संयद्धा जाउनको धातकारी प्रात्म अएको क्रंबलामा

क्रिकारमाजी, कार्याची।

प्रस्तुत विषयमा नडीं रियम करयरिलयको

प्रमुख प्रात्म समाधाम निष्या निष्यात प्राप्ति है। वित्र प्रात्म प्राप्ति प्रात्म प्राप्ति प्रात्म प्राप्ति निष्या प्रात्म निष्या प्रात्म निष्या वित्र के वि

हिरिट स्यात लाभा भारतिक अर्थक



T. 7 E. 8

"बहुमूल्य जडिबुटी अर्गानिक खेति तामाखानी छायोंक्षेत्र पर्यटन पूर्वाधार, समृद्द समुन्नत मुगुम कार्मारोङका आधार "

म्तुम कामाराङ गाउपालका द नं. खुडा कार्यालय

कर्णाली प्रदेश, नेपाल

मिति : २०७९।०२।२३

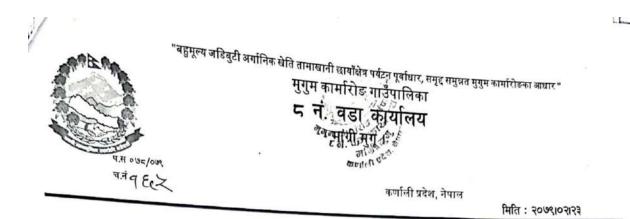
बिषय : आयोजनाले आदीवासी जनजाती तथा दलित लाई असर पर्ने नपर्ने सिफारिस गरिएको बारे ।

श्री: नेपाल विधुत प्राधिकरण वितरण तथा ग्राहक सेवा निर्देशनालय दरवारमार्ग,काठमाण्डौ ।

प्रस्तुत विषयमा तहाँ कार्यालयको प.स.२०७६।०७९ च.नं.२३१ र मिति २०७६।०२।१२ गतेको पत्र प्राप्त भयो ततअनुसार नेपाल विधुत प्राधिकरण वितरण प्रणांली स्तरोन्ती तथा विस्तार आयोजना द्वारा निमाणं गर्नु लागिएको श्रीनगर,मांग्री वितरण लाईन उप.आयोजना निमाणं हुने क्रममा यस ६ नं. वडामा अर्था अर्थानिल आदीवासी जनजाती तथा दलितको बसोबास भएतापनी प्रत्यक्ष प्रभावित क्षेत्र भित्र नपर्ने भएकोले उक्त आयोजना कार्यान्वयन गर्दा आदीवासी जनजाती तथा दलित हरुको कियाकलापमा कुनै नकारात्मक असर नपर्ने व्याहोरा सिफारीस साथ अनुरोध गरिन्छ।

पेमा टोन्डुल लामा ट नं. वडा अध्यक्त

टेलीफोन नं: ९८41755954 ई-मेल :- <u>ito.mugumkarmarongmun@gmail.com,</u> च साइट:-<u>www.mugumkarmarong.gov.np</u>, फेसबुक:@mugumkarmarongmun, ट्वीटर :@mugumkarmarong



विषय : गुनासो समाधान संगन्त्र गठनको जानकारी प्राप्त भएको सिफारिस सम्बन्धमा ।

श्री: नेपाल विधुत प्राधिकरण वितरण तथा

ग्राहक सेवा निर्देशनालय दरवारमार्ग,काठमाण्डौ ।

प्रस्तुत विषयमा तहाँ कार्यालयको प.स.२०७८।०७९ च.नं.२३१ र मिति २०७**९**०२।१२ गतेको प्राप्त पत्रानुसार नेपाल विधुत प्रधिकरण वितरण प्रणीली स्थरोन्ती तथा विस्तार आयोजना अन्तरगत निर्माण हुन गईरहेको श्रीनगर,मांग्री विधुत विस्तार उप.आयोजना सम्बन्धि गुनासो समाधान संयन्त्र गठन भएको जानकारी प्राप्त भएको व्याहोरा सिफारिस साथ अनुरोध गरिन्छ ।



