Initial Environmental Examination – Appendices

Project No. 41155-013
April 2016

NEP: Electricity Transmission Expansion and Supply Improvement Project

Appendix H - Chapter 5-11

Prepared by Nepal Electricity Authority for the Asian Development Bank.

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Chapter 5

POLICIES, LEGISLATIONS AND DIRECTIVES TO BE CONSIDERED

The IEE shall review the following Plans/Policies, Acts, Rules/Regulations, Guidelines, Standards and Strategies and provide an account of the review in the IEE report in the context of project implementation:

5.1 Interim Constitution, 2006

5.2 Plans and Policies

- Three Years Interim Plan, 2064
- Nepal Environmental Policy and Action Plan, 2050 (1993) and 2055 (1998)
- Forestry Sector Policy, 2057 (2000)
- Hydropower Development Policy, 2058 (2001)
- National Water Plan,2062 (2005)
- वन क्षेत्रको जग्गा अन्य प्रयोजनको लागि उपलब्ध गराउने कार्यविधि, २०६३
- "शासकीय तथा आर्थिक सुधारको तत्कालीन कार्ययोजना २०६९"

5.3 Acts

- Environment Protection Act, 2053 (1997)
- Water Resources Act, 2049 (1992)
- Electricity Act, 2049 (1992)
- Land Acquisition Act, 2034 (1977)
- Forest Act, 2049 (1993)
- Labor Act, 2049 (1992)
- Soil and Water Conservation Act, 2039 (1982)
- Local Self-Governance Act, 2055 (1999)

5.4 Rules and Regulations

- Environment Protection Rules, 2054 (1997)
- Electricity Regulation, 2050 (1993)
- Forest Regulations, 2051 (1995)
- Water Resources Regulation, 2050 (1993)
- Local Self Governance Regulation, 2056 (1999)

5.5 Guidelines and Convention

- National Environmental Impact Assessment Guideline, 1993;
- EIA Guidelines for Forestry Sector, 1995;
- Forest Produce Collection and Sale / Distribution Guidelines, 2054 (1998);

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- Procedures for Community Forest Inventory Guidelines, 2062 (2005)
- Convention on Biological Diversity, 1992;
- Convention on International Trade in Endangered Species of Wild Fauna & Flora,1973
- Community Forest Guidelines, 2058; and
- International Labor Organization (ILO), 169

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Chapter 6
REQUIREMENT OF THE STUDY

6.1 Time Schedule and Human Resources

6.1.1 Time Schedule

The IEE study is planned to be completed within a period of nine months after the approval of Terms of Reference from Ministry of Energy. The proposed schedule to be carried out during IEE study is shown in table 6.1.

Table 6.1 Proposed Schedule for IEE of Tamakoshi-Kathmandu 400 kV T/L Project

S. No.	Activities	Schedule in Months									Remarks
		1	2	3	4	5	6	7	8	9	
1	Desk Study and Preparatory Work										The detail field study for the IEE will start after approval of ToR from the ministry.
2	Detail Field Investigation/ Data Collection										
3	Data Encoding and Analysis										The time for approval of the final report depends on Ministry of Energy
4	Draft IEE Report Preparation										
5	Recommendation Letter from VDCs								—		
6	Final IEE Report Preparation and comment incorporation										
7	Submission to ministry for approval										

6.1.2 Human Resource

The IEE team shall include specialists on physical, biological and socio-economic and cultural disciplines. Under the leadership of the project coordinator, each expert shall fulfill his or her responsibilities for the assignment in accordance with the requirement of approved the ToR for the IEE study. The following experts shall be involved in the IEE:

Table 6.2: Study Team Member

S. No.	Name	Designation	Field of Specialization
1.	Rajan Rishi Kandel	Team Leader	Sociology
2.	Nabin Rimal	Team Member	Civil Engineer
3.	Poonam Pokharel	Team Member	Economics
4.	Krishna Prasad Joshi	Team Member	Data Analysis; Statistics
5.	Prakash Gaudel	Team Member	Environment; GIS

To assist the IEE team, support staffs shall be hired at local level as per requirements.

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Chapter 7
SPECIFIC ENVIRONMENTAL IMPACTS

7.1 Background

The environmental issues considered during the IEE study of the project shall be due to the construction of proposed 400 kV T/L Project. This chapter covers the issues relating to physical, biological, socio-economic and cultural environment of the project area. During the field visit, the issues raised by stakeholders are presented in sub-chapter 7.2. The issues to be considered during the IEE study have been presented in sub-chapter 7.3. The issues to be considered are further classified based on beneficial issues and adverse issues.

7.2 Issues raised by the stakeholders

- Compensation for land to be acquired and assets should be given at the prevailing market price;
- Compensation for land falling within the RoW of the T/L at the prevailing market price;
- T/L should be aligned away from existing houses, properties and temples;
- Compensation should be given for crop damages and tree losses as per the prevailing market price;
- Occupational health and safety measures should be implemented to minimize the risks associated with construction related accidents;
- Local resources and human resources should be given priority during the implementation of the project;
- Loss of trees owned by farmers should be suitably compensated;
- Close coordination should be made with local political representatives and local administration during the implementation of the project;
- Potential impacts should be avoided or minimized in settlement areas, houses, schools and temples;
- Warning signs and information boards should be placed in appropriate areas regarding the impacts of the transmission line components;
- Implementation of social and local development works in affected areas;
- The project should share project information with the local communities from the initial stage of the project;

7.3 Issues to be considered in IEE

Environmental issues that are likely to occur during construction as well as operation and maintenance phases of the proposed project are discussed hereinafter. The IEE study shall also include alternatives of route alignment with due consideration for minimization of use of forest area, compensatory plantation and other aspects as stated by the Procedural Guidelines for Use of Forest Land, 2063 BS. However, IEE will not be limited to the issues mentioned oelow. Additional issues identified during the course of the study shall also be covered in detail.

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Chapter 8
ALTERNATIVE ANALYSIS

8.1 Introduction

The IEE shall examine and describe all alternatives that were examined in the course of developing the proposed project and identify other alternatives which would achieve the identified objectives of the project. The alternatives shall be examined in order to minimize the adverse impacts and maximize the benefits in the context of cost effectiveness, labor intensiveness and low risks of environmental hazards.

The IEE shall compare the alternatives in terms of potential environmental impacts, location, designs and technologies. It shall also study alternatives in terms of methods, operation procedures and the materials to be used during construction. The alternatives proposed for consideration in the IEE are discussed below.

8.2 No Action Alternative

In the "no action" or "do nothing" alternative, no environmental impacts due to project implementation shall occur, as this option represents the status quo condition. However, some natural and human-induced impacts shall be occurring. The IEE Team shall access these impacts.

Alternative route
(Section-I: New Khimti-Barhabise)

S. No.	Proposed Route/Location	Approximate Length (km)	Alternative Route
1	Ghumaune village of Ramechhap district. Similarly Sitali, Tinkhoriya, Khani Gaun, Khadkathok, Dumre dada, Sorabesi, Pipledhunge swora, Sakhe, Kaichale, Dhukebeshi, Baluwa, Dhamire Khola, Adheri, Saute forest, Piple dada, Bagairo dada, Kiratechhap, Tholochour, Gaidada, Dobatechour, Thokshila, Thamidada, Sungurephat, Bishnutole, Birauta, Sheraphat, Kaule, Ukhubari, Baluwathumki, Phurlung, Sani Phurlung, Sherabeshi, Khurpatedada, khahare khola, Syasi, Okhare, Yanmara, Tallopakha, Phulbarighumtiand and Kharidhunga of Dolakha district. Gaude, Hile, Chokati, Sunkoshi River, Dharkharka, Sanopalate, Karthali and Ramchhe of Sindhupalanchok district.	44.0	I
2	Ghumaune village of Ramechhap district. Sitali, Tamakhosi, Lamatar, Tilar, Phedi, Malukhola, Malugaun, Kattike, Biruwa, Dude, Archale, Dholikhola, Majhigaun, Bhirkot, Jamune, Sungure, Dihi, Gurungau, Kiratechhap, Mati,	42.0	

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	Sunkhanidada, Mathane, Kupri, Tadi, Serabesi, Mandra, Boch, Lapse, Ghindada, Khanidada, Dhadedunga, Dobate and Kharidhunga of Dolakha district., Dadakharka, Bungothali, Longarpa, Sunkoshi, Budepa, Karthali, Kyayun, Thulo Palati, Kursanibari, Barhabise, Ramche of Sindhupalanchok district.		II
3	Ghumaune village of Ramechhap district. Arubote, Jogigau, Khanigau, Sisneri, Tinpipale, Chhap, Pipalbot, Chyandada, Simket, Lamatar, Gairitol, Sukathokar, Kalimati, Bakhre, Powati, Balitar, Makaibari, Kalapani, Kavrechaur, Dahalgaun, Maga, Jogidada, Mulabari, Dadagaun, Surke, Jauswara, Pidalubari, Simalghari, Chisopani and Kharidhunga of Dolakha district, Jaljale, Pisker, Ghayakhori, Patale, Kiureni, Sunkoshi, Barhabise, Ramche of Sindhupalanchok district.	49.0	III

Out of these three alternatives, Route I (44 km) is selected as the best option from environmental, economic and social perspectives.

(Section-II: Barhabise-Kathmandu)

S. No.	Proposed Route/Location	Approximate Length (km)	Alternative Route
1	Barhabise, Gati, Tekanpur, Ramche, Maneswora, Makha, Phulpinkot, Phulpindada, Kubhinde, Irkhu, Batase, Thulosirubari, Sanosirubari, Bhotsipa, Bhimtar and Sangachok of Sindhupalanchok district. Chandeni, Mahadevsthan, Phatakshila, Gairibisauna, Baluwapati and Nayagau of Kavrepalanchok district, Similarly Nagarkot, Changunarayan, Duwakot, Chhalin and Madhyapur Thimi of Bhaktapur district and Nanglebhare, Lapsiphedi, Sankhu, Suntol, Sakhu Pukhalachhe, Indrayeni, Thali Dachhi and Mulpani of Kathmandu district.	54	I
2	Barhabise, Gati, Tekanpur, Ramche, Maneswora, Makha, Phulpinkot, Phulpindada, Kubhinde, Irkhu, Batase, Thulosirubari, Sanosirubari, Bhotsipa, Bhimtar and Sangachok of Sindhupalanchok district. Chandeni, Mahadevsthan, Phatakshila, Gairibisauna, Baluwapati and Nayagau of Kavrepalanchok district, similarly Nagarkot, Changunarayan, Duwakot and Chhaling of Bhaktapur district and Nanglebhare, Lapsiphedi, Sankhu, Suntol, Sakhu Pukhalachhe, Indrayeni, Thali Dachhi and Mulpani of Kathmandu district.	55.02	II

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3	Barhabise, Gati, Tekanpur, Ramche, Maneswora, Makha, Phulpinkot, Phulpindada, Kubhinde, Irkhu, Batase, Thulosirubari, Sanosirubari, Bhotsipa, Bhimtar and Sangachok of Sindhupalanchok district. Chandeni, Mahadevsthan, Phatakshila, Gairibisauna, Baluwapati and Nayagau of Kavrepalanchok district, similarly Nagarkot, Changunarayan, Duwakot, Chhalin and Madhyapur Thimi of Bhaktapur district and Nanglebhare, Lapsiphedi, Sankhu, Suntol, Sakhu Suntol, Sakhu Pukhalachhe, Indrayeni, Thali Dachhi and Mulpani of Kathmandu district.	95	III

Out of these three alternatives, Route II (55.02 km) is selected as the best option from environmental, economic and social perspectives.

8.3 Other Alternatives

In addition to the above mentioned alternatives, the IEE team shall also investigate the following:

- Design alternatives
- Technology, time schedule and construction materials
- Construction methods, use of construction materials, equipments; time schedule
- Alternative in the context of power evacuation methods
- Study of alternative by considering future plans

8.4 No Forest Option

No Forest Option will also be studied in IEE as far as practicable.

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Chapter 9
MITIGATION AND ENHANCEMENT MEASURES

9.1 Introduction

The IEE shall recommend appropriate and pragmatic mitigation measures for all of the identified environmental impacts. These actions shall be designed to eliminate or minimize adverse environmental impacts to reasonable levels or to the levels as indicated by national standards. Similarly, enhancement measures shall be proposed to enhance the beneficial impacts. The cost required for mitigation and enhancement measures shall be identified in detail and incorporated in IEE report.

The cost for mitigation and enhancement measures shall be provided separately differentiating into "Physical Environment", "Biological Environment", and "Socio-economic and Cultural Environment". Further, the differentiation will be done according to "Construction Phase" and "Operation Phase". For Biological Environment, cost of tree tagging, felling, and transportation shall be proposed. All the proposed mitigation and enhancement measures are the prime responsibility of the proponent. Summary of Cost Benefit Assessment shall be given which shall include the followings:

- Cost of Environmental Mitigation Measures
- Cost of Enhancement Measures
- Cost for other Social Support Programs and Corporate Social Responsibility (CSR)
- Cost of Environmental Monitoring
- Total Project Cost, and
- Percentage of Total Environmental Cost to the Total Project Cost

9.2 Types of Mitigation Measures

The IEE team shall recommend the following types of mitigation measures:

- Preventive measures
- Design and corrective measures
- Compensatory measures

Moreover, the IEE report shall propose the organizational structures and agencies to be consulted while implementing the mitigation programs. A matrix including identified impacts and proposed mitigation measures shall also be included in IEE report. The proposed impact mitigation measures matrix shall be categorized in terms of physical, biological, socio-economic and cultural environments. The matrix shall be further categorized in terms of construction and operation phases. The cost for mitigation and enhancement measures shall be provided.

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Chapter 10
ENVIRONMENTAL MONITORING

The monitoring plan shall be required for assessing the actual impacts during project construction and operation. The plan shall specify the physical, biological and socio-economic and cultural environment in terms of parameters, indicators, location, sampling and measurement variables.

The IEE report shall also be specify the nature of monitoring required, agency carrying out these activities, the cost and any other necessary inputs. In monitoring plan the following areas shall be described for the construction as well as operation phase:

- The monitoring plan shall be categorized in terms of "Physical", "Biological" and "Socio-economic and Cultural Environment". Moreover, Impact and Compliance Monitoring Plan shall be categorized in terms of construction and operation phases.
- Baseline and impact monitoring plan shall include parameters, indicators, methods, schedule, and location.
- Compliance monitoring plan shall include parameters, indicators, method and schedule.
- Organization set-up, budget and manpower required for carrying out monitoring plan shall be proposed. Furthermore, the monitoring cost includes cost of impact and compliance monitoring activities at least for 2 years of project operation phase.
- Agencies to be consulted while implementing monitoring plan shall also be identified.

All the proposed monitoring plans are the prime responsibility of the proponent.

Chapter 11
REPORT FORMAT AND DELIVERABLES

A full-fledge report of IEE will be prepared as per EPR, 1997 (Schedule-5 Pertaining to Rule 7). In addition to this, the format provided by Ministry of Energy (Annex VII) shall be followed while preparing the IEE report. The main text of the report will contain details of assessment and its finding, impacts, mitigation/enhancement measures, institutional requirement including local public and stakeholders concerns together with annexes, maps, photographs, etc.

The IEE report including public concerns and issues shall be submitted to Ministry of Energy through Department of Electricity Development. The report will be finalized incorporating all possible comments and suggestions to be obtained from the Ministry of Energy. The report shall be deemed to be final after approval by this Ministry.

A list of references cited in the text of main report shall be presented in IEE report. The published or name of publication and journal/unpublished (reports) information shall be listed in the following order: author(s); date of publication; title of the report; volume, number, series if any; and page number.

In addition to the information required under Schedule-5 Pertaining to Rule 7 of EPR, 1997 the followings shall be attached as annexes; A copy of approved ToR; records of the public involvement in the project activities; copy of public comments and concerns, a copy of valid survey license; A copy of public notice; recommendation letters from concern VDCs; relevant photographs of project area; list of human resource involved during IEE report preparation; list of contact persons during IEE process; tables, maps, charts, graphs, figures, etc. A colour map showing the project affected VDC boundary and project layout shall also be included in it.

If the project requires land from government forest/community forest or trees are needed to be cut down from government forest/community forest, then comments and suggestions from district forest office and affected community forest will be attached in the IEE report along with their recommendation letters.

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विद्युत प्रसारणको सर्वेक्षण अनुमतिपत्र

(तामाकोशी–काठमाडौं ४०० के.भी. विद्युत प्रसारण लाइन आयोजना)

अनुमतिपत्र संख्या : वि. वि. वि. ०६९/७०,वि. प्र. स. १७७

श्री नेपाल विद्युत प्राधिकरण
दरवारमार्ग, काठमाडौं ।
पो.ब.नं. १००२०
फोन: ०१-४१५३१९४
फ्याक्स: ०१-४१५३१९४

महाशय,

विद्युत प्रसारणको सर्वेक्षण अनुमतिपत्र पाउन मिति २०६९।११।२२ मा दिनु भएको दरखास्त अनुसार देहायको विवरण खोली विद्युत ऐन, २०४९ को दफा ४ को उपदफा (२) र विद्युत नियमावली, २०५० को नियम ८ बमोजिम यो अनुमतिपत्र प्रदान गरिएको छ ।

१. विद्युत प्रसारणको सर्वेक्षण गर्न चाहने व्यक्ति वा संगठित संस्थाको पूरा नाम र ठेगाना :-
श्री नेपाल विद्युत प्राधिकरण
दरवारमार्ग, काठमाडौं ।
पो.ब.नं. १००२०
फोन: ०१-४१५३१९४
फ्याक्स: ०१-४१५३१९४ ।

२. प्रसारण गरिने विद्युत उपलब्ध गराउने परियोजना /स्थानको विवरण :-
नेपाल विद्युत प्राधिकरणको केन्द्रीय ग्रीड प्रणाली ।

३. विद्युत प्रसारण कहाँबाट कहाँ गर्ने हो सो को विवरण :-
रामेछाप जिल्लाको फुलासे गा.वि.स. देखि दोलखा जिल्लाको मेलुन, भद्पु, पोवाती, सुकाठोकर, फास्कु, माती, मागापौवा, बोच, लाकुरीडाँडा गा.वि.स.हरु, सिन्धुपाल्चोक जिल्लाको चोकाती, पिस्कर, घुस्कुन, करथाली, बाहबिसे, राम्चे, माखा, फलपिनडाँडा, कदमबास, इर्खु, ठूलो सिरुबारी, भोटेसिपा, चन्देनी, महादेवस्थान, नयाँ गाउं, वालुवापाटी गा.वि.स.हरु, भक्तपुर जिल्लाको नगरकोट, छालिङ, चाँगुनारायण, दुवाकोट गा.वि.स.हरु हुँदै काठमाडौं जिल्लाको मुलपानी गा.वि.स. सम्म(approx. 100 km length) ।

४. सर्वेक्षण गर्ने क्षेत्र :

(क)	अञ्चल	: जनकपुर र बागमति ।
(ख)	जिल्ला	: रामेछाप, दोलखा, सिन्धुपाल्चोक, भक्तपुर र काठमाडौं ।
(ग)	गा.वि.स./ नगरपालिका	: प्रकरण ३ मा उल्लेखित प्रसारण लाइनको रुटमा पर्ने सम्बन्धित गा.वि.स.हरु ।

५. विद्युत प्रसारणको भोल्टेज र परिमाणहरु :-
भोल्टेज : ४००,००० भोल्ट (डबल, सर्किट) ।
परिमाण : ५०० मेगावाट ।

६. सर्वेक्षण प्रकृति :- सम्भाव्यता तथा वातावरणीय अध्ययन ।

७. अनुमतिपत्र बहाल रहने अवधि :-
मिति : २०७०।०१।३१ देखि २०७२।०१।३० सम्म ।

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अन्य शर्तहरु :

(क) त्यस संस्थाले विद्युत विकास विभाग मार्फत पेश गरेको दरखास्त साथ पेश गरिएका विवरणहरुको अधीनमा रही प्रस्तुत प्रसारण लाइन आयोजनाको सम्भाव्यता तथा वातावरणीय अध्ययन गर्नु पर्नेछ ।

(ख) विद्युत नियमावली, २०५० को नियम ३ बमोजिम सर्वेक्षण कार्य तीन महिना भित्र शुरु गरी सो को जानकारी विद्युत विकास विभागलाई दिनु पर्नेछ र सर्वेक्षण कार्य प्रगति विवरण प्रत्येक ६ महिनामा विद्युत विकास विभागलाई दिनु पर्नेछ । [illegible] आवश्यक देखेमा अनुगमनको प्रयोजनको लागि कुनै पनि समयमा आवश्यक विवरणहरु माग गर्न सक्नेछ ।

(ग) प्रस्तावित प्रसारण लाइन आयोजनाको कार्यान्वयनबाट अन्य विद्युत प्रसारण लाइन आयोजनाहरु भएमा तिनको RoW मा असर नपर्ने गरी आयोजनाको सम्भाव्यता अध्ययन कार्य गर्नुपर्नेछ । साथै प्रस्तावित प्रसारण लाइन आयोजनाको क्षेत्र वरपरि अन्य प्रसारण लाइन आयोजनाहरुको सर्वेक्षण कार्य भइरहेको भए ती आयोजनाहरुसंग पनि आवश्यक समन्वय गर्नुपर्नेछ ।

(घ) सर्वेक्षण कार्यको सिलसिलामा कसैको घर जग्गामा प्रवेश गर्नु परेमा सम्बन्धित व्यक्तिलाई पूर्व सूचना दिएर मात्र [illegible] जग्गामा प्रवेश गर्न सकिनेछ । त्यसरी प्रवेश गर्दा कुनै हानी नोक्सानी हुन गएमा अनुमतिपत्र प्राप्त [illegible] क्षतिपूर्ति दिनुपर्नेछ ।

(ङ) [illegible] ७० किलोमिटर र [illegible] विद्युत विकास विभागमा पेश गर्नुपर्नेछ ।

(च) [illegible] अनुमतिपत्रको प्रकरण ७ मा उल्लेखित अवधिभित्र [illegible] अध्ययन कार्यहरु [illegible] उल्लेखनीय प्रगती सहितको गुणात्मक [illegible] आवश्यक परेमा कार्य सम्पन्न गर्न [illegible] कारण सहित [illegible] कार्यहरुको प्रगति विवरण सहित प्रक्रिया पुर्याई [illegible] दरखास्त दिएमा यस अनुमतिपत्रको नवीकरण गर्न सकिनेछ । अन्यथा यो अनुमतिपत्र स्वतः रद्द हुनेछ ।

(छ) [illegible] रुट नक्सा [illegible] Route Alignment) बमोजिम हुनेछ ।

(ज) [illegible] आयोजनाको अध्ययन कार्य गर्दा प्रचलित कानून अनुसार IEE वा EIA गर्नुपर्ने भएमा सो समेत गर्नुपर्ने छ ।

[illegible] सम्बन्धी अन्य कुराहरु प्रचलित कानून अनुसार हुनेछ ।

(झ) यस अनुमतिपत्रद्वारा सर्वेक्षण गर्न अनुमति दिइएको आयोजना निर्माण गर्न चाहेमा प्रकरण (६) मा उल्लेख भएको सम्पूर्ण [illegible] सम्पन्न गरी विद्युत नियमावली, २०५० को नियम १९ बमोजिम यस सर्वेक्षण अनुमतिपत्रको म्याद [illegible] बमोजिमका विवरणहरु खुलाई विद्युत प्रसारणको अनुमतिपत्रको लागि दरखास्त दिनुपर्नेछ ।

(ञ) यस अनुमतिपत्र बमोजिमको सर्वेक्षण गर्न लाग्ने सम्पूर्ण रकम त्यस संस्था आफैले व्यवस्था गर्नुपर्नेछ र त्यसो खर्चप्रति नेपाल सरकारको कुनै दायित्व हुनेछैन ।

(ट) नेपाल सरकारको अनुमतिविना यो अनुमतिपत्र बिक्री गरी वा अन्य कुनै प्रकारले कसैलाई हस्तान्तरण गर्न पाइने छैन ।

(ठ) त्यस संस्थाको स्वामित्वको संरचनामा कुनै हेरफेर वा परिवर्तन भएमा सो को जानकारी विद्युत विकास विभागलाई अविलम्ब दिनुपर्नेछ ।

(ड) यस अनुमतिपत्रमा कुनै संशोधन गर्नु परेमा ऊर्जा मन्त्रालय र त्यस संस्थाको आपसी सहमतिमा गर्न सकिनेछ ।

अनुमतिपत्र दिने अधिकारीको

सही :

नाम : हरिराम कोइराला

पद : सचिव

ऊर्जा मन्त्रालय

मिति : २०७०।०१।३१

नेपाल सरकार

ऊर्जा मन्त्रालय

विद्युत विकास विभाग

(..)