टिलीफोन नं: ९८41755954 ई -मेल :- <u>ito.mugumkarmarongmun@gmail.com,</u> च साइट:-<u>www.mugumkarmarong.gov.np</u>, फेसबुक:@mugumkarmarongmun, ट्वीटर :@mugumkarmarong



पत्र संख्या :- ०६८।०६९

चलानी नम्बर :- 280

कार्णाली प्रदेश , नेपाल वित २०६८ थि थि

विषय: आयोजनाले अमहिवासी जनजाति तवा हिल्लालाई असर जोती कार्य सम्बद्धामा

म तेपाल विद्युत प्राध्यक्तरण वितरण त्रव्या गाइक सेना ब्रिट्रिश्वाणय हरवार मणी, कारमार्थे

प्रस्तुत विषयमा नहीं रिवात कार्यालयको - च तं शुरु मित्र २०६९।२१११ को पाल पंजातस्यार नेपाल विश्वत प्रारिशकर हो विमरण प्रणाली स्तरोक्ती त्या विम्तार आखोजलारू ए। किमाण गरी कारियार कारियार-माँगी विलश्टा लाईत उप-अव्योखना निर्मात इंडो क्रममा यहा इतं वडाका अत्योगताले अमहिवासी अलामित वर्षा प्रमान लिंड निर्मात्म खड्क तीर तर्म क्राम् विमनी उ अरकील इक्त आरोजना कार्यात्वाका जाही स्वातीय आहिवासी अतानातिङ्को प्रश्चपराज्य रहत (रहत राज्यी भाषा संक्रित्या दिला)-इको कृशाकलायम। कुर्ने नकारतमक असर नपति वयसो रा सिकारिम राज्य अवसेश गीरहर

Distribution System Upgrade and Expansion Project (DSUEP)



विषयः सूचना टाँस गरिएको सम्बन्धमा ।

उपरोक्त सम्बन	धमा त्यस कर	पनीको मिति	2069198192	को प्राप्त	पत्रानुसार
Bollean		प्रदेश.		451	जिल्ला,
न्यामानायाराचे	गा.पा./न.पा	81 - 47.95W	२०७९) <u>१</u> ८१.१२ (त.ट .बडा मा नेपाल	ा विद्युत प्राधि	करण द्वारा
प्रस्तावित 'बितरण	। प्रणाली स्तरंउन	गति तथा विस्त	ार आयोजना" को	वातावरणीय तथ	ा सामाजिक
व्यबस्थापन योजना	(Environment a	and Social Mar	nagement Plan) Я	तिबेदन तया	री सम्बन्धि
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गाउँ/नगर पालिका व	गर्ड नं छायशयका मा	अवस्थित यस	अग्येनपूर्व		पग - जो ल - र ।
सुचना पाटिमा २०	19.1.9.g.	गते टाँस गरिए	एको व्यहोरा जानका	रीका लागि अ	नुराध छ।

हस्ताक्षरः

नामः लासित जेश सलल पदारेप्सूम्ब प्राप्टाल्य आधिकत

कार्यालय/संस्थाको छाप

्रें लाहातकः । जि. प्रमुख प्रशासकीय जिप्तवृत

विषयः सूचना टाँस गरिएको सम्बन्धमा ।

उपरोक्त सम्बन्धमा त्यस कम्पनीको मिति २०७९.१६८.१९ को प्राप्त पत्रानुसार प्रदेश, प्रदेश, जिल्ला, जिल्ला, वडामा नेपाल विद्युत प्राधिकरण द्वारा प्रस्तावित "वितरण प्रणाली स्तरउन्नति तथा विस्तार आयोजना" को वातावरणीय तथा सामाजिक व्यबस्थापन योजना (Environment and Social Management Plan) प्रतिबेदन तयारी सम्बन्धि सार्वजनिक सूचना यस <u>कुर्ग एट्टी</u> प्रदेश, <u>नु</u> नु जिल्ला, गाउँ/नगर पालिका वार्ड नं <u>9</u> मा अवस्थित यस <u>कुर्ग म</u> को सूचना पाटिमा २०७९. 6. 1.4.5... गते टाँस गरिएको व्यहोरा जानकारीका लागि अनुरोध छ।