विद्युतीकरण महाशाखा

फोन नं. [illegible]

फ्याक्स [illegible]

पोष्ट बक्स नं. [illegible]

थापागाउँ, अनामनगर

काठमाडौं, नेपाल

पत्र संख्या :- ०६९/७०(विजि.)

च.नं. ९९६२ २१८

मिति: २०७०।०२।०६

विषय:- तामाकोशी-काठमाडौं ४०० के.भी. विद्युत प्रसारण लाइन आयोजनाको विद्युत प्रसारणको सर्वेक्षण अनुमतिपत्र बारे ।

नेपाल विद्युत प्राधिकरण
सं.प्र.नं. ४९१०
मिति: २०७०।२।८

नेपाल विद्युत प्राधिकरण
स. मो. अ. वि.
दर्ता नं. ६००
मिति २०७०।२।१०

श्री नेपाल विद्युत प्राधिकरण
प्रधान कार्यालय, दरबारमार्ग, काठमाडौं ।
पो.ब.नं. १००२०
फोन: ४१५३०५४ ।
फ्याक्स नं. ४१५३००९ ।

उपरोक्त विषयमा त्यस संस्थाले तामाकोशी-काठमाडौं ५०० मे.वा., ४०० के.भी. क्षमताको विद्युत प्रसारणको सर्वेक्षण अनुमतिपत्रका लागि पेश गरेको दरखास्त सम्बन्धमा कारवाही हुँदा, नेपाल सरकार, ऊर्जा मन्त्रालय(सचिवस्तर)को मिति २०७०।०१।३१ को निर्णयानुसार २(दुई) वर्ष अवधिका लागि अनुमतिपत्र संख्या: वि.वि.वि. ०६९/७०, वि.प्र.स. १७७ जारी गरिएको व्यहोरा जानकारी गराइन्छ । साथै उक्त अनुमतिपत्र यसै साथ संलग्न गरिएको छ ।

....
(मीन बहादुर धामी)
ईन्जिनियर

बोधार्थ:
श्री ऊर्जा मन्त्रालय, सिंहदरबार ।
श्री विद्युत विकास विभाग
- आयोजना अध्ययन महाशाखा ।
- निरीक्षण महाशाखा ।
- आर्थिक प्रशासन शाखा (मिति२०६९/११/२२ को आम्दानी र.नं. ३७९३(भौचर नं. १०६१७८४)मा उल्लेखित धरौटी रकम रु. २,००,०००।००(दुई लाख मात्र) मध्ये रु.१,००,०००।००(एक लाख मात्र राजश्व खातामा जम्मा हुन) ।

श्री महाप्रबन्धक, वि.प्रा.से., पूर्व
श्री उपकार्यकारी निर्देशक, प्रशासन
श्री महाप्रबन्धक, वि.प्रा.से., पश्चिम
श्री उपकार्यकारी निर्देशक, अर्थ
श्री महाप्रबन्धक, उत्पादन निर्माण
श्री उपकार्यकारी निर्देशक, आ.ई.प
श्री महाप्रबन्धक, उत्पादन सञ्चालन तथा संभार
श्री व्यवस्थापक, प्रसारण तथा प्रणाली सञ्चालन
श्री महाप्रबन्धक, ग्रिड विकास
श्री निर्देशक, का.नि.को मुख्यालय
श्री आयोजना प्रमुख ... ... 400 Kv Exec
श्री निर्देशक, ...

१. ... नं. २. ... नं. ३. ... नं. ४. ... नं.

नेपाल सरकार
ऊर्जा मन्त्रालय
२०६९

नेपाल सरकार
ऊर्जा मन्त्रालय
विद्युत विकास विभाग
(..)
निजिकरण महाशाखा

फोन नं. ४४७९२४७, ४४८०२१८
४४७९५०७, ४४८०३२६
४४८०४२५, ४४८२१३०
४४६१६४३, ४४८१६१४
४४७६१९०, ४४७९९२१
फ्याक्स (९७७-१)-४४८०२५७
पोष्ट बक्स नं. २५०७
थापागाउँ, अनामनगर
काठमाडौं, नेपाल

पत्र संख्या :- ०७०/७१
च.नं. ९६८

मिति: २०७१|०६|०५

नेपाल विद्युत प्राधिकरण
दर्ता नं. 86
मिति 2071/06/22

विषयः- विद्युत प्रसारणको सर्वेक्षण अनुमतिपत्र संशोधन बारे ।

श्री नेपाल विद्युत प्राधिकरण
पो.ब.नं. १००२०, प्रधान कार्यालय,
दरबारमार्ग, काठमाडौं,
फोन नं. ०१-४१५३०५४
फ्याक्स :०१-४१५३००९ ।

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2071/6/10

नेपाल विद्युत प्राधिकरण
गो.द. नं. 966
मिति 2071/6/8

प्रस्तुत विषयमा त्यस संस्थाले तामाकोशी-काठमाडौं ४०० के.भी. विद्युत प्रसारण लाइन आयोजनाको विद्युत प्रसारणको सर्वेक्षण अनुमतिपत्र (अनुमतिपत्र संख्याः वि.वि.वि. ०६९/७०, वि.प्र.स. १७७)को प्रकरण ३ संशोधनका लागि पेश गरेको दरखास्त बमोजिम तपसिलमा उल्लेख भए बमोजिम हट संशोधन गरिएको व्यहोरा मिति २०७१।५।३० को नेपाल सरकार, ऊर्जा मन्त्रालय सचिवस्तरको निर्णयानुसार जानकारी गराइन्छ ।

तपसिल:

विद्युत प्रसारण कहाँ देखि कहाँसम्म गर्ने हो सो को संशोधित विवरण:-

रामेछाप जिल्लाको फुलासे गा.वि.स. देखि दोलखा जिल्लाको भिमेश्वर न.पा. र मकैबारी, मेलुन, मिर्दु, पोवाती, सकाठोकर, फास्कु, माती, मागापौवा, बोच, लाकुरीडाँडा, गा.वि.स.हरु,

सिन्धुपाल्चोक जिल्लाको कुभिन्डे, मानेश्वरा, टौथली, चोकाती, पिस्कर, धुस्कुन, करथाली, बाह्रबिसे, राम्चे, माखा, फलपिनडाँडा, कदमबास, इर्खु, ठूलो सिरुवारी, भोटेसिपा, सानुसिरुवारी, भिमटार, गा.वि.स.हरु,

काभ्रेपलान्चोक जिल्लाको चन्देनी, बालुवापाटी, नयाँगाउँ, महादेवस्थान, गौरीविसौनी, गा.वि.स.हरु,

भक्तपुर जिल्लाको नगरकोट, छालिङ, चाँगुनारायण, दुवाकोट गा.वि.स.हरु,

काठमाडौं जिल्लाको इन्द्रायणी, लप्सेफेदी, नाङ्लेभारे, दाँछी, पुखुलाछी, सुन्टोलहुँदे, मुलपानी गा.वि.स.सम्म ।

श्री उपकार्यकारी निर्देशक, वि.प्र.नि. श्री उपकार्यकारी निर्देशक, प्रशासन
श्री उपकार्यकारी निर्देशक, उत्पादन श्री उपकार्यकारी निर्देशक, अर्थ
श्री उपकार्यकारी निर्देशक, [illegible] श्री [illegible]
श्री उपकार्यकारी निर्देशक, [illegible] श्री निर्देशक, [illegible]
श्री उपकार्यकारी निर्देशक, [illegible] श्री [illegible]
[illegible]

....
(मीन बहादुर धामी)
ईन्जिनियर

बोधार्थ:
श्री ऊर्जा मन्त्रालय, सिंहदरबार ।
श्री विद्युत विकास विभाग
> आयोजना अध्ययन महाशाखा ।
> निरीक्षण महाशाखा ।

श्री तामाकोशी-काठमाडौं ४०० के.भी. प्र.ला. आ.
आ.को.
2071/6/[illegible]
नेपाल सरकार
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1. Forest loss at different Project Components

S. N.	PROJECT COMPONENT	TYPE OF FOREST	FOREST AREA (ha)	LOSS OF VEGETATION			CROWN COVER (%)	BASAL AREA (%)	VEGETATION TYPE (Sal, Pine, shrubs, barren etc)
				Seedling per ha	Saplings per ha	No. of trees >10 cm DBH			
1	Headworks	Govt. managed							
		Community							
		Leasehold							
		Religious							
		Private							
2	<u>Water Conveyance:</u> Tunnel/Canal /penstock	....							
3	Power House	....							
4	TL / Access Road/ ROW	....							
5	Substation/ Switchyard	....							
6.	Total					Sum			

Note: Other components can be added as appropriate/required as per the project layout.

2. Total loss in terms of plant species

BOTANICAL NAME	LOCAL NAME	AVG. DBH/ RANGE* (for >= 10 cm DBH)	LOSS OF VEGETATION**				STANDING WOOD VOLUME		BIOMASS FOR STANDING TREE (kG.)		BIOMASS USAGES***
			LOSS OF REGENERATION		LOSS OF TREE (number)						
			Seedlings per ha.	Saplings per ha.	Pole class	Tree class	Timber (cft.)	Fuel wood (chatta)	(Wet)	(Dry)	
1.											
2.											
…											
Total					Sum	Sum	Sum	Sum	Sum	Sum	

Note:
* *Avg. DBH and Range of DBH to be given for Pole and Tree Class*
** *Seedling 0-4 cm DBH; Sapling 4-10 cm DBH; Pole Class 10-30 cm DBH; Tree Class >30 cm DBH*
*** *Possible usages are – fire wood, fodder, etc.*

3. Total Forest Loss

TYPE OF FOREST	AREA (ha.)	LOSS OF VEGETATION				CROWN COVER (%)	STANDING WOOD VOLUME		BIOMASS FOR STANDING TREE AND GROUND VEGETATION (kG.)		BIOMASS USAGES*
		LOSS OF REGENERATION		LOSS OF TREE (number)			Timber (cft.)	Fuel wood (chatta)	(Wet)	(Dry)	
		Seedlings per ha.	Saplings per ha.	Pole class	Tree class						
1. Govt. 2. Community 3. Religious 4. Leasehold 5. Private											
Total		Sum	Sum	Sum	Sum		Sum	Sum	Sum	Sum	

Note:
- *Seedling 0-4 cm DBH; Sapling 4-10 cm DBH; Pole Class 10-30 cm DBH; Tree Class >30 cm DBH*
-* *Possible usages are – fire wood, fodder, etc.*

नेपाल सरकार
ऊर्जा मन्त्रालय
२०६६

4. Loss of Non-Timber Forest Product (NTFP)

COMMERCIALLY IMPORTANT SPECIES *(NTFP)*	Government Managed		Community Managed		Religious		Leasehold		
	Seedlings per ha. (no./ha.)	Saplings per ha. (no./ha.)	Seedlings per ha. (no./ha.)	Saplings per ha. (no./ha.)	Seedlings per ha. (no./ha.)	Saplings per ha. (no./ha.)	Seedlings per ha. (no./ha.)	Saplings per ha. (no./ha.)	
1. 2. ...									

नेपाल सरकार
ऊर्जा मन्त्रालय
२०६६

Note:

- ***Seedling 0-4 cm DBH; Sapling 4-10 cm DBH;***
- ***Use Govt. approved methodologies, if available. If not, other methodologies can be used.***

5. Land Requirement

LAND TYPE	LAND REQUIREEMNT (ha.)			PROJECT COMPONENT
	Temporary	*Permanent*	*Total*	
1. Agricultural. 2. National forest 3. Community forest 4. Leasehold forest 5. Religious forest 6. Private forest				[TL Row, Water Conveyance (specify the conveyance system) , Power House, Settling Basin, Campsite, Spoil deposit, Road, Reservoir, etc.]
Total	Sum	Sum	Sum	

ANNEX II HOUSEHOLDS QUESTIONNAIRE [illegible]

नेपाल विद्युत प्राधिकरण
तामाकोशी-काठमाडौं ४०० के.भी.प्रशारण लाईन आयोजना
प्रारम्भिक वातावरणीय परिक्षण (IEE)

गाउँ विकास समितिस्तरिय चेकलिष्ट-२०७१

१.० आयोजना क्षेत्र सम्वन्धि जानकारी :
१.१ अंचल: .... १.२ जिल्ला: .... १.३ गा.वि.स.को नाम: ....

२.० सामाजिक वस्तुस्थिती (प्रसारण लाइनको ५०० मिटर दायाँबायाँ भित्र पर्ने):

वार्ड नं.	गाउँबस्तीको नाम	मुख्य जातिहरु	बोलिने भाषाहरु

३.० कृषि उत्पादन सम्वन्धि विवरण
मुख्य खाद्यान्न बाली..................
मुख्य नगदे बाली..................
प्रमुख तरकारी खेती ....
मुख्य फलफूल खेती ....

४.० गाविसमा संचालित गैहसरकारी संस्था, क्लब आदिको विवरण :

संस्थाको नाम	ठेगाना	स्थापना साल	संस्थाले गरेको मुख्य काम

५.० गाविसमा संचालित उद्योग/व्यवसाय :

उद्योगको नाम	ठेगाना	स्थापना साल	उत्पादनको किसिम	कामदार संख्या	कैफियत

६.० उपभोक्ता समुह सम्वन्धि विवरण :

कृषि	वन	सिंचाई	खानेपानी	अन्य कुनै भएमा

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७.० सांस्कृतिक वातावरण :

७.१ धार्मिक स्थल, ऐतिहासिक स्थल, पर्यटकीय स्थल, पुरातात्विक स्थल :

क.स.	धार्मिकस्थल/ ऐतिहासिक स्थल/ पर्यटकीयस्थल/ पुरातात्विक स्थलको नाम	गाविस र वडा नं.	आयोजनाको कारण प्रभावित हुने/नहुने	कैफियत
१.				
२.				
३.				
४.				
५.				

७.२ स्थानीय प्रमुख चाडपर्व तथा जात्राहरु :

क.स.	प्रमुख चाड र जात्राको नाम	मनाउने समय (महिना)	सहभागि समुदाय	कैफियत
१.				
२.				
३.				
४.				

८.० आयोजना क्षेत्रमा विद्युत, सडक र संचारको अवस्था (प्रसारण लाइनको अढाई कि.मी. दायाँबायाँ भित्र)

वार्ड नं.	गाउँबस्तीको नाम	विद्युत	सडक	संचार	कैफियत

९.० भौतिक तथा सामाजिक पूर्वाधारहरु :

क.स.	भौतिक तथा सामाजिक पूर्वाधारहरु	ठेगाना	आयोजनाको कारण प्रभावित हुने/नहुने	कैफियत
१.				
२.				
३.				
४.				

१०.० गाविसमा संचालित विकास आयोजनाहरु अथवा योजनामा परेका कार्यक्रमहरु :

....

....

....

....

११.० गाविसका बासिन्दाको मुख्य आम्दानीका श्रोतहरु :

१.................................. २. .... ३. ....

जानकारी दिने व्यक्तिको नाम:..

ठेगाना/सम्पर्क नं: ....

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नेपाल विद्युत प्राधिकरण

तामाकोशी-काठमाडौं ४०० के.भी.प्रशारण लाईन आयोजना

प्रारम्भिक वातावरणीय परिक्षण (IEE)

घरधुरी प्रश्नावली (२०७१)

यस प्रश्नावलीमा सोधिएका सबै व्यक्तिगत सूचना तथ्याङ्क ऐन २०१५ अनुसार गोप्य राखिने छन् र तथ्याङ्कीय प्रयोजनका लागि मात्र प्रयोग गरिनेछन्।

१. आयोजना क्षेत्र सम्वन्धि सामान्य जानकारी :

१.१ जिल्ला : .... १.२ गा.वि.स. ....

१.३ वडा नं.. १.४ गाउँ/टोल ....

१.५ नजिकको AP नं..

२. परिवार सम्वन्धी जानकारी :

२.१ घरमूलीको नाम:.. २.२ लिङ्ग: पुरुष / महिला

२.३ धर्म:.................... २.४ जात/जाति: .... २.५ परिवारमा बोलिने भाषा:............

२.६ परिवार संख्या:....................................

२.७. तपाई यस गाउँमा कहिलेदेखि बसिरहनु भएको छ ?

२.७.१. आदिवासी २.७.२. बसाई सरी आएको (.................. वर्ष पहिले)

२.७.२.१ तपाई यस ठाउँमा बसाईसरी आउनुको कारण के हो ?

१. जागिर	३. ज्याला मजदूरी	५. कृषि	७. भौतिक सुख र सुविधा	९. विवाह
२.व्यापार/ व्यवसाय	४. उद्योगधन्दा	६. शिक्षा	८. असुरक्षा	१५. अन्य ....

२.८. परिवारको प्रकार: १. एकल परिवार (छुट्टिएर बसेका) २. संयुक्त परिवार:

२.९. पारिवारिक विवरण :

तपाईंको परिवारको सदस्यहरु बारे मानो नछुट्टिई बसेकाको विस्तृत विवरण दिनुहोस् (घरमुलीबाट शुरु गर्ने)

क.सं.	नाम	घरमुली संगको नाता	उमेर (बर्ष)	शिक्षा	वैवाहिक स्थिति (वि/अ)	पेशा	६ महिना भन्दा बढी समय कामका लागि बाहिर बसेको भए		
							समय (महिना)	कारण	ठाउँ
१.									
२.									
३.									
४.									
५.									
६.									
७.									
८.									
९.									
१०.									

३. कृषि, पशुपालन तथा व्यापार व्यवसाय :

३.१ कृषि

३.१.१ के तपाईंको आफ्नो वा परिवारको स्वामित्व वा अधिनमा जग्गा जमीन छ ? १. छ २. छैन

यदि छ भने निम्न विवरणहरु दिनुहोस् । (क्षेत्रफल रोपनीमा उल्लेख गर्ने)

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जग्गाको स्वामित्व	खेत	बारी	घडेरी	अन्य (खुलाउने)	कुल जग्गा
आफ्नै					
अरुको कमाई आएको					
अरुलाई कमाउन दिएको					
ऐलानी					
जम्मा					

३.१.२ गत वर्षमा तपाईले खेती गर्नुभएको जग्गामा कुन कुन खाद्यान्न बाली, नगदे बाली र फलफुलहरु लगाउनु भयो, तिनीहरुको उत्पादन र आम्दानी बारे बताउनुहोस् ।

	बालीहरु १	खेती गरिएको जमिन २	उत्पादन परिमाण ३	उत्पादित बस्तुको स्थानीय बजार मुल्य (रु/ इकाई) ४	लागत (रु) ५	खुद आम्दानी (रु) ५
खाद्यान्न बालीहरु	धान					
	गहुँ					
	मकै					
	कोदो					
	दाल गेंडागुडी					
	अन्य....					
	जम्मा					
नगदेबालीहरु	आलु					
	तोरी					
	ऊखु					
	तरकारी					
	जम्मा					
फलफूलहरु						

३.१.३ के तपाईको जग्गामा भएको गत वर्षको खाद्यान्न उत्पादन परिवार धान्न पर्याप्त भयो ?

१. भयो २. भएन भने, कति महिनाको लागि भएन ?......................महिना

३.१.४ आफ्नो उत्पादित खाद्यान्न अपर्याप्त भएको बेला तपाई परिवारको गर्जो कसरी टार्नु हुन्छ ?

१. नोकरी २. व्यापार व्यवसाय ३. दैनिक ज्यालादारी काम गरेर

४. ऋण गरेर ५. अन्य ....

३.२ पशुपालन :

३.२.१ तपाईले गाईवस्तु पाल्नु भएको छ ?

१. छ २. छैन

यदि पाल्नुभएको छ भने निम्न विवरण दिनुहोस् ।

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क्र.स.	पंशुपंक्षी को प्रकार	संख्या	पशु/पंक्षी पालनबाट जम्मा वार्षिक आम्दानी (रु).	पशु/पंक्षी पालनको लागी जम्मा वार्षिक लागत (रु.)	खुद आम्दानी (रु.)
१.	गाई		पंशुपंक्षी बेचेर		
	गोरु		....		
२.	भैंसी				
	राँगा		दुध, दही, घिऊ बाट		
३.	भेंडा/बाख्रा/खसी/बोका		....		
४.	सुंगुर/बंगुर				
५.	कुखुरा/हाँस /परेवा		अन्य बाट		
६	अन्य		....		
	जम्मा				

३.३ व्यापार तथा साना उद्योग :

तपाईको परिवारका सदस्यहरुमध्ये कसैको आफ्नै व्यापार वा घरेलु उद्योग/व्यवसाय छ ?

१. छ २. छैन यदि छ भने तलको विवरण दिनुहोस् ।

उद्योग/व्यवसायको किसिम	मासिक औषत खुद आम्दानी रु.	बार्षिक औषत खुद आम्दानी रु.

४. घर सम्बन्धि विवरण :

४.१. यो घर तपाईको आफ्नै हो ? १. हो २. होइन

यदि होइन भने १. भाडामा बसेको २. आफन्तकोमा बसेको ३. अरुको घरमा सित्तै बसेको ४. अन्य..........

४.२. आफ्नो घरको भित्ताको किसिम : ढुङ्गा/माटो/ईट /काठ /ब्लक/अन्य

४.३. घरको तला

१. एक तला २. दुई तला ३. तीन तला ४. तीन तला भन्दा माथि

४.४. छानाको प्रकार : जस्तापाता/खर/पराल/ढुंगा/टायल/ सिमेण्ट ढलान/काठ/अन्य ....

५. आम्दानी तथा खर्चको विवरण :

५.१ खर्च :

तपाईको घरमा गत महिना र वर्ष भित्र निम्न शिर्षकका बस्तुहरुमा भएको औसत खर्चको विवरण दिनु होस् ।

शिर्षक	मासिक रु.	बार्षिक रु.
१. खाना खर्च		
२. लत्ताकपडा		
३. शिक्षा		
४. स्वास्थ्य उपचार		
५. पानी/बिजुली/ इन्धन (मट्टितेल, ग्याँस, दाउरा आदि)		
६. टेलिफोन,मोवाईलपत्रपत्रिका/केबुल टि.भी.		
७. घरभाडा		
८. विविध (चाड्पर्व/सामाजिक ब्यवहार/ब्याज)		
९ अन्य		
जम्मा		

५.२ आम्दानी

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तपाईको परिवारले गत महिना र वर्ष भित्र निम्न श्रोतबाट कति आम्दानी गऱ्यो ?

आम्दानीका श्रोतहरु	मासिक रु.	वार्षिक रु.
१. कृषिजन्य उत्पादन /पशुपालनबाट		
२. नोकरी (तलव)		
३. व्यापार / होटेल व्यवसाय (रेष्टुरेण्ट,लज)		
४. दैनिक ज्याला मजदुरी		
५. पेन्सन /सामाजिक सुरक्षा भत्ता		
६. बैदेशिक रोजगारीको कमाई (विप्रेशण)		
७. घरेलु व्यवसाय/ उद्योग		
८. ठेक्कापट्टा		
९. अन्य आम्दानी (वहाल, ब्याज, लाभांस)		
१०. अन्य आम्दानी (खुलाउने)		
जम्मा		

६. ऊर्जा तथा खानेपानीको आपूर्ति:

६.१ तपाईको खानेपानीको मुख्य श्रोत के हो ?

१.ईनार/कुवा २.ट्यूबवेल ३.सार्वजनिक धारा ४.पाइपबाट आपूर्ति ५.नदि/खोला ६.अन्य....

६.२ खानेपानीको श्रोतले कति महिना पुग्छ ? १. वर्षैभरि २. ....महिना

खानेपानी श्रोतले नपुग्दा के गर्नु हुन्छ ? ....

६.३ तपाई घरमा बत्तीको लागि के प्रयोग गर्नुहुन्छ ?

१. टुकी (मट्टितेल) २. विजुली बत्ती ३.सौर्य ऊर्जा ४. अन्य...............

६.४ तपाई खाना पकाउनको लागि के प्रयोग गर्नु हुन्छ ?

१. दाउरा २. मट्टितेल ३. विजुली ४.ग्यॉंस ५. अन्य : ....

६.५ तपाई घरमा बाल्नको लागि दाउरा कहाँबाट ल्याउनु हुन्छ ?

१. सामुदायिक/कबुलियती वन २. निजी वन/खेतवारी ३. किनेर

७. स्वास्थ्य र सरसफाई :

७.१ तपाईको घरमा चर्पी छ/छैन ?

१. छ २. छैन

७.२ के तपाईको परिवारको कुनै सदस्य गत वर्ष सिकिस्त विरामी भएका थिए ?

१. थिए २. थिएनन्

७.३ यदि थियो भने कुन रोग लागेको थियो र कुन उपचार विधि अपनाउनु भयो ?