नामः प्रश्निदान अल्टा पदः वार्षे अस्यान

कार्यालय/संस्थाको छाप

Distribution System Upgrade and Expansion Project (DSUEP)

वितरण प्रणाली स्तरउन्नित तथा विस्तार आयोजना अन्तर्गतका उप-आयोजनाहरुको वातावरणीय तथा सामाजिक व्यवस्थापन योजना (Environmental and Social Management Plan) प्रतिवेदन तयारी सम्बन्धी सार्वजनिक सूचना टाँस को मुचुल्का

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तथा विस्तार आयोजना Management Plan) प्रतिबे हि। २८१-१ १० २ १२ - आज २०७९ १० २ १२ - ग	मा नेपाल विद्युत प्रा	धिकरण द्वारा प्रस्तावि सम्मानिक सामगणित	वत "वितरण प्रणाल योजना (Environme स <u>श्रुञ्</u> स गरिएको प्रमाणित	nt and Social	
	7	तपसिल			
क्र.स. नाम	ठेगाना ठेगाना	—— पेशा	सम्पर्क नम्बर	हस्ताक्षर	_
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विषयः सूचना टाँस_गरिएको सम्बन्धमा ।

उपरोक्त सम्बन्	धमा त्यस कम	पनीको मिति	2009/1021.12	को प्राप्त पत्रानुर श्रुजिल	नार
- goren		प्रदेश, 👩	3	9]जिल विद्युत प्राधिकरण ह	ला,
ENMINIMAN,	गा.पा./न.पा	2 1	वडामा नेपाल	विद्युत प्राधिकरण ह	जन
प्रस्तावित "वितरण	। प्रणाला स्तरउन्न	गत तथा विस्ता	र आयाजना" का व	तिवरणाय तथा सानाः	
व्यबस्थापन योजना	(Environment a	ind Social Man	agement Plan) ਸ਼ੀ	तेबेदन तयारी सम्ब	गन्ध
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गाउँ/नगर पालिका व	गर्ड नं $oldsymbol{arDelta}_{}$ मा	अवस्थित यस	91.120.4	9 . 8.7	क
सूचना पाटिमा २०	109.1.0.2.19t.	गते टाँस गरिए	एको व्यहोरा जानका	रीका लागि अनुरोध	छ।

हस्ताक्षर

नामः

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पद:

राज चौलामाई बडा अध्यक्ष । रास नगरपनिका-१ एए

वडा करा है

कार्यालय/संस्थाको छाप

विषयः सुचना टाँस गरिएको सम्बन्धमा ।

उपरोक्त सम्बन्धमा त्यस कम्पनीको मिति २०७९:19.19.2 को प्राप्त पत्रानुसार जिल्ला, प्रदेश, प्रदेश, वडामा नेपाल विद्युत प्राधिकरण द्वारा प्रस्तावित "वितरण प्रणाली स्तरउन्नित तथा विस्तार आयोजना" को वातावरणीय तथा सामाजिक व्यवस्थापन योजना (Environment and Social Management Plan) प्रतिवेदन तयारी सम्बन्धि सूचना पाटिमा २०७९ । २००० गते टाँस गरिएको व्यहोरा जानकारीका लागि अनुरोध छ।

नामः पदमा देवी आम पदः वडा सान्यव

वितरण प्रणाली स्तरउन्नित तथा विस्तार आयोजना अन्तर्गतका उप-आयोजनाहरुको वातावरणीय तथा सामाजिक व्यवस्थापन योजना (Environmental and Social Management Plan) प्रतिवेदन तयारी सम्बन्धी सार्वजनिक सूचना टाँस को मुचुल्का

्र तर्भे वर्षण प्रदेश, प्रदेश, जिल्ला, हाथाताब राहा गापातच्या कार्या कार्या कार्या कार्या कार्या कार्या कार्या	ĮŢ.
जः के के रवडामा नेपाल विद्यत प्राधिकरण द्वारा प्रस्तावित "वितरण प्रणाला स्तरिक"	77
तथा विस्तार आयोजना" को वातावरणीय तथा सामाजिक व्यवस्थापन योजना (Environment and Soci	ना
ह भ्यानार्क राज्य पाउँ/नगर पालिका वार्ड नं ४ को अनिस्मार्क पाउँ/नगर पालिका वार्ड नं ४ को अनिस्मार्क प्रमाणित गर्दै यो मुचुल	मा
गति होमा तेपासलका व्यक्तिरुपन राज्यस्य उत्तर सर्वे	