क्र.स.	रोगको प्रकार	उपचारको विधि (स्थान)
१		
२		
३		

८. आयोजनाबाट प्रभाव पर्नेहरुलाई मात्र (पहिचान गरिए पश्चात भर्ने) :

८.१ प्रस्तावित आयोजना भित्र प्रभावित हुने जग्गा जमिनको विवरण :

गा.वि.स. र वडा नं.	कुल क्षेत्रफल	जग्गाको प्रयोग	उत्पादन	आयोजना स्थल	प्रभावित क्षेत्रफल र मुल्य रु.	
					प्रभावित क्षेत्रफल	जग्गाको प्रचलित मुल्य रु.

८.२ प्रभावित हुने घरको बारेमा विवरण

आयोजना स्थल :

१. प्रभावित हुने घरको नाप (मिटर) : ल............... चौ...............

२. घरको भित्ताको किसिम : ढुङ्गा/माटो/ईट /काठ /ब्लक/अन्य..........

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३. घरको तला : एक तला/दुई तला/ तिन तला/तिन तला भन्दा माथि

४. छानाको प्रकार : जस्ता पाता/खर/पराल /ढुंगा/टायल/सिमेण्ट ढलान/काठ/अन्य ....

८.३ प्रस्तावित आयोजनाबाट प्रभावित गोठ टहराको विवरण

आयोजना स्थल :

१. प्रभावित हुने गोठको नाप (मिटर) : ल .... चौ........................

२. गोठको भित्ताको किसिम : ढुङ्गा/माटो/ईट /काठ/ब्लक/अन्य

३. गोठको तला : एक तला/दुई तला

४. छानाको प्रकार : जस्ता पाता/खर/पराल/ढुंगा/टायल/ सिमेण्ट ढलान/काठ/अन्य ....

८.४ अन्य प्रभावित संरचना (शौचालय/भान्छाघर /खोर /उद्योग/कारखाना आदि) को विवरण

आयोजना स्थल :	आयोजना स्थल :
संरचनाको नाम	संरचनाको नाम ....
किसिम	किसिम ....
गारोको किसिम	गारोको किसिम ....
छानोको किसिम	छानोको किसिम ....

९. घर जग्गाको मुआव्जा सम्वन्धि (जग्गा वा घरजग्गा पर्नेलाई मात्र सोध्ने)

९.१ तपाई घरजग्गाको मुआब्जा निम्न मध्ये कुन चाहनु हुन्छ ?

१. नगद २. जग्गाको सट्टा जग्गा ३. घरको सट्टा घर ४. अन्य ....

९.२ यदि तपाईले मुआव्जा नगदमा पाउनु भयो भने उक्त मुआव्जा रकम के मा प्रयोग गर्नु हुन्छ ?

१. जग्गा किन्ने २. घर बनाउने ३. ऋण तिर्ने

४. ब्यापार गर्ने ५ घरेलु उद्योग ६. अन्य

१०. आयोजना प्रतिको अवधारणा

१०.१ तपाईलाई प्रस्तावित आयोजनाको बारेमा केही जानकारी छ ? १. छ २. छैन

यदि छ भने कुन श्रोतबाट जानकारी प्राप्त गर्नु भयो? ....

१०.२ प्रस्तावित आयोजना प्रति तपाईको कस्तो अवधारणा छ ?

१. सकारात्मक २. नकारात्मक ३. तटस्थ ४. केही पनि थाहा छैन

१०.३ प्रस्तावित आयोजनाबाट तपाईले कुनै कुराको आशा राख्नु भएको छ ? १. छ २. छैन

१०.४ यदि छ भने के कुराको आशा राख्नु भएको छ ?

१. घरजग्गाको मुआव्जा राम्रो २. रोजगारी पाउने ३. विद्युत सुविधा पाउने
४. स्थानीय क्षेत्रको विकास हुने ५. अन्य ....

१०.५ प्रस्तावित आयोजनाप्रति तपाईको अन्य केही कुरा भएमा

....

....

....

जवाफकर्ताको नाम..................................	प्रश्नावली भर्नेको नाम........................
सम्पर्क नं.	सम्पर्क नं. ....
	मिति:..

नेपाल सरकार ऊर्जा मन्त्रालय २०६६

ANNEX [illegible] LIST OF PUBLIC MEETINGS ATTENDED AND NUMBERS OF PARTICIPANTS

[illegible] [illegible] [illegible] [illegible] [illegible]

Public Consultation Meeting Conducted during the ToR Phase

S. No.	Date	Venue	No. of Participant	Issues Raised
1	2070-9-7	District Forest Office, Sindhupalchok	16	Forest management, Plantation
2	2070-9-8	Barhabise,Sindhupalchok	16	Land Compensation.
3	2070-9-8	District Forest Office, Dolkha	16	Forest Management, Plantation
4	2070-9-8	Ramche VDC, Sindhupalchok	16	Land Compensation
5	2070-9-9	District Forest Office, Ramechhap	14	Community Forest Management, Plantation
6	2070-9-9	Phulasi VDC, Ramechhap	17	Land Compensation
7	2070-9-12	Phulasi VDC, Ramechhap	17	Forest Compensation
8	2070-9-11	Piskar VDC, Sindhupalchok	16	Priority to employment
9	2070-9-12	Bhimeswar Municipality Dolkha	16	Land and Trees Compensation
10	2071-1-19	District Forest Office , Kathmandu	10	Forest management, Soil Conservation
11	2071-1-20	Chandeni Manden VDC, Kavre	10	Compensation; Afforestation
12	2071-1-22	Mahadevsthan VDC, Kavre	11	Reduction to Load shedding
13	2071-1-22	Thulosiruwari, VDC, Sindhupalchok	11	Compensation for land and structures
14	2071-1-23	Barhabise , VDC, Sindhupalchok	16	Transfer of Sub-station hub from Ramche to Barhabise
15	2071-1-23	Mankha , VDC, Sindhupalchok	11	Health and safety Resettlement
16	2071-1-24	Bhotsipa VDC, Sindhupalchok	8	Infrastructure development
17	2071-1-23	Irkhu VDC, Sindhupalchok	11	Drinking water, Agriculture
18	2071-1-24	Suntole VDC, Kathmandu	8	Environment Protection and Compensation
19	2071-1-25	Baluwapati Deaupur VDC, Kavrepalanchok	9	Load shedding reduction, Infrastructure Development
20	2071-1-26	Chhaling VDC, Bhaktapur	14	Protect cultural heritage and human settlement
21	2071-1-26	District Forest Office, Kavre	9	Plantation and Promotion to Agro-forestry
22	2071-1-26	Duwakot VDC, Bhaktapur	11	Protect religious and cultural heritage
23	2071-1-28	Danchhi VDC, Kathmandu	9	Environment mitigation
24	2071-1-29	Changunarayan VDC, Bhaktapur	9	Protect temple, good compensation to affected people

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List of Contacted Persons

S. No.	Name	Address	Designation/ Institution
1	Ganesh Raya	Kavrepalanchok/ Dhulikhel	DFO, District Forest Office
2	KB Thapa	Kavrepalanchok	ADFO, District Forest Office
3	Arjun Khadka	Kavrepalanchok	Officer, District Forest Office
4	Ram Bdr, Simkhadka	Kavrepalanchok	AC/Officer, District Forest Office
5	Dil Bdr Purja Magar	Kathmandu	ADFO, District Forest Office
6	Shree Krishna Neaupane	Kathmandu	ADFO, District Forest Office
7	Devendra Prasad Gautam	Kathmandu	Office Assistant ,District Forest Office
8	Mitralal Bhushal	Kathmandu	Officer, District Forest Office
9	Ravindra Maharjan	Charikot/Dolkha	DFO, District Forest Office
10	Tukraj Pokhrel	DDC/Dolkha	LDO
11	Indra Bdr Pachhai	Sindhupalchok	DFO, District Forest Office
12	Balaram Dhakal	Sindhupalchok/DDC	LDO
13	Gokul Basnet	Sindhupalchok/DDC	Planning Officer
14	Nuhuchhe K. Shrestha	Bhaktapur	DFO, District Forest Office
15	Laxmi Kumari Neaupane	Bhaktapur	ADFO, District Forest Office
16	Binita Pandy	Bhaktapur	ADFO, District Forest Office
17	Ramjee Thapa	Bhimesware Municipality/ Dolakha	Sub-Engineer
18	Jauvan kumar Koju	DDC, Bhaktapur	Information officer
19	Rajendra Kumar KC	DDC, Bhaktapur	LDO
20	Mukunda Psd Gajurel	Kavre/Baluwapati VDC	Secretary
21	Sarita Sapkota	DDC, Kavrepalanchok	Information Officer
22	Dholak Raj Dhakal	DDC, Bhaktapur	Planning Officer
23	Gita Paudel	Kavre/Mahadevsthan VDC	Office Assistant
24	Lal Bdr sapkota	Kavre/ Mahadevsthan VDC	office Assistant
25	Jit Bdr Katuwal	Sindhupalchok/ Barhabise VDC	Secretary
26	Lilakanta BK	Sindhupalchok/ Maneswara VDC	Secretary
27	Pashupat Yadav	Sindhupalchok/ Dhuskun VDC	Secretary
28	Jit Bdr Basnet	Sindhupalchok/ Barhabise VDC	Representative of UML,
29	Haricharan Paudel	Sindhupalchok/ Barhabise VDC	Representative of U Maoist

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30	Hemanta Shrestha	Sindhupalchok/ Barhabise VDC	Representative of NC,
31	Gehendra Shrestha	Sindhupalchok/ Barhabise VDC	Representative of NLKP,
32	Devlal Shrestha	Sindhupalchok/ Barhabise VDC	Representative of U Maoust,
33	Shiva Puri	Sindhupalchok/ ThulosiruwariVDC	Chief, sub health post
34	Durga Prasad Dhungel	Sindhupalchok/ ThulosiruwariVDC	Secretary
35	Yadunath Dhungel	Sindhupalchok/ Thulosiruwari VDC	Office Assistant
36	Devraj Pokhrel	Sindhupalchok/ Mangkha VDC	Secretary
37	Sukulal Tamang	Sindhupalchok/ Mangkha VDC	Office Assistant
38	Durga Prasad Dhungel	Sindhupalchok/ Bhotsipa VDC	Secretary
39	Chudamani Parajuli	Sindhupalchok/ Irkhu VDC	Secretary
40	Amrit Bdr Dangal	Sindhupalchok/ Irkhu VDC	Irkhu,HSS,Head Master
41	Bir Bdr Basnet	Kathmandu/ Danchhi VDC	Secretary
42	Manahari Pudasaini	Kathmandu/ Danchhi VDC	Office Assistant
43	Bhagawati Dulal	Kathmandu/ Danchhi VDC	Social Mobilizar
44	Top Bdr Thakuri	Kathmandu/ Suntole VDC	Secretary
45	Kiran Napit	Kathmandu/ Suntole VDC	Office Assistant
46	Rama Shrestha	Bhaktapur/ Changunarayan VDC	Secretary
47	Prabhakar khanal	Bhaktapur/ Changunarayan VDC	Teacher,Changunarayan Primary School
48	Kamal Psd. Bhusal	Bhaktapur/ Duwakot VDC	Secretary
49	Godar Shrestha	Bhaktapur/ Duwakot VDC	Teacher
50	Maniram Khatiwada	Bhaktapur/ Chhaling VDC	Secretary
51	Rupa Thapa	Bhaktapur/ Chhaling VDC	Social Mobilizer
52	Rita Bata	Bhaktapur/ Chhaling VDC	Office Assistant
53	Bikran Karki	DDC, Dolkha	Information Officer

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नेपाल विद्युत प्राधिकरण

(नेपाल सरकारको स्वामित्व)

ईन्जिनियरिङ्ग सेवा निर्देशनालय

वातावरण तथा सामाजिक अध्ययन विभाग

मितिः २०७१।९।३०

पं. सं. :- ०७१/०७२
च.नं. :- ३१३

श्री नेपाल नागरीक उड्यान प्राधिकरण,
ए.टी.एम. विभाग,
प्रधान कार्यालय, ववरमहल, काठमाडौं ।

विषय :- तामाकोशी-काठमाडौं ४०० के.भि.प्रशारण लाईन आयोजनाको Route Alignment सम्बन्धमा ।

उपरोक्त विषयमा नेपाल विद्युत प्राधिकरण प्रस्तावक रहेको प्रस्तावित तामाकोशी-काठमाडौं ४०० के.भि.प्रशारण लाईन आयोजनाको प्रारम्भिक वातावरणीय परिक्षण (IEE) कार्य भईरहेकोले यस विभागवाट प्रेषित मिति २०७१।८।२२ च.नं. २४५ को पत्र संलग्न WGS 84 Coordinate अनुरुपको Toposheet (रंगीन नक्शा थान १४) आवश्यक कार्वाहिको लागि पठाईएको व्यहोरा अनुरोध छ ।

९।३०

(राजनऋषि कडेल)
सह- निर्देशक

बोधार्थ :-
श्री तामाकोशी-काठमाडौं ४०० के.भि.प्रशारण लाईन आयोजना,
खरिपाटी, भक्तपुर ।

OK

नेपाल विद्युत प्राधिकरण

(नेपाल सरकारको स्वामित्व)

इन्जिनियरिङ्ग सेवा निर्देशनालय

वातावरण तथा सामाजिक अध्ययन विभाग

मितिः २०७१।८।२२

प. सं. :- ०७१/०७२

च.नं. :- २८५

श्री नेपाल नागरीक उड्यान प्राधिकरण,
ए.टी.एम. विभाग,
प्रधान कार्यालय, ववरमहल, काठमाडौ ।

विषय :– विद्युत प्रशारण लाईनको Route Alignment सम्बन्धमा ।

उपरोक्त विषयमा नेपाल विद्युत प्राधिकरणद्वारा प्रस्तावित तामाकोशी-काठमाडौ ४०० के.भि.प्रशारण लाईन आयोजनाको प्रारम्भिक वातावरणीय परिक्षण (IEE) कार्य भईरहेको छ । आयोजनाको सर्भेक्षण प्रतिवेदन एंव IEE अध्ययनको लागि तयार गरिएको कार्यसूची (ToR) को आधारमा संलग्न WGS 84 Coordinate एंव Toposheet वमोजिम प्रस्तावित Route Alignment बाट वायूयानहरुको रुटमा पर्नसक्ने प्रभाव बारे राय-सुझाव दिनुहुन तहाँको च.नं. १०३ मिति २०६९।९।२७ को पत्रानुसार अनुरोध गरिन्छ ।

(राजनऋषि कडेल)
उप- निर्देशक

वोधार्थ :–
श्री तामाकोशी-काठमाडौ ४०० के.भि. प्रशारण लाईन आयोजना,
खरिपाटी, भक्तपुर ।

ATM/द.नं. १६८
२०७१।८।२८
८।२८

नेपाल नागरिक उड्डयन प्राधिकरण
प्रधान कार्यालय

010

नेपाल सरकार
ऊर्जा मन्त्रालय
२०६६

फोन नं. : [illegible]
फ्याक्स : [illegible]
ईमेल : cnsatm@mos.com.np
केबल : AIRCIVIL
AFTN : VNKTYAYX

नेपाल नागरिक उड्डयन प्राधिकरण

प्रधान कार्यालय, बबरमहल, काठमाडौं, नेपाल ।

च.संख्या: ए.टि.एम ।०६५ । १०३

मिति: २०६५/[illegible]

नेपाल विद्युत प्राधिकरण
दर्ता नं. 265
दर्ता मिति 2065.11.19

श्री वातावरण शाखा
नेपाल विधुत प्राधिकरण
खरीबोट, भक्तपुर ।

विषय:- बिधुत प्रशारण लाईन सम्बन्धी नक्शा (Soft तथा Hard) उपलब्ध गराउने बारे ।

उपरोक्त विषय ने.ना.उ.प्रा. अन्तंगत ए.टी.एम. बिभागले नेपाली वायूक्षेत्र भित्र एयर स्पेश एयर रुट तथा Approach Chart/Map आदि परिमार्जन तथा व्यवस्थापन गर्दै आएको व्यहोरा अवगत गराउन चाहान्छु ।

यसै परिप्रेक्षयमा तहाँबाट जडान गरिने High-tension प्रशारण लाईनले वायुयानहरुको रुटमा बाधा सिर्जना गर्न सक्ने हुँदा त्यस्ता प्रशारण लाईन Mast को WGS 84 Coordinate हरु तथा Hardcopy नक्शा तथा संभव भए Softcopy नक्शा समेत उपलब्ध गराईदिनु भै हवाई उडान सुरक्षा अभिवृद्धि गर्न यस प्राधिकरणको कार्यमा सहयोग पुर्राईदिनुहुन अनुरोध छ ।

T/L co-ordinates तथा alignment को information उपलब्ध गराउँ
065/11/19

संजिव गौतम
निर्देशक
ए.टी.एम. बिभाग

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Attached as annex in the TOR - Refer annex from the text (Tamakoshi - Kathmandu 400 kV TL)

1. Write the name of the VDC in Nepali font as well, where they first appear in the report.
2. Project layout shall be presented in an original colored topographic map distinctly showing - affected VDCs and their boundaries, Transmission line alignment; Tower Pads; Overall pproject access; Service Road/s; tentative locations of camp site, quarry site, disposal sites, and storage facilities. Also, provide proper legends in the map.

   All the details identified, in preceding paragraph, to exhibit on the project layout, shall be presented in the 'GOOGLE-kmz' file format. The details of project layout shall be same as in engineering drawing, plan view, prepared for the project in the feasibility study. Make sure the co-ordinate system used for the features is WGS84.
3. Salient features of the project shall also be provided with following information:
   - land area requirement for each tower [make a distinction among – deviation/angle tower (with nominal and extreme angles) and straight tower; the towers that need different area shall be presented]
   - Electricity and Magnetism *[only for > = 220 kV TL]*
     - Current – at normal operating condition and maximum value
     - Voltage – at normal operating condition and maximum value
     - Strength of Electric Field – at normal operating condition and maximum value
     - Strength of Magnetic Field – at normal operating condition and maximum value
     - Spatial field strength variation (electric and magnetic) from conductor up to 300 meter.
       - strength at normal operating condition and maximum value
       - field strength distribution in plot and chart
   - Conductor Properties;
   - Conductor configuration
   - Conductor Bundling – bundled or unbundled; if bundled number of cables in each bundle
   - Minimum ground clearance of conductor
   - Design clearances (Tower height and Tower span) and others – tower type [make a distinction among – deviation/angle tower, straight tower]; Tower height and span for – river/road/power cable with voltage and number of circuit/communication line crossings; maximum tower height and span;
   - Right of Way (ROW) – Total ROW, need of felling or pruning of trees, on either side, in a section passing through forest and vegetation, to maintain clearance requirement.
   - Substation – numbers; substation Details with facilities required (if substation required)
   - Design safety considerations – tower, power cable, and substation
   - Safety consideration at line crossings - river/road/power cable /communication lines
   - Total project cost – Transmission line and substation
4. In the project description chapter state land requirement that covers:
   - i) land required tower pads, ii) substation, iii) land restrictions (total length, total area), iv) land requirement for service roads.
   - Land requirement shall be clearly presented for different project components that need different land types for both permanent and temporary needs: a) agricultural land (khet, bari, and pakho); b) built up area(houses, sheds, infrastructures); c) Other government or public land and properties/infrastructures; d) forest land requirement (Govt./Community/Leasehold/Religious/private).
5. In Project Description Chapter under Construction Planning, discuss in brief about the following:
   - Cement, Cement admixtures, Coarse and fine aggregates – amount required, source, and storage
   - Steel (reinforcement, pipes, and others), timber, etc. – amount required
   - Toxic chemicals – acid, petroleum products, batteries (amount required, and storage)
   - A complete list of all hazardous materials/chemicals to be used in construction *[for > =220 kV TL]*
   - Construction Power
   - Others
   - Human resources requirements (skilled, semiskilled, and unskilled) and plan of recruitment from the project area and project affected families
   - Brief of Construction Planning:

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- o Land clearance i) tower pad and tower erection, ii) conductor stringing, iii) substation, iv) camp sites, storage facilities, service roads
- o Planning of trees and vegetation clearance in forest area
- o Location of camp sites, quarry sites, disposal sites - brief of area; number of sites; proximity to houses/settlements/schools/social infrastructures
- o Construction activities;
- o handling of hazardous materials in safe area that employ containment measures ensuring that these materials are not released to soil or water bodies. *[for > = 220 kV TL]*
- o De-mobilization and cleanup
- o Returning of temporary land and restoration of private and public properties (if any)
- Construction Schedule

DATA REQUIREMENT AND STUDY METHODOLOGY

Following data shall be collected using appropriate methods. The methods shall be identified in IEE with justification of selection.

PHYSICAL

6.

- i) Existing condition of landslide-phenomenon of occurrence, dimension, activity; condition of slope stability and soil erosion in and around tower pads; ii) Geological and geomorphological condition in and around tower pads located close to the settlements, places of human activities, and close to the physical and social infrastructures; iii) Likelihood of triggering - existing slide, formation of new slides/slope instabilities, and further aggravating soil erosion due to construction activities.
- Identification of water body, springs, and rivers in proximity of the construction sites, storage facilities where it is likely to get toxic and hazardous chemicals leak.

BIOLOGICAL

7. *[Decide depending upon the site conditions(richness of forest in terms of bio-diversity) and project nature/location]*- Data on Wildlife Habitat shall be collected pertaining to: a) Habitat of wild fauna affected by the project; b) movement/migration corridor affected by the project; c) mapping of habitat in project area affected by project components and construction activities and surrounding area. To account full habitat condition following information shall be gathered in the direct project impact area transmission and surrounding area:
    - Site Description (Water body/ holes, Vegetation cover, Ground and soil/rock features),
    - Important Habitat Type/Features–Tree/Herb/Shrub/Epiphyte/others,
    - Habitat Use–a) Active/Temporary/Migratory Corridor; b) breeding/feeding or hunting/resting/, and others,
    - Habitat Continuity, either side of Row
    - Habitat Connectivity, either side of Row
    - State of habitat in terms of–Degradation/Fragmentation/Human encroachments.
    - Threat and Conservation status of animals using habitat based on IUCN's Red Data Book and National Park and Wildlife Conservation Act *(1973)* respectively.
8. existence of bird habitat (with bird species) on either side of line corridor; existence of flight path likely to be crossed by the transmission line.

SOCIO-ECONOMIC AND CULTURAL

9.

- Location / separation (within the construction site or at some distance) of existing settlements with their names and numbers from each of the structures, components, and facilities of the proposed project. Data must be sufficient to determine the impact.

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- Location/separation (within the construction site or at some distance) of existing houses, with their numbers and names of owners, from each of the structures, components, and facilities of the proposed project. Details must be sufficient to determine the impact.
- Religious, places of worship/rites/ritual, and cultural sites – Religious, places of worship/ritual and cultural sites of the region and of the delineated project impact area and their significance shall be identified.
- i) existence education institutions their numbers as well as owners, operating condition, ii) Number of students, years of establishment, iii) existing facilities and their quality, iv) Support to run these institutions.
  - Location/Separation (within the construction site or at some distance) of structures/components/facilities with respect to the structures/components/facilities of the proposed project. Details must be sufficient to determine the impact.
  - Same information as above for the planned educational projects.
- Location of market centers and places of social congregation from tower point and conductors
- Use of (NTFPs); plant having medicinal, agro-forestry, and ethno-botanical values; identification of species and their composition in the core project area (where project structures and project facilities are located) as well as in the surrounding area. Number of dependent families and population, annual harvest and turnover of each type of species.
- i) Existence of airplane flight path close to the ROW; ii) Distance of flight corridor both horizontal and vertical distances from line conductor.

10. "If the project requires land and/or trees to be cut down from the forest of, Community Forest, and/or Government Forest, then comments and suggestions from Community Forest User Group/s, and/or District Forest Office shall be attached in the IEE report. Recommendation Letter from the Community Forest User Group/s shall be included in the IEE Report."
11. Comments and Suggestion from Aviation Authority regarding construction of transmission line shall be obtained and incorporated in the report. Comments and Suggestion shall be attached in the report.

EXISTING ENVIRONMENTAL CONDITIONS

12. Source of all data and information given in the report shall be identified; if the source is field survey, year and specific methodologies used shall be given; and if source is published report or literature then standard reference format must be used with reference list. Any statement or data whose source has not been identified will not be accepted. Presentation shall recognize the outcome of study conducted by the study other than the IEE study team.
13. While describing existing environment, the data requirement that is identified above in "Data requirement and study methodology" must be used in addition to the topics identified below.

Physical Environment:

14. Give brief account at regional framework. Then describe the features in the project area in already defined impact area/zones where project component, project facilities, ancillary structures, and support facilities are located.