	तपसिल			
क्र.स. नाम	ठेगाना	पेशा	सम्पर्क नम्बर	हस्ताक्षर
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प्रकल पंरवच प्र	इतर। ।।	वृशिष	858433	36029
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विषय:	सचना	टाँस	गरिएको	सम्बन्धमा	1

> नामः क्रिश्नाभा सम्मि द्वासार पदः ब्लाम्सि संस्थिति पदः ब्लामि संस्थिति वडा सामान्य वडा कार्यालय

विषयः सचना टाँस गरिएको सम्बन्धमा ।

उपरोक्त सम्बन्धमा त्यस कम्पनीको मिति २०७९।७८।.१८ को प्राप्त पत्रानुसार प्रदेश, प्रदेश, प्रदेश, जिल्ला, प्रदेश, वडामा नेपाल विद्युत प्राधिकरण द्वारा प्रस्तावित "वितरण प्रणाली स्तरउन्नित तथा विस्तार आयोजना" को वातावरणीय तथा सामाजिक व्यवस्थापन योजना (Environment and Social Management Plan) प्रतिबेदन तयारी सम्बन्धि व्यवस्थापन योजना यस प्रदेश, प्रदेश, जिल्ला, सार्वजनिक सूचना यस प्रदेश, प्रदेश, को प्रतिबेदन तयारी सम्बन्धि गाउँ/नगर पालिका वार्ड नं मा अवस्थित यस का का प्रदेश जानकारीका लागि अनुरोध छ। सूचना पाटिमा २०७९।।८८।। को टाँस गरिएको व्यहोरा जानकारीका लागि अनुरोध छ।

नामः । है, १८५ : व्याप्त हराज्या पदः अस्तिविका क्षिण्यक्।

मान कार्या के कि है। मान कार्या के कि होंगे कार्यामा करेंगे

कार्यालय/संस्थाको छाप

विषयः सूचना टाँस गरिएको सम्बन्धमा ।

उपरोक्त सम्बन्धमा त्यस कम्पनीको मिति २०७९।४२.१.१.१ का प्राप्त पत्रापुरात	
प्रदेश, ० वडामा नेपाल विद्युत प्राधिकरण द्वारा	
उपरोक्त सम्बन्धमा त्यस कम्पनीको मिति २०७९।६२.१५.१ को प्राप्त जिल्ला, प्रदेश, पर्देश, वडामा नेपाल विद्युत प्राधिकरण द्वारा प्रस्तावित "वितरण प्रणाली स्तरउन्नित तथा विस्तार आयोजना" को वातावरणीय तथा सामाजिक प्रस्तावित "वितरण प्रणाली स्तरउन्नित तथा विस्तार आयोजना" प्रतिबेदन तयारी सम्बन्धि	
प्रस्तावित "वितरण प्रणाली स्तरउन्नित तथा विस्तार आयोजना का वातार सम्बन्धि व्यवस्थापन योजना (Environment and Social Management Plan) प्रतिबेदन तयारी सम्बन्धि व्यवस्थापन योजना (Environment and Social Management Plan) प्रतिबेदन तयारी सम्बन्धि व्यवस्थापन योजना (Environment and Social Management Plan) प्रतिबेदन तयारी सम्बन्धि व्यवस्थापन योजना (Environment and Social Management Plan) प्रतिबेदन तयारी सम्बन्धि	
मावजानक सचना वर्ष	
सार्वजनिक सूचना यस	١
सचना पाटिमा २०७९१७२.1 गते टास गार्एका ज्यहार म	