Biological Environment:

15. Each component of baseline information (some of which are listed below) shall also be categorically discussed in relation to the placement of structures, components, support facilities, services, and places of activities of the proposed project. Details must be sufficient to determine the impact.
16. Terrestrial Vegetation and forest resource shall be described pertaining to:

While describing existing forest and vegetation area at the project level, presentation shall be based on line segments and types of forest management management (Government, Community, Leasehold, or Religious Forests) that the line passes through

- Regional forest and vegetation resources at district and VDC level,
- Location of sampling sites and methodology of sampling adopted
- Contiguous forest outside the project influence area
- Forest and vegetation along the transmission line corridor [and substation].

- *Forest Management* shall be given in area as defined in project area delineation. Name of community/leasehold/government forest and private forest; User groups involved in forest management. Give brief account of current forest management practices and future plans of each management units: community/leasehold/government/private forest. Status of forest under different management category shall be compared at present scenario and likely trends in future without intervention
- *NTFPs shall be accounted both within the ROW corridor, [and substation], and surrounding area in terms of:*
  - *Agro Biodiversity*
  - *Ethno-botany*.
- *Dependency on forest resources* shall be accounted:

  First, with general condition in the forest area as a whole (totally covering all of contiguous forest) – communities and user groups that are dependent on these forests; use of resources in terms of for timber, fodder, fuel wood, NTFP etc for livelihood; number households as well as persons dependent in each forest management category; annual income accrued through usages. These information shall also be presented in socio-economic baseline, not in the same detail, but this section can be cross referrenced.

  And then, within the Right of Way corridor, service road, [and substation] .
- *Rare/ Endangered/Threatened and Endemic Plants Species* – List the species of conservation significance (GON protection list, IUCN red book, CITES Appendices) present in the project area. Also give their status in the regional, and local (in delineated project area – DIA, IIA and SA) context, focusing in ROW, service roads [and substation].

Terrestrial wild life shall be described as:

- Location of habitat in the study area/sampling sites (if any)
- Name (local, English, and scientific) of wild life species exist in project area in category - mammals, avi-fauna, herpeto fauna, butterflies and insects.
- Habitat condition shall be described with data collected as identified in data requirement and study methodology.
- Reptiles and Amphibians
- *Rare/ Endangered/Threatened and Endemic Plants Species* – List the species of conservation significance (GON protection list, IUCN red book, CITES Appendices) present in the area. Also give their status in the regional, and local (in delineated project area – DIA, IIA and SA) context, focusing in ROW, service road, [and substation]..

Socio-Economic And Cultural Environment

While describing Socio-economic and Cultural Environment, first give district level information, then affected VDC level information, and then project component level information. It is to be noted that in giving project component level information – location/separation (within the construction site or at some distance) of structures/components/facilities/services/places of activities pertaining to the socio-economic baseline components shall be discussed with respect to the proposed project's structures, components, facilities, activities, and zone of influence. Details must be sufficient to determine the impact.

17. Location of following within the project and in the vicinity. If located outside the project influence zone, approximate distance to them from project structures, ancillary-structures, facilities, activities, and project component access shall be given. The information shall be sufficient to help identify impacts.
    - Houses and Settlements
    - Educational institutions: schools colleges
    - Health institutions
    - Sources of – energy(firewood), fodder
    - NTFPs
    - Other local infrastructures: communication, transport (foot trails, trekking trail)

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- Cultural/religious/archaeological/pilgrimage/
- Community services centres, local market, social congregation sites
- Foot trails/trekking routes/Village, District, or National Roads
- Public/government institutions
- Power lines/telecommunication lines
- Nearest aircraft fly-path/route

18. *Project District:* Give Highlights of socio-economic characteristics. Recent census data shall be used.
19. *Project affected VDC:* Source of data could be field study (primary) and existing literature (secondary)
20. *Project Affected Families* – This section shall be based on the census survey of the directly project affected families. The directly project affected families are to be considered as those families who lose their dwellings, land and other properties to the project. The affected families shall be categorized as – Project Affected Families (PAF) and Seriously Project Affected Families (SPAF).

    Need of resettlement and rehabilitation –Number of house-holds to be resettled/rehabilitated; Existing means of livelihood and livelihood foregone to the project. Detailed accounting of all land and property of people who need to be resettled/rehabilitated shall be presented.

    Perception about the Project and Desired Compensation, rehabilitation measures – Opinion of the affected households/people on the project development, opinion of people regarding compensation (cash compensation, land for land, any other), rehabilitation (employment in the project, training for skill enhancement, cash support, loan support, any other), and resettlement (project, self, local area, outside project area) options, and reasons to choose different options shall be given.

    Cultural Environment

    a. Historical and Archeological Sites – Historical and archeological sites of the delineated project impact area and their significance shall be identified.

    Existence of Historical and Archeological sites located within the project and in the vicinity shall be given; approximate distance to the sites located within the project and in the vicinity of the project structures/ancillary-structures/facilities shall also be given.

    b. Religious, places of worship/rites/ritual, and cultural sites – Religious, places of worship/ritual and cultural sites of the region and of the delineated project impact area and their significance shall be identified.

    Existence of Religious, places of worship/rites/ritual, and cultural sites within the project and in the vicinity shall be given; approximate distance to the sites located within the project site and vicinity of the project structures/ancillary-structures/facilities shall also be given.

21. *Existing and planned projects in the project area*
    a. Identify existing or planned transmission line projects that are likely to cross this line alignment.
    b. Location/separation of line alignment and tower pads from social infrastructures/facilities (like – education/health/places of social congregation) planned by VDCs.
    c. Location of aircraft flying route with respect to the transmission line alignment.

REVIEW OF LEGAL DOCUMENTS

22. In chapter 4, state review of related documents shall be presented in EIA considering the followings:
    - *The date of Policies/Strategies and Legislation shall be given in in Bikram Sambat keeping English date in brackets*
    - Legislations/strategies/policies shall be presented in chronological order of their enactment.
    - Highlights of Articles, Clauses, Rules, Chapters, and Sections that are attracted to the study and project/proposal implementation.

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- How the provisions, that are relevant and are mandatory to the study process; and that are relevant and are mandatory to the project implementation, are observed and followed in–the study, mitigation measures/planning, and construction & operation.
- Identification and discussion of legal provisions that hinders the project implementation with possible way out for easement

23. <u>Also review the following documents: ....</u>
    "शासकीय तथा आर्थिक सुधारको तत्कालीन कार्ययोजना २०६९"

<u>ENVIRONMENTAL IMPACT</u>

24. <u>Generic impacts shall be avoided; the impact shall have clear bearing on the project activities, location, and existing environmental component's sensitivity to the change.</u>
25. <u>While describing environmental impact, the data requirement that is identified above in "Data requirement and study methodology" must be used together with the information as per the attached tables.</u>
26. Impact shall be discussed with quantified information of likely changes, alteration, and losses; and are further assessed based on characteristics of existing condition and sensitivity of environmental components (physical, biological, and socio-economic and cultural).
27. Issues/Impacts related to changes in land use (agricultural, forest, and others) with respect to the existing land use availability in project affected VDCs/district shall be assessed (for both construction and operation phases)
28. Issues identified by the Stakeholders through comments and suggestion shall be listed in the impact chapter.
29. Following impacts shall be included in the IEE study:

<u>PHYSICAL</u>

a) Impact due to Land stability in and around tower pads considering; i) Likelihood of triggering instability, and slide ii) formation of new slides, iii) and further aggravating soil erosion due to construction activities.

b) Impact due to stockpiling of construction materials on temporary land use

c) fire caused by the ground fault and likelihood of spreading to the adjacent forest

<u>BIOLOGICAL</u>

d) Habitat fragmentation – with description of habitat through which the proposed TL passes through <u>*(construction and operation stage)*</u>

e) Crossing of migratory route of terrestrial and avian fauna <u>[if report states only close to the water ways, impacts shall also be looked into for those areas not close to water ways, since bird fly path are not restricted to water ways; bird fly path might occur if bird habitat are located on either side of TOW corridor]. *(operation stage)*</u>

<u>SOCIO-ECONOMIC AND CULTURAL</u>

f) If tower pads are to be constructed in close proximity to houses and settlements, then impacts on houses, social infrastructures, and settlements because of land stability shall be analysed. <u>*(construction and operation stage)*</u>

g) Loss of agricultural production, fodder and fruit trees <u>*(construction and operation stage)*</u>

h) Impacts due to crossing of power cables, communication lines, foot trails, roads/highways. <u>*(operation stage)*</u>

i) Impact on aircraft flying route <u>[only for projects which are in proximity of flying path or close to airports] *(operation stage)*</u>

j) Impact on communal resources - recreational areas, places of public congregation <u>*(construction and operation stage)*</u>

k) Impact on PAF due to alteration of land and property values <u>*(operation stage)*</u>

l) Impact due to restriction on future land use development close to the settlement <u>*(operation stage)*</u>

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m) Impacts of electromagnetic fields, stray voltage, and corona charge to people residing/working/others particularly – houses, settlements, schools, hospitals, places of public congregation–that are in proximity of the transmission line. *(operation stage)*

n) Disturbances to radio, television, telephone, mobile/cell phone reception *(operation stage)*

o) Impact on persons having implanted medical devices [for voltage levels >220 kV] *(operation stage)*

p) Health Hazard due to current leakage and improper insulation *(operation stage)*

q) *Public safety in line segments, passing through close to the settlements, and places of congregation due to: snapping of conductor; collapsing or over-topping of towers*

30. Summary Impact-Matrix for each environment shall be prepared at the end of respective sections.
31. The attached tables shall be filled up and used in impact identification and prediction.

ALTERNATIVE ANALYSIS

32. Transmission line design and route fixing team shall be working in close co-ordination with the environmental study team to avoid adverse environmental impacts, before finalizing route alignment. PLEASE NOTE THAT MITIGATION CHAPTER SHALL HAVE BEARING ON THIS CHAPTER. THEREFORE, MITIGATION/AVOIDANCE OPTIONS SHALL COMPULSORILY BE BASED ON THE OUTCOME OF THE ANALYSIS.
33. Alignment alternative shall be critically assessed to avoid following contour line passing through hill forest area. [For only for those TL projects passing through hill area]
34. Different route alternative shall be assessed to avoid proximity (keeping line conductors by at least 100 m) from houses, settlements, schools, hat bazars, and places of congregation.
35. "No Forest Option" shall be assessed. For this, all the project components requiring forest area like: substation, ROW clearance, Tower pad locations, Temporary forest and vegetation clearance for cable stringing, and project-facility sites that need to clear forest area must be critically evaluated with respect to land availability in the area other than forest. Simply the cost and technical consideration shall not be sufficient to justify the forest area requirement.
36. Alternative horizontal and vertical clearance options in sections of ROW passing through forest area. Possibility of adopting selective felling, zone felling, pruning, or only hazardous tree felling shall be analysed in detailed. Please note that, discarding selective clearance options simply on cost and difficulty ground will not be accepted. Those costs shall be covered under O&M costs.
37. Alternative route alignment to avoid crossing of migratory route of terrestrial and avian fauna. The analysis shall touch upon the location and extent of existing habitat on either side of the alignment.
38. [For Right of way passing by close to the settlements] Alternative construction methodologies/procedures shall be critically assessed to avoid loss of houses and properties.
39. [For Right of way passing by close to the settlements or lines >=220 kV] Alternative design options shall be considered and analysed to achieve low field design and appropriate options shall be proposed to minimize EMF related health hazard. The options to be looked into – phase splitting, conductor configuration, reverse phasing, taller tower configuration, and alignment re-routing far from settlements, places of congregation, schools, health centers/hospitals.
40. [If the project requires to houses and property acquisition culminating to relocation or resettlement of people] Locational alternatives of the project component shall be assessed to avoid resettlement.

MITIGATION AND ENHANCEMENT

41. आयोजनाको अस्थाई संरचनाहरुको प्रयोजनकालागि गरिने जग्गा अधिग्रहण लिजमा लिने गरी प्रस्ताव गर्ने । त्यस्ता जग्गाहरु निर्माण कार्य सम्पन्न भएपश्चात् सम्बन्धित व्यक्ति, संस्था, वा निकायलाई पुरानै अवस्थामा हस्तान्तरण गर्नकालागि आवश्यक व्यवस्थामि[illegible] गर्ने ।
42. Awareness and training programs which shall be described in the report must have sufficient detail to cover the target group, frequency, and program conductor. Allocated cost for such program shall justify the proposed activities.
43. Enhancement measures shall be presented with measures/activities that will help heightening benefits accrued from the project implementation as identified under beneficial-impact. Enhancement measures shall not be limited to

stating possibilities and opportunities; instead, they must be backed up with programs and activities from the proponent's side. Possibilities and opportunities created by the project, whose enhancement is beyond the scope of proponent's intervention, can be given with separate heading. Required fund shall be allotted to realize the intended enhancement. Any activities/measures proposed for the enhancement of – living standard/quality of life/functioning or performance of local Institutions – can be separately discussed under Corporate Social Responsibility (CSR).