नामः पेन्स राष्ट्रस्त लामा पदः व प्रेलेश होएड्स लामा

कार्यालय/संस्थाको छाप

विषयः सूचना टाँस गरिएको सम्बन्धमा ।
परोक्त सम्बन्धमा त्यस कम्पनीको मिति २०७९।८२.।१.२ को प्राप्त पत्रानुसार जिल्ला, प्रदेश, वडामा नेपाल विद्युत प्राधिकरण द्वारा अत्रेश, वडामा नेपाल विद्युत प्राधिकरण द्वारा अत्रेश, वडामा नेपाल विद्युत प्राधिकरण द्वारा अस्तावित "वितरण प्रणाली स्तरउन्नित तथा विस्तार आयोजना" को वातावरणीय तथा सामाजिक प्रस्तावित "वितरण प्रणाली स्तरउन्नित तथा विस्तार आयोजना" को वातावरणीय तथा सामाजिक जिल्ला, प्रमुख्य (Environment and Social Management Plan) प्रतिबेदन तयारी सम्बन्धि जिल्ला,
्रा.पा./न.पा. वडामा नेपाल विक्रा नेपाल विक्रा सामाजिक को वातावरणीय तथा सामाजिक
प्रस्तावित "वितरण प्रणाली स्तरउन्नात तथा प्रस्तावित "Plan) प्रतिबेदन तथारा प्रमाणिक जिल्ला,
प्रस्तावित "वितरण प्रणाली स्तरउन्नित तथा विस्तार आयोजना" को वातावरणीय तथा प्राप्ति प्रस्तावित "वितरण प्रणाली स्तरउन्नित तथा विस्तार आयोजना" को वातावरणीय तथा प्राप्ति प्रम्बन्धित व्यवस्थापन योजना (Environment and Social Management Plan) प्रतिबेदन तयारी सम्बन्धित व्यवस्थापन योजना (Environment and Social Management Plan) प्रतिबेदन तयारी सम्बन्धित प्रवेश, प्रदेश, जिल्ला, जिल्ला, प्रदेश, प्रदेश, जिल्ला, जिल्ला, प्रवेश, प्रवेश, जिल्ला, जिल्ला, प्रवेश, प्रवेश, जिल्ला, जिल्ला, प्रवेश, प्रवेश, जिल्ला, जिल्ला, प्रवेश, प्रवेश, जिल्ला, जिल्ला, प्रवेश, जिल्ला, प्रवेश, जिल्ला, जिल्ला, प्रवेश, जिल्ला, प्रवेश, जिल्ला, प्रवेश, जिल्ला, प्रवेश, जिल्ला, जिल्ला, प्रवेश, जिल्ला, प्रवेश, जिल्ला, जिल्ला, प्रवेश, जिल्ला, प्रवेश, जिल्ला, प्रवेश, जिल्ला, प्रवेश, जिल्ला, प्रवेश, जिल्ला, जिल्ला, प्रवेश, जिल्ला, जिल्ला, प्रवेश, जिल्ला, जिल
सूचना पाटिमा २०७९.10.2.1.9.5 गत डाउ सूचना पाटिमा २०७९.10.2.1.9.5 गत डाउ हस्ताक्षरः १९७५ १९७५ १९७५ नामः २०५१ २६१५२ १९६१
COS 9
नामः ब्रह्म अस्पर्धाद्वर युद्धाः पदः वर्षे अस्पर्धाद्वर युद्धाः स्टा कार्यालय/संस्थाको छाप
पदः ११ कि. विश्व अर्थातिका कार्यालय/संस्थाको छाप
यदः उड्डा सुद्धाः अध्याता कार्यालय/सस्यानः
Con Explication

वितरण प्रणाली स्तरउन्नति तथा विस्तार आयोजना अन्तर्गतका उप-आयोजनाहरुको

वातावरणीय तथा सामाजिक व्यवस्थापन योजना (Environmental and Social Management Plan) प्रतिवेदन तयारी सम्बन्धी सार्वजनिक सूचना टाँस को मुचुल्का

तथा विस्तार आयोजनाः Management Plan) प्रतिबे अगुज्य स्थापन	ा नेपाल विद्युत प्रा	धेकरण द्वारा प्रस्तावित सम्मानिक लाबस्थापन य	ा 'बितरण प्रणात्ना र विजना (Environment)	स्तरउन्नात and Social
आज २०७९.1.६ <i>५.1.४.2</i> गरिदियौं।	ति होमा पंपायराचन -			
		तपसिल		
क्र.स. नाम	ठेगाना	पेशा	सम्पर्क नम्बर	हस्ताक्षर
क्र.स. नाम १ जिमीकला कुछ। २ लाला वं रोका	मुञ्जमकामा	१३ व्यापा	BESTELTE BESTELTE	t and.
व द्धकलारा	हाय। हिग्डम्	गाराङ, ९ ० या	<u> </u>	ह इ कल
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		F.		
			-	

Annex 7: SAFETY RELATED SIGNS AND WASTE MANAGEMENT PRACTICES

SIGNAL NOTICE









Fire hose अग्नी नियन्त्रण पाड्प

DANGER SIGNS







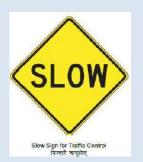


Danger of open trench खतरा - खुला रेन्च

INSTRUCTION SIGNS









SAFETY AND SAFETY INSTRUCTION SIGNS













Annex 8: PHOTOGRAPHS



DL alignment at Chhayanath Rara Municipality

DL alignment passes through Community Forest



Tapping point (Chhayanath Rara Municipality Ward No. 4)



Notice Pasting for Public Consultation



Measuring DBH of tree at Bhadali CF



DL Alignment Passes through Community Forest



Proposed area for substation at Mangri, Mugum Karmarong Rural Municipality, Ward No. 9



Consultation Meeting at Mugum Karmrong RM, Chatyalbada



Consultation Meeting at Chhayanath Rara Municipality, Ward No. 11



Consultation Meeting at Mugum Karmarong RM, Ward No. 9

Annex 9: ENVIRONMENTAL AND SOCIAL SCREENING AND RAPID ASSESSMENT GUIDANCE FOR DISTRIBUTION LINE

9.1 Screening Guidance – to be filled up per subproject (11kV line)

Province:
District/Municipality:
Subproject Name:
Subproject Location: name of locations of distribution line (start from/ward/municipalityend to..... (ward/municipality),
Total length of distribution line:.....km/m

Environmental and Social Screening Criteria	Project Requirement		
Environmental Impact Assessment Requir	 rement		
EIA/IEE.			
As per national requirement (as per Environn	nental Protection Act 2019) does the		
subproject require assessment of BES/IEE of			
1.	If "Yes", the subproject needs to prepare		
	ESMP as per AIIB requirement.		
Natural Habitat			
Defined as the type of natural environment in			
lives. It is characterized by both physical and			
has not essentially changed the main ecologi			
4. Is the subproject located in a legally	If "Yes", please indicate what type of		
protected area based on Forestry Map?	permission it will requires		
5. Does distribution line route/poles close to			
any touristic view points, wetlands, and	If "Yes" please indicate what impact it will		
sites of cultural / religious / archeological /	entail.		
historic significance?			
6. Will the subproject significantly make	If "Yes", please indicate what impact it will		
impact of degradation or change of the	entails including cutting down trees etc.		
natural known habitat/migration movement			
route of protected rare and endangered			
species and/or forest in the protected area,			
proposed protected area or area			
considered with special ecology?			
7. Does the distribution line/ route and	If "Yes" please indicate what impact it will		
locations of poles are falling in any	entail.		
landslide & erosion prone/ risk spot where			
geological avoidance is not feasible			
Indigenous Peoples (IPs)			

Identification of the existence IPs is aimed to guarantee that IPs would be treated as well as other community members and given opportunity to participate and get access to the benefit of the project with ways that would not threat their exclusive culture and welfare. The project has to give correct and detail information of the objective and plan (design, schedule etc) of the subproject with consultation with the IPs before any construction activity in the area started.