44. [For projects above 220 kV TL] Measures to overcome adverse impacts and enhance positive impacts shall be categorized and proposed as:
i) AVOIDANCE, ii) PREVENTIVE, iii) MITIGATIVE, and iv) COMPENSATORY MEASURES. Since all the impacts may not need all four measures, measures shall be proposed based on the nature of environmental impacts and components of environment that is affected. For avoidance and Preventive measures, propose how their implementation or compliance will be ensured during project construction and operation.

45. "वन क्षेत्रको जग्गा अन्य प्रयोजनको लागि उपलब्ध गराउने कार्यविधि, २०६३"" सार्वजनिक तथा आर्थिक सुधारको तत्कालीन कार्ययोजना २०६८" shall be followed while proposing mitigation measures regarding impacts on forest and vegetation. In the Work Schedule, there is a requirement, in addition to the plantation for the lost trees/poles in the ratio of 1:2, by the developer, on the area equivalent to the one that is occupied by the project's physical infrastructure and facilities on the land designated by the concerned district forest office, managed for five years and handed over to the concerned district forest office. Cost for such plantation and management for five years shall be worked out.
In addition, the cost shall also be worked out for – tagging, cutting and pruning, and collecting, transporting and stacking.

46. Plantation of NTFPs, other vegetation having economic value, or plants not exceeding ground clearance requirements and having mature growth heights within the tolerance limit not posing threat of ground-fault hazards and the risk of fire – PARTICULARLY ALONG THE SECTION OF ROW not passing through the private land – shall be proposed as a compensation to loss of vegetation in addition to the plantation of saplings in a ratio of 1:25. Suitable species shall be selected and proposed after consultation with District Forest Office and Community Forest Management.

47. The study shall also review the responsibilities of the local, district and central level institutions and those affected by the project construction and propose steps to ensure necessary coordination during the project implementation.

48. Those mitigation measures that can be or are part of contractual obligation for project construction shall be clearly identified. Mechanisms of ensuring implementation of those mitigation measures, from the proponent' part, as a compliance of contractors shall be categorically proposed.

49. Organization chart/organogram for implementation of mitigation measures, with a clear provision of mitigation shall be proposed.

50. The report shall propose – i) procedures of lodging complaints of project affected people/families/institutions, and ii) grievance redress mechanism.

51. Summary Mitigation and Enhancement-Matrix and associated cost for each environment shall be prepared at the end of respective sections.

52. Environmental Impact Mitigation Matrix shall be presented in the report.

53. "Summary of Cost Benefit assessment" shall be given which shall include the followings:
- cost for Environmental Mitigation Measures
- cost for Enhancement Measures,
- cost for Other Social Support Programs and Corporate Social Responsibility (CSR),
- cost for Environmental Monitoring,
- Total Project Cost, and
- Percentage of total Environmental Cost to the Total Project Cost.

54. Tables attached herewith for loss of land, properties, and agricultural production shall be kept in the annex referring them where appropriate.

MONITORING

55. Monitoring plan shall comprise – Baseline, Compliance, and Impact Monitoring. Each monitoring plan grouped into Physical, Biological, and Socio-economic & Cultural Environment for both construction and operation stage.

56. For each mitigation and enhancement measure, the monitoring plan shall come up with – parameters, indicators, location, methods, and schedule/frequency. The parameters and indicators shall be coherent with the proposed mitigation measures; and shall be quantified as far as possible.
57. An organogram for implementation of monitoring activities, with clearly assigned/identified roles and responsibilities of project monitoring unit and contractor, shall be proposed. The organogram shall also exhibit monitoring unit as well as different agencies to be consulted while carrying out monitoring activities.
58. Proposed monitoring activities shall reflect proponent's commitment as an obligation for internal monitoring.

CONCLUSION

59. Try to limit the content of this chapter in two pages.
60. Content of this chapter shall be limited to conclusion. The use of language in the text shall imply commitments from the developer.
61. This chapter shall give VERY BRIEF OVERVIEW of the followings:
    - Project and its development concept,
    - Significant findings from baseline study that need special attention,
    - Major impacts,
    - Major Mitigation Measures,
    - Specific precaution and avoidance measures to be followed by developer, and
    - Statement about overall impact on environment and benefit accrued from the project.

OTHER

62. The attached tables shall be filled up and used in impact identification and prediction as well as proposing mitigation measures.
63. List of "Abbreviations and Acronyms" shall contain all the ones used in the report.
64. For quality control, the IEE report shall come with – name/ and designation of of the persons, as given in the study team composition, that have been involved in drafting, amending, and verifying.
65. The final report shall be printed on both pages. Provide an electronic copy of the final IEE report.

DRAWINGS, MAPS, and EXHIBITS:

66. Following DRAWINGS, MAPS, and EXHIBITS shall be given in IEE report:
    a) Following shall be over laid on complete project layout map, as a background, on topographical map
       - o Location of sampling sites for collecting baseline information for biological environment <u>[for project passing through dense forest area]</u>
       - o terrestrial vegetation, terrestrial habitat; Habitat of listed species shall be distinctly exhibited.
       - o Extent of contiguous forest beyond core project area. Extent of contiguous terrestrial animal habitat.
       - o Zone of habitat fragmentation; Zone of migratory route of terrestrial animals; Zone of bird flight path; Zone of aircraft flying path.
       - o Location of habitat in the project impact zones and contiguous forest if *Rare/ Endangered/Threatened and Endemic Species of wild life (terrestrial/avian/aquatic) are found in project impact zones/area.*
       - o Location of houses and settlements
       - o Location of social infrastructures and places of congregation like: –schools/colleges, health posts, religious sites (temples, churches, mosques, and cremation sites), public buildings, and foot trails.
    b) Typical tower configuration as well as foundation details for both straight and angle towers.
    c) Typical vertical and horizontal clearances in sections – close to settlements, and in forest area. Typical right of way clearance in a stepped configuration (ROW passing through forest area) from the centre line of TL where cutting, pruning, and selective clearance or pruning of hazardous trees.
67. RECOMMENDATION AND CONCURRENCE LETTERS shall cover the following:

<u>क) गा.वि.स. बाट आयोजना प्रवर्धकले प्राप्त गर्ने राय-सुझावहरु तथा सिफारिसपत्रमा अनिवार्य रुपमा उल्लेख हुनु पर्ने विषयहरु:</u>

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- आयोजनाले स्थानीय स्कूल, हेल्थपोष्ट, र अन्य सामुदायिक संरचनामा पार्ने प्रभावहरु र ती बारे प्रस्तावित निराकरणका उपायहरुका सम्वन्धमा ।
- आयोजनाले स्थानीयस्तरमा पार्ने अन्य वातावरणीय प्रभावहरु र तीनको निराकरणकालागि प्रस्तावित उपायहरुका सम्वन्धमा ।
- उपरोक्त विषहरु अनिवार्यरुपसा सम्बोधन भएको हुनु पर्ने । यदि कुनै विषय आयोजनाको हकमा लागु नहुने खण्डमा त्यसवारे प्रष्ट उल्लेख हुनु पर्ने ।

ख) प्रभावित सामुदायिक वन उपभोक्ता समिति वा जिल्ला वन कार्यालयबाट आयोजना प्रवर्धकले प्राप्त गर्ने राय-सुझावहरु तथा प्रभावित सामुदायिक वन उपभोक्ता समितिको सिफारिस पत्रमा उल्लेख हुनु पर्ने विषयहरु:

- नोक्सान हुने रुख र गैर काष्ठ वन पैदावार आदिको परिमाणका सम्वन्धमा ।
- नोक्सान हुने रुख र गैर काष्ठ वन पैदावार आदिकोलागि प्रस्तावित निराकरणका उपायहरुका सम्वन्धमा ।
- वनमा पर्ने समग्र असर र त्यसबाट आश्रित समुदायमा पर्ने प्रभावका र तिनकालागि प्रस्तावित निराकरणका सम्वन्धमा ।
- निर्माणको चरणमा वन क्षेत्रमा हुन सक्ने थप चाप कम गर्नकालागि प्रस्तावित उपायहरुका सम्वन्धमा ।
- आयोजनाबाट प्रत्यक्ष रुपले प्रभावित वन क्षेत्र तथा सीमावर्ति वन क्षेत्रमा सूचीकृत वनस्पतिको संरक्षणकालागि प्रस्तावित उपायहरुका सम्वन्धमा ।

ग) नागरिक उड्डयन विभागबाट आयोजनाले अध्ययन गर्दा ध्यान दिनुपर्ने सम्वन्धमा लिखित राय सुझाव लिने ।

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Impacts and Mitigation Measures of Transmission Lines

PHYSICAL

a) Impact due to Land stability in and around tower pads considering; i) Likelihood of triggering instability, and slide ii) formation of new slides, iii) and further aggravating soil erosion due to construction activities.

- Keeping tower pad in a sound places where problem of stability, slides, and aggravating soil erosion is minimum
- Stabilization of area around tower pads in sloping terrain
- Vegetation is planted and/or maintained around the tower base to minimize or prevent soil erosion.

- Stabilization of disturbed slope/soil to assist vegetation regrowth and to control/prevent erosion
- All disturbed areas to be stabilized to prevent continued erosion. Construction material, vegetation, overburden or other material used at the site should be disposed of appropriately or reused in restoration of stream banks or slopes.

b) Impact due to stockpiling of construction materials on temporary land use

c) fire caused by the ground fault

BIOLOGICAL

d) Habitat fragmentation. – with description of habitat through with the proposed TL passes through *(operation stage)*

- [redacted]

e) Crossing of migratory route of terrestrial and avian fauna <u>[if report states only close to the water ways impacts shall also be looked into for those areas not close to water ways, since bird fly path are not restricted to water ways; bird fly path might occur if bird habitat are located on either side of TOW corridor].</u> *(operation stage)*

SOCIO-ECONOMIC AND CULTURAL

f) If tower pads are to be constructed in close proximity to houses and settlements, then impacts on houses, social infrastructures, and settlements because of land stability shall be analysed. *(construction and operation stage)*

Beneficial Impacts of transmission Lines

BIOLOGICAL

In some circumstances clearing may encourage growth of plants that improve terrestrial habitat for certain animals such as moose, deer, hare, and upland birds.

Impacts and Mitigation Measures of Transmission Lines

PHYSICAL

a) Impact due to Land stability in and around tower pads considering: i) Likelihood of triggering instability, and slide ii) formation of new slides, iii) and further aggravating soil erosion due to construction activities:

- Keeping tower pad in a sound places where problem of stability, slides, and aggravating soil erosion is minimum
- Stabilization of area around tower pads in sloping terrain
- Vegetation is planted and/or maintained around the tower base to minimize or prevent soil erosion.
- Stabilization of disturbed slope/soil to assist vegetation regrowth and to control/prevent erosion
- All disturbed areas to be stabilized to prevent continued erosion. Construction material, vegetation, overburden or other material used at the site should be disposed of appropriately or reused in restoration of stream banks or slopes.

b) Impact due to stockpiling of construction materials on temporary land use

c) *fire caused by the ground fault

BIOLOGICAL

d) Habitat ~~fragmentation~~ – with description of habitat through with the proposed TL passes through *(operation stage)*

- [redacted]

e) Crossing of migratory route of terrestrial and avian fauna **[if report states only close to the water ways impacts shall also be looked into for those areas not close to water ways, since bird fly path are not restricted to water ways; bird fly path might occur if bird habitat are located on either side of TOW corridor]**. *(operation stage)*

SOCIO-ECONOMIC AND CULTURAL

f) If tower pads are to be constructed in close proximity to houses and settlements, then impacts on houses, social infrastructures, and settlements because of land stability shall be analysed . *(construction and operation stage)*

Beneficial Impacts of transmission Lines

BIOLOGICAL

In some circumstances, clearing may encourage growth of plants that improve terrestrial habitat for certain animals such as moose, deer, hare, and upland birds.

नेपाल सरकार
ऊर्जा मन्त्रालय
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