The term IPs is used generally for an ethnic individual or group that: (i) are considered by

national or local laws or policies as well as anthropological researches/studies as belonging to ethnic minorities or Indigenous Peoples defined by Nepal Federation of Indigenous Nationalities(NEFIN); (ii) identify as being part of a distinct social and cultural group; (iii) self-identify as being part of a distinct social and cultural group; (iv) maintain collective attachments to distinct habitats or ancestral territories and/or to the natural resources in these habitats and territories; (iv) maintain cultural, economic, social, and political institutions distinct from the dominant society and culture; (v) speak a distinct language or dialect; (vi) have been historically, socially, and economically marginalized, disempowered, excluded, and/or discriminated against; (vii) represented as "Indigenous Peoples" or as "ethnic minorities" in any formal decision-making bodies at the national or local levels.

- 7. Is the subproject area affected community:
- (i) Are considered by national or local laws or policies as well as anthropological researches/studies as belonging to ethnic minorities or Indigenous Peoples defined by Nepal Federation of Indigenous Nationalities(NEFIN)?
- (ii) Identify as being part of a distinct social and cultural group?
- (iii) Self-identify as being part of a distinct social and cultural group?
- (iv) Maintain collective attachments to distinct habitats or ancestral territories and/or to the natural resources in these habitats and territories
- (v) Maintain cultural, economic, social, and political institutions distinct from the dominant society and culture?
- (vi) Speak a distinct language or dialect?
- (vii)Have been historically, socially, and economically marginalized, disempowered, excluded, and/or discriminated against?
- (viii) Represented as "Indigenous Peoples" or as "ethnic minorities" in any formal decision-making bodies at the national or local levels?
- 8. Is there any adverse impact on any groups identified (by answering "Yes") on the point 5?

If "Yes" in any of the question no 7, consultation should be conducted as described above. This should be documented as followed: (i) proof of dissemination of the notice for consultation; (ii) notes on when is the consultation being held, who attend the consultation, what is the result, and documentation of every consultation, with list of attendance segregated by gender. The form of attendance list and notes of meeting is attached in Appendix 11

If "Yes", the subproject is not qualified to be included. Realign.

Cultural Resources

Cultural resources include tangible culture (such as buildings, monuments, landscapes, books, works of art, and artifacts), intangible culture (such as folklore, traditions, language, and knowledge), and natural heritage (including culturally significant landscapes, and biodiversity)

9. Is the subproject temporary or permanently causing relocation or any other negative impacts to cultural heritage that has important significance for local, regional or national based on provincial or national list, proposed provincial or national list, and/or just has been identified when the

If "Yes", the subproject is not qualified to be included

public consultation with project affected	
people was held?	16 (2) () () () () () () ()
10. Is there any cultural heritage especially	If "Yes", the subproject is not qualified to
with important value for local community	be included
(eg. ancestral tomb) being negatively	
affected by the subproject? Land Use	
The development of or erection of distribution	a poles will require use of land. The land
requirement would be optimized by using gov	
For Right of Way, private land might be affect	
available, and/or necessary to connect to priv	
use of their land and people whose non-land	
secured using written documentary evidences	• • • • •
During the construction phase, there would be	• •
activities. The contractor on behalf of NEA sh	
roadside, and will rent private land with budge	
public land is not available.	
11. Is there any land owned by individual or	If "Yes", the consent form has to be filled
organisation to be affected because of the	and collected. Keep all written letter
subproject?	request and filled consent documentation
	in hard copies
12. Is there any subproject activity that	If "Yes", explain briefly why there would be
would restrict or close access to the	restriction and/or closure and what would
community usual activities, facilities and	be the arrangement with the landowners
services, productive assets and natural	and land users.
resources permanently or temporarily?	
	Keep all written filled consent
	documentation in hard copies
13. Is there any crops and/or trees (fruit,	If "Yes", explain briefly what would be the
timber or herb) or fixed assets, loss of	impacts of the trees and crops, loss of
business or enterprises owned by individual	business or enterprises and the
or organisation to be affected because of	arrangement with the landowners,
the subproject?	business owners and land users.
	Keep all written filled consent
	documentation in hard copies include
14. Is there any adverse impact on social	reference/basis for compensation. If "Yes", explain briefly what would be the
and economic activities arising from change	adverse impacts on social and economic
in land use	activities arising from change in land use
15. Is there restrictions on land and	If "Yes", explain briefly what would be the
resources owned communally or by the	impacts of the restrictions on land and
Government	resources owned communally or by the
- COTOTINION	Government
16. Is there any private land to be used	If "Yes", explain briefly:
temporary during the construction phase for	- location(s) of private land to be used
any construction activities?	- evidence(s) that the land would be rented
,	under contractor's contract
Safety Distance	
As per Electricity Regulation 2050 (1993)	
17Schedule 12 (Distance which ought to be	If "Yes", for any of the question, the
from wire to the ground)	subproject has to redirect the distribution
-	lines plan to follow the safety distance
18. Schedule 13 (Minimum distance which	Note:
18. Schedule 13 (Minimum distance which	1 · · · · · · · · · · · · · · · · · · ·

1 9	Keep all plan documented in print-out, any
tree)	change has to be noted in the resource documents
a.	documents

9.2 Mitigation measures if the impact entails:

	Particulars	Mitigation	Responsibility	Remarks
		measures		
E1.	If route passes through forest area and tree cutting is required.			
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.			
E3.	To maintain minimum clearance as per government/NEA standard.			
E4.	If existing transformers are replaced with new one. How to manage to those replaced one			
E5.	Occupational health and safety measures of the works during the erection/installation of poles/cables			
E6.	Issues related to influx of labor/labor camp and sanitation			
E7.	Other if any	41		

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.

9.3 Supporting Form

1	Subproject	
2	Type of Activity (choose in accordance with the activity)	□ Extension of 11 kV distribution lines □ Expansion of distribution lines on existing right of way□ □:
3	Project Description (describe briefly about the project activities from preparation to operation)	
4	Project Location (describe the location of the project in detail, name of sub-village, village district, regency/city and province)	
	Alternatives Considered and Hierarchy of Mitigation Measures applied (for private land and/or land belonging to IPs)	
5	Work Capacity (describe the capacity of the work)	
6	Protected Area (checking whether the project location is in protected location below)	
	a. Protected Area as defined By the Department of National Parks and Wildlife and conservation and Forest Act 2076	□ Protected forest/Types of Forest □ Wetland □ □ □ □ □ □ □ □ □ □ National Park and Wildlife
	c. List of protected	1.
	species/animals based on the International Union for Conservation of Nature (IUCN) List	
7	Land Use – provide explanation for items 12-16 if applicable	
8	IPs Area (checking whether the project location is in IP location or there are presence of IP groups or ethnic minorities in the community)	

^{*} might cross (X) more than one options

Form on Consent of Private Land Owner(s)

Statement Letter

In relation with the request for electricity distribution upgrade and expansion of NEA with the following details:

......

.....

Location	:	
Geo-tagging (coordir	nates):	

Like to inform that we give permission for the electricity installation to the above location from all parties that whose land and non-land assets (like plants and crops) could be affected by the development for installing the poles, transformer and right of way. The

parties on the list below agree for the usage of the land and any necessary clearance needed (e.g. trimming of branches, cutting of trees).

List of Name

Power

No	Name	Address	Signature
1			
2			
3			
4			

....,202...

Witnesses	Applicant
Ward Chair or Ward Member (other	
authority)	(Legal stamp)
	(Name and signature)
(Name and signature)	

Attachment:

Map of Distribution Network Plan Drawing

For any complaints or request for information, NEA can be contacted via 123.

Notes and List of Attendance of Community Consultations

Notes of	Community	Consultations
----------	-----------	---------------

Date, time :	
· :	
Name of the Village /Municipality and Wa	ard:
:	
Name of the Province :	
:	

Note of the Community Consultation:

- 1.
- 2.
- 3.

Name of the notes taker:	:		Signature:
Agreed by Position	:	1.	Signature:
Position	:	2.	Signature:

List of Attendance of Community Consultations

Date, time	:
:	
Name of the Village/	Municipality and Ward:
:	
Name of the Province	e:

No	Name	Gender		Address or Mobile	Signature
		Male (M)	Female (F)	Phone	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Google map of 11kV distribution line

Consent letter of Community Forest User Groups (If route alignment passes through forest)

E & S Screening completed by:
Name:
Designation:
Date:
E & S Screening verified/reviewed by:
Name:
Designation:
Date: