



Government of Nepal
Ministry of Communication and Information Technology (MoCIT)

Digital Nepal Acceleration (DNA) Project

Environmental and Social Management Framework (ESMF)

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Executive Summary

Background

The Government of Nepal (GoN) will implement the Digital Nepal Acceleration (DNA) Project with support from the World Bank, to expand inclusive access to broadband connectivity, and to strengthen the digital enablers to improve the resilience of businesses, governments, and households with the national coverage. This Environmental and Social Management Framework (ESMF) contains measures and plans to avoid, minimize, mitigate and offset adverse environmental and social risks and impacts of the project.

The Project will support for Digital inclusion addressing the gap and initiatives as identified by Digital Nepal Framework (DNF) 2019. The list of project development activities are packaged in four components. Activities under component 1: Expanding access to broadband will include promotion of rural broadband access and improving international connectivity by creating a virtual landing station and pre-purchase of high-capacity international bandwidth for the Government and priority users. The component 2: Expanding access to digital skills and jobs has focused on developing advanced digital skills and promotion of the digital industry through incubation and acceleration programs for digital start-ups and conducting feasibility studies to develop the planned Information Technology (IT) Park and a network of innovation and cocreation centres. The project will finance for enhancing digital public platforms and services delivery under component 3, where it will support to enhance the digital trust ecosystem developing digital signatures, cyber security regulatory framework, establishment of a national cyber security centres, strengthen the digital infrastructure for public service delivery including the establishment a climate-resilience of the government's data centers and support for implementing high-priority DNF initiatives. The project will also finance technical support, fiduciary, environment & social (E&S) standards implementation, and monitoring & evaluation.

A Project Management Unit (PMU) will be established under the Ministry of Communication and Information Technology (MoCIT) which will be the lead agency responsible for operationalizing the project, co-ordinating among the implementing agencies and managing day-to-day operations. The PMU will include one environmental specialist and one social specialist. In addition, Project Implementation Team (PIT) with adequate human resources will be established at MoCIT, Department of Information Technology (DoIT), National IT Centre (NITC) and Nepal Telecommunication Authority (NTA). Each PIT will include one environment and social specialist (PIT ESS). The PITs will be responsible for the implementation of the designated project activities as outlined in Project Appraisal Document (PAD) and Project Operational Manual (POM) and performance monitoring and evaluation of the project activities. The Project will be overseen by an Inter-sectoral Project Steering Committee (PSC) chaired by the secretary of MoCIT. The PSC will provide policy support and coordination among PMU, PITs and other stakeholders.

This ESMF has been prepared, in accordance with the World Bank Environmental and Social Framework (ESF), and relevant national legislation, regulations and policies, to provide guidance and procedures for screening, assessing, and managing the potential environmental and social risks and impacts arising under the project, and for integrating mitigation measures into the relevant stages of the project cycle. In addition to the ESMF, a Stakeholder Engagement Plan (SEP) and an Environmental and Social Commitment Plan (ESCP) have also been developed and which need to be effectively implemented during the project implementation period.

The primary baseline information for the purpose of preparing this ESMF were collected through discussions with members of PMU, PIT and other key and relevant stakeholders. Wider stakeholder consultations on the ESMF have been conducted in 5 and 6 April, 2022 at federal level including all concerned stakeholders; key non-government organizations, private sectors, IT user networks and

NGOs, network organization of women, Dalits, indigenous groups. The ESMF has included the stakeholders' suggestion.

Relevant Policies and Regulatory Frameworks

Nine out of the 10 World Bank Environmental and Social Standards (ESS) are relevant for this project, namely ESS1 on Environmental Assessments, ESS2 on Labour and Working Conditions, ESS3 on Resource Efficiency and Pollution Prevention and Management, ESS4 on Community Health and Safety, ESS 5 on Land Acquisition, Restrictions on Land Use and Involuntary Resettlement, ESS6 on Biodiversity Conservation and Sustainable Management of Living Natural Resources, ESS7 on Indigenous Peoples, ESS8 on Cultural Heritage and ESS10 on Stakeholder Engagement and Information Disclosure. The ESMF also identifies the gaps between the requirement of the WB's ESF and provisions made in the existing regulatory framework of the country.

Environment and Social Risks and Mitigation Measures

Environmental and Social (E&S) risks for the project are rated as Moderate. The MoCIT and other implementing agencies; DoIT, NITC and NTA have limited previous experience in the implementation of World Bank's E&S requirements. The risk associated with the capacity of the PMU/MoCIT and other PIT is significant and thus the Project will need to adopt adequate capacity building measures.

Further potential environmental and social risks may arise in relation to the infrastructures works proposed under different components. These risks and impacts are expected to be site-specific, short-term, and reversible. Some of the anticipated potential impacts may include land slide and soil erosion, soil removal and vegetation clearance for the construction of the new data centers, towers and trenching works for the deployment of fibre optic cables; management and disposal of electronic waste (E-waste) as a result of the decommission of old equipment which includes unused e-gadgets, fiber and electronic wires; and Occupational Health and Safety (OHS) hazards for the workers. Similarly, the intervention will create temporary restriction of access to land/property and livelihood impacts during construction of new data centers and laying of fiber optic cables depending on the length and location of the cables (e.g. roadside vendors); cumulative and/or more severe impacts faced by IPs and other vulnerable groups such as women-headed households, elderly population, people with disabilities on livelihoods/physical displacement on the potential route of fiber optic network; As these minor civil works will be undertaken on existing premises, it is not expected that land will need to be acquired for the project, and therefore no physical or temporary displacement is expected. However, in the case that some land taking is required for potential future civil works, the ESMF includes a Resettlement Framework. Laborers coming from outside the subproject areas may trigger social risks to the host community related to sexual abuse and exploitation and sexual harassment (SEA/SH). The SEA/SH risk assessment found that SEA/SH risks for this project were moderate. A Labour Management Procedures (LMP) has been prepared and disclosed to guide management of labour and working conditions. Similarly, the ESMF has prescribed appropriate measures to address the risks of poor access to information about the project activities and opportunities of the vulnerable and indigenous communities.

Environmental and Social Management Procedures

Consistent with the requirements of ESS1, some activities such as; activities that may cause long term, permanent and/or irreversible adverse impacts (e.g. loss of natural, critical habitats and biodiversity), have a high probability of causing serious adverse effects to human health and/or the environment (e.g. construction of major civil structures covering ecologically sensitive area) have an effect on lands or rights of indigenous people or other vulnerable minorities have been predetermined as "ineligible" for support under the project. As a standard procedure, every subproject to be financed under the project will undergo an E&S screening before it is selected for support under the project, in order to comply with national regulatory requirements and the WB's ESSs. The results of the screening exercise

will inform subsequent assessments and mitigation measures/plans. The ESMF includes a template for E&S screening and ESMP. The implementation of ESMP, including any additional management plans, such as Resettlement Action Plan (RAP) if any of these will be carried out by the PIT in coordination with the PMU. Implementation performance of mitigation measures will be reported by PIT to the PMU and PMU will produce a consolidated compliance report and submit to the World Bank every six months.

Stakeholder Engagement and Disclosure

A Stakeholder Engagement Plan (SEP) has been prepared to guide meaningful engagement with project stakeholders throughout the life of the project. The SEP includes specific and targeted approaches for consulting and engaging with stakeholders including vulnerable and marginalized groups, such as women, indigenous people and Dalits, people with disabilities in the design and implementation of the project activities. Stakeholder identification and analysis of stakeholders, and preparation of an engagement strategy are some of the major steps prescribed for effective stakeholder engagements. In the context of COVID-19 crisis, the ESMF has also proposed additional engagement strategies and tools to take into account requirements around social distancing. The SEP has also proposed a three-tier grievance mechanism (GM) system to address any grievances arising out of project activities.

Implementation Arrangements for E&S Responsibilities and Capacity Building

The PMU will nominate a E&S risk management nodal officer along with recruitment of an Environment Specialist and a Social Development Specialist to assess and manage environmental and social risks and impacts. Amongst other responsibilities, these Specialists will be responsible for the verification and approval of E&S screenings, ESMPs and other reports and will be overall responsible for ensuring E&S compliance. The PIT will be responsible for preparing and implementing project proposal, including sub-project level ESMP and other E&S measures outlined in the ESMF and in the Environmental and Social Commitment Plan (ESCP). The E&S activities under respective PIT will be supported by one PIT ESS. The World Bank will work with the MoCIT and other implementing agencies to develop and implement a capacity building plan, as well as train and provide technical support for project staff towards effective implementation of the ESCP, ESMF, SEP, and other management plans.

Abbreviations and Acronyms

BES	Brief Environmental Study
CBOs	Community-based organizations
CoC	Code of Conduct
CSO	Civil Society Organization
DNA	Digital Nepal Acceleration
DNF	Digital Nepal Framework
DoIT	Department of Information Technology
ETA	Electronic Transaction Act
E&S	Environmental and Social
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EPA	Environmental Protection Act
EPR	Environmental Protection Regulation
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESRS	Environmental and Social Review Summary
ESS	Environmental and Social Standards
GBV	Gender Based Violence
GESI	Gender Equality and Social Inclusion
GHG	Green House Gas
GRID	Green, Resilient, and Inclusive Development
GoN	Government of Nepal
GM	Grievance Mechanism
IEE	Initial Environmental Examination
IPF	Investment Project Financing
LMP	Labor Management Procedure
MOF	Ministry of Finance
MoCIT	Ministry of Communication and Information Technology
MoEST	Ministry of Education, Science and Technology
NEFIN	National Federation of Indigenous Nationalities
NFDIN	National Foundation for Development of Indigenous Nationalities (Nepal)
NGO	Non-Governmental Organization
NTA	Nepal Telecommunication Authority
NITA	Nepal Information Technology Centre
OHS	Occupational Health and Safety
PIT	Project Implementation Unit
PMU	Project Management Unit
PPE	Personal Protective Equipment
RAP	Resettlement Action Plan
RTDF	Rural Telecommunication Development Fund
SEA	Sexual Exploitation and Abuse
SEP	Stakeholder Engagement Plan
SOC	Security Operations Centre
SH	Sexual Harassment
ToR	Terms of Reference
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples

WB	World Bank
WHO	World Health Organization

1. BACKGROUND

The Government of Nepal (GoN) will implement the Digital Nepal Acceleration (DNA) Project with support from the World Bank, to expand inclusive access to broadband connectivity, and to strengthen the digital enablers to improve the resilience of businesses, governments, and households with the national coverage. It will support to digitize eight sectors; health, education, agriculture through 80 initiatives as it is envisioned in Digital Nepal Framework (DNF) 2019. The list of project development activities under this intervention are packaged in three components. Component 1; Enhancing Broadband Infrastructure includes the rural broadband infrastructure and improvement of international connectivity, component 2; Building Digital Capabilities includes digital literacy development program, digital skills development program, promotion of digital industry and project management and coordination and component 3; supporting digital transformation covers enhancement of the digital trust ecosystem, strengthen the digital infrastructure for public service delivery and implement high-priority DNF initiatives.

Whilst the nature and size of the project activities is known in general, the specific details on designs and locations of the activities are yet to be defined and will be determined during implementation when the activities are prioritized, identified and prepared. In this context, this Environment and Social Management Framework (ESMF) provides guidance and procedures for screening, assessing, managing the environmental and social risks and impacts of the project, and integrating mitigation measures into the relevant stages of the project lifecycle.

1.1. Rationale and Objective of the ESMF

Digital Nepal Acceleration (DNA) Project will follow the World Bank's Environmental and Social Framework (ESF). The ESMF describes the procedures for the assessment and management of the environmental & social risk and impacts associated with the project activities with the following objectives:

- Set out the principles, rules, guidelines, procedures and methods to assess the environmental and social risks and impacts of the project
- Provide guidance/solutions on the implementation of the environmental and social management measures and provide a plan for monitoring the implementation of environmental and social standards
- Specify institutional arrangements, including appropriate roles and responsibilities for managing, reporting and monitoring environmental and social concerns of the project activities and Grievance Mechanisms (GM)
- Determine the other institutional requirements, including plans for training and capacity building of key stakeholders needed to successfully implement the provisions of the ESMF.

In addition to this ESMF, a stand-alone SEP and an LMP have also been developed. The SEP provides guideline for the project to undertake meaningful consultation with stakeholders throughout the project lifecycle while the LMP describes the labor related policies and procedures that the Project will implement for all project workers. The project has also developed an Environmental and Social Commitment Plan (ESCP), which describes the measures and action the Borrower is required to undertake to be in compliance with the World Bank ESSs and is legally binding agreement between GoN and WB.

1.2. Methodology

The preparation of ESMF has followed a systematic procedures, consultation and review of different relevant sources, collection of feedback on the draft and discloser of the document for wider access. The primary data and information were collected through consultation with member of Department of Information Technology (DoIT), Nepal Telecommunication Authority (NTA) and National Information Technology Center (NITC) in the physical presence as there was a slight relaxation of the

spread of the Covid 19., Stakeholders including sectoral ministries and private sectors, consultation with wider coverage were carried in three events based on the nature and scope of the services and complying with protocols to counteract the spread of COVID-19. Further, the data and information used to prepare this ESMF are largely drawn from relevant secondary sources; Environment and Social Framework (ESF) of the World Bank and GoN, and national and international best practices and learning.

2. PROJECT DESCRIPTION

2.1. Project Components

The project development objective is to expand inclusive access to broadband connectivity, and to strengthen the digital enablers to improve the resilience of businesses, governments, and households. The Project focuses on building high-priority digital foundations and will coordinate with other public agencies or development partners on the wider range of DNF initiatives and associated analog complements.

Component 1: Expanding access to broadband

Sub Component 1.1: Promote rural broadband access and use. Under the component of works, it will promote rural broadband access including (i) funding to share costs and de-risk private investments (awarded competitively) to expand climate-resilient high-speed broadband services to about 100 selected municipalities, including public institutions (e.g., health centers, schools). This would support consultancies to assist the policymaker and regulator to define and implement measures and processes to reduce the costs of network deployment and to ensure that benefits of the project-supported investment are available to all people and communities. The Project will finance consultants to support NTA to develop technical and procurement documents, including to ensure that the supported networks are built following international good practices to ensure climate-resilience including to natural disasters (e.g., earthquakes, landslides, flooding), to use energy efficient equipment, and to ensure the sustainability of these solutions by preventing environmental degradation and reducing greenhouse gas (GHG) emissions (for example, the use of solar power or other renewable energy sources for active equipment and to power mobile networks and/or co-deploy energy solutions/mini-grids). (ii) programs designed with community input will promote digital literacy and broadband adoption among specific user groups (e.g., girls and women,¹ students, persons with disabilities, low-income households, people from areas vulnerable to climate change, and small businesses). These programs would be designed in partnership with the private sector—to maximize the impact of any public financing—and potentially be scaled up through the Rural Telecommunication Development Fund (RTDF) in the future.

Sub Component 1.2: Improve international connectivity. Activities include creation of a virtual landing station and pre-purchase of high-capacity international bandwidth for the Government and priority users (e.g., educational institutions). The Project will support Nepal in its effort to secure more affordable, higher quality, and more resilient international connectivity. The Project would also support efforts by the GoN to aggregate demand to facilitate a bulk capacity purchase for public and other users to help bring prices down and possibly increase competition by attracting new international partners. It may also support enhancement of capacity of the internet exchange points within Nepal to absorb improved international bandwidth. Together, these activities would also improve the resilience of international connectivity in the face of natural disasters through robust design and creation of redundancies in cross-border connectivity.

Component 2: Expanding access to digital skills and jobs

¹ Activities could include programs to increase awareness about protecting children, girls, and women to protect them against cyber-bullying, online harassment, or similar risks, and to increase the responsiveness of public officials on these issues.

Sub component 2.1: Develop advanced digital skills. The sub-components include supporting a program that is responsive to private sector demand for digitally skilled workers and seeking to increase employability of participants (with a focus on women, students, older populations, public employees, persons with disabilities, and people from rural areas, or areas vulnerable to climate change-related economic transitions). Subcomponent would aim to increase awareness and digital literacy about opportunities and risks among target groups. It is also focused on increasing the use of online services, reduce cyber threats and harassment including gender-specific cyber-harassment or cyber-bullying, increase awareness on digital technologies and services to support responses to climate-risks, support a resilient recovery of small business in agriculture or tourism for example, and increase the user base for more digital services.

Sub component 2.2: Promote the digital industry. The project will support for incubation and acceleration programs for digital start-ups. It has aimed to promote digital entrepreneurship for job creation and support development of the innovation economy in Nepal. The modality will support capacity building through trainings, mentorship, and network development and finally, it would support the creation of local ICT products and solutions to address local needs and challenges, including in the areas of education, health, government, and financial services. The program is proposed to be implemented through consultancy contracts with internationally reputed providers of incubation and accelerations services. Similarly, it offers advisory support and feasibility studies to develop the planned Information Technology (IT) Park and a network of innovation and co-creation centers. An international consultancy will be procured for a detailed feasibility study and design of such facilities and which would support MoCIT to: attract international and private investors to Nepal to set up and implement the IT parks and its facilities and services. The study report would further help to define an approach to develop the park by mobilizing private investment to create a modern IT facility that is climate-resilient, designed to respond to circumstances such as the COVID-19 pandemic, and inclusive.

Component 3: Enhancing digital public platforms and services delivery

Sub Component 3.1: Enhance the digital trust ecosystem. This Subcomponent will support measures to increase adoption of digital signatures. Specifically, the Project will support the Office of Controller of Certification (OCC) to acquire global certification. The Subcomponent will finance international consultancies to advise and prepare OCC for an external audit leading to a global certification. This will allow Certifying Authorities to issue Secure Sockets Layer (SSL) certifications locally. The Subcomponent will include consultancy services to assess the level of awareness on digital signatures and to design a set of incentives to drive adoption of digital signatures. The Project will also support design of a pilot program that will identify and target economic sectors, government agencies, and geographical locations etc. as possible early adopter. The Subcomponent will also support the Government to conduct an awareness campaign about the opportunities and benefits of digital signatures.

The Sub-component would finance a range of activities to implement the cyber security (CS) policy being developed by the MoCIT, including supporting its implementation across Government and the public and private sectors. This would include financing activities to: (a) establish a global standard National Cyber Security Center (NCSC); (b) consultancies to develop and implement related policies and procedures to support cybersecurity and personal data protection improvements in Nepal; and (c) training and capacity building for Government and other key stakeholders. The Project will finance the acquisition of software and hardware equipment for the NCSC, and consultancies to advise on its establishment and initial operations. As part of the NCSC, the Project would support setting up of: (i) a Security Operations Center (SOC), (ii) a Network Operations Center (NOC), and (iii) a cyber security laboratory (including for forensics) and training center. The NCSC will start its operations in the premises of MoCIT and would not require development of new facilities in the initial stage.

Sub Component 3.2: Strengthen the digital infrastructure for public service delivery. By supporting policy development, standards, and infrastructure, including the enhancement of capacity and climate-resilience of the government's data centers. It will support enhancement of the Government's data centers and cloud services capacity. This would create a backbone infrastructure to support lower-cost and rapid digital service delivery across the Government. The Subcomponent would also finance the creation of green, resilient, and secure data centers and cloud services for public service delivery. This would include assessment of existing data centers; design services and feasibility studies for data centers and development of data centers about 10 MW capacity nationally. The Project will not finance land acquisition and does not foresee significant civil works. This would develop core infrastructure to support digital service delivery, ensure cybersecurity and resilience to climate/natural events, and enable low cost and rapid service deployments of digital services by various government and public agencies.

Sub Component 3.3: Implement high-priority DNF initiatives: The Project will finance the design and implementation of at least ten initiatives (beyond those supported through the other Project activities) including through partnerships with the private sector and other stakeholders (e.g., development partners, civil society organizations). This Project will finance a consultancy firm to implement the selected DNF initiatives. It will conduct rapid feasibility studies for each of the initiatives, including identification of the status quo, stakeholders involved, and roadmap to implement, and support the Government to implement those. The Subcomponent will include the design of pilots from the selected DNF initiatives

Component 4: Project management and coordination

This will support Project management and coordination functions, including capacity building of staffs of the implementing agencies This will support establishing the PMU within the MoCIT, which will support Project management and coordination functions to implement the DNF and communications and outreach. It will finance technical support, fiduciary, environment & social (E&S) standards implementation, and monitoring & evaluation. It includes incremental operating costs relevant to the Project.

2.2. Eligibility Criteria for and Exclusion of Sub-projects for E&S Risk Management

To avoid and/or minimize risks and impacts of the project activities, certain activities are not eligible for support under the project due to the potential for causing high social and environmental risks and impacts that are diverse, irreversible, or unprecedented are excluded. These activities are:

- Activities that contravene Nepal's obligations under its international agreements
- Activities that may cause long term, permanent and/or irreversible adverse impacts to natural, critical habitats and biodiversity
- Activities that have a high probability of causing serious adverse effects to human health and/or the environment (e.g. construction of major civil structures covering ecologically sensitive area)
- Activities that may cause loss of trees in larger number covering wider forest area.
- Activities that may involve in generating large volume of e-waste causing significant irreversible adverse impacts to human health and natural resources.
- Activities that may affect lands or rights of indigenous people or other vulnerable minorities
- Activities that may involve significant permanent resettlement or large land acquisition or adverse impacts on cultural heritage.
- Activities in "Disputed area"

3. LEGAL, REGULATORY AND POLICY FRAMEWORK

3.1. Relevant National Laws and Policies

The Article 30 (3) of Constitution of Nepal 2015, confirms for a proper balance between environment and development in the development works of the nation. Article 51 f(2) calls for development of environment friendly and sustainable infrastructure. Article 51 g(1) states to protect, promote and make sustainable use of natural resources. Also Article 51 g(7) stresses to adopt appropriate measures to abolish or mitigate existing or possible adverse environmental impacts on the nature, environment or biological diversity. Major laws and regulations applicable for environmental and social management of the DNA project are summarized as below.

SN	Environmental Policies and Legal Provisions	Description of Applicable Requirements
1	Five Years Plan, 2020-2024, National Planning Commission, GoN	All projects to be developed that optimally utilize local skills and resources and generate employment opportunities with low adverse impacts on human, property, culture, environment and economy by disasters. The policy aims to integrate disaster risk management in all development activities.
2	National Environment Policy 2019	It provisions the measures to protect human health and the environment by controlling, reducing, and preventing all types of pollution including household and hazardous waste by distributing authority among the three tiers of government and coordination among stakeholders.
3	Climate Change Policy, 2011, GoN	The policy includes measures for climate adaptation and disaster risk reduction; low carbon development and climate resilience; capacity building, peoples' participation and empowerment; technology transfer and climate friendly natural resources management.
4	Environment Protection Act, 2019,	Any development project, before implementation, shall pass through environmental assessment, which may be either Brief Environmental Assessment (ES) or IEE or an EIA depending upon the location, type and size of the projects. Provision for dealing with pollution including e-waste control, and conservation of national heritage. It defines the procedure for review and approval of BES/IEE/EIA. Ministry of Forest and Environment being in charge to conduct inspection of approved projects to ensure that pollution prevention, control or mitigation, protection of national heritage, rare plants, wildlife, and biological diversity. The act emphasize on provisions of BES, IEE and EIA under the jurisdiction of local authority, provincial government, and central government.
5	Environment Protection Rule 2020 (1 st amendment)	The EPR and its schedules clearly provide various step-wise requirements to be followed while conducting the BES/EIA/IEE study. The list of projects under schedule 1, 2 and 3 requires BES, IEE and EIA study respectively. Provision and procedure for dealing with pollution control, and conservation of national heritage are also detailed in the EPR.
6	Broadband Policy 2014	The Policy has adopted expansion of broadband access consistent with international standards and best practices, modernization and liberalization with simplified, unified, techno-neutral licensing regime to enable services on digital platform and coordination among all relevant stakeholders.
7	Digital Nepal Framework, 2019	Digital Nepal Framework (DNF) is a strategy to transform the economy through digital initiatives that would boost inclusion and resilience, as well as green growth. It highlighted eight domains; Agriculture, Health, Education, Energy, Tourism, Finance and Urban Infrastructure and eighty initiatives to utilize digital development for economic growth. The project is designed to achieve some of the initiatives of the framework.

8	Land Acquisition, Resettlement and Rehabilitation Policy, 2015 A.D.	The policy seeks alternatives measures for having minimum impacts of land loss, need of resettlement and rehabilitation works to ensure livelihoods of the affected persons and family is improved or at least restored at pre-project level. It deals with procedure to identify impacts on affected people, community and vulnerable group, Land acquisition and ownership transfer.
9	Land Acquisition Act, 1977 and Land Acquisition Rules, 1969	Specifies procedural details on land acquisition and compensation with an aim to minimize hardships on project affected persons/families.
10	Solid Waste Management Act, 2068-2011	Article 4 rests the responsibility of the solid waste management with the persons or institution that has generated the waste and article 5 mandates reduction of the waste at source. Article 21 make local bodies responsible for monitoring of solid waste management and article 38 offense to discharge solid waste without the consent of the local body with provisions of punishment /penalty.
11	Labor Act, 2017	Influx shall comply with Labor Act having flexibility in hiring different modes, formulate the safety and health policy, set out the duties of employer towards workers which include making appropriate safety and health arrangement ensuring no adverse effect on workers from use, operation, storage or transport of any chemical, physical or biological liquids.
12	Telecommunications Act and Rules, 1997	Clause 21 under section 5 deals procedure of licensing and requirements of environmental clearance before building infrastructure.
13	Child Labor (Prohibition and Regularization) Act, 2001	It prohibits engaging children did not attain the age of 16 years in works as a laborer. Engagement of child in works as a laborer against his/her will by way of persuasion, misrepresentation or by subjecting his/her to any influence or fear or threat or coercion or by any other means is prohibited.
14	Nepal National Building Code, 2020	The infrastructures construction under this project shall comply with the NBC: 105: 2020.
15	Forest Act, 2019 and Forest Rules, 1995	Requires special permission from the authority before planning and development of infrastructures in the forest area. It includes several provisions to ensure development, conservation, management, and sustainable use of forest resources based on appropriate planning.
16	Ancient Monument Prevention Act 1956	Digging of ground for building, digital networks facilities in an area declared as preserved monument areas shall have prior approval/permit from the Department of Archaeology (Clause 5, Article 3).
17	National Park and Wildlife Conservation Act, 1973, GoN	Prohibits trespassing, wildlife hunting, construction works, damage to plant and animal, construction of huts and house in park area without permission of authorized persons. It lists 26 species of mammals, 9 species of birds, and 3 species of reptile as protected wildlife.
18	Soil and Watershed Conservation Act, 1982,	Article 10 prohibits use of defined land within a protected watershed area without the prior permission of the concerned Watershed Conservation Officer.
19	Local Government Operation Act, 2017	The local legislature has the power to formulate local laws in mobilization of local resources, set up their own policy allowed to levy the taxes on house rent, entertainment, property, tourism, among others, in compliance with the tax laws of the Central and Provincial governments.
20	Gender Equality and Social Inclusion Strategy, 2009	Strategy also aims to incorporate GESI-related issues into programs and projects within the country. According to the strategy, there is also a need for coordination and participation of organizations dealing with GESI issues.
21	National Foundation for Development of Indigenous Nationalities Act, 2002	Defined and classified 59 different nationalities as indigenous nationalities and given strong emphasis on providing basic services, with special consideration to disadvantaged and indigenous people, scheduled occupational castes, and other vulnerable groups.

22	National Drinking Water Supply Standard, 2006	The Project shall comply with Nepal Drinking Water Quality Standards and Guidelines; including standard limits, guidelines for the required frequency of monitoring, process and schedule for measuring the standards (given in annex-10)
23	Nepal Ambient Air Quality Standards 2012 (2069B.S)	Limits of the ambient air quality parameters around the construction sites as per standards (given in annex-10)
24	Nepal Noise Standards 2012 (2069 B.S.)	Noise levels for different land use categories and noise generating equipment as per standards (given in annex-10).

3.2. Provisions of E&S Standards of the World Bank

The World Bank's Environmental and Social Framework (ESF) became effective on October 1, 2018 for all projects receiving World Bank support through Investment Project Financing. This ESMF has been prepared in accordance with the provisions of the ESF. The ESF includes ten Environmental and Social Standards (ESS) that set out the requirements for Borrowers relating to the identification and assessment of environmental and social risks and impacts and its possible mitigation measures associated with projects supported by the Bank through Investment Project Financing. The applicability and overview of relevance of the ESSs for the project including EHS guidelines and specific labour are attached in Annex: 6 and OHS-related considerations in the context of COVID-19 of the World Bank is presented in Annex: 8.

3.3. Comparison between National and World Bank E&S Requirements

ESF standards require assessing, managing and monitoring of environmental and social risks and impacts of the project throughout the project life cycle. The GoN need to conduct an environmental and social assessment of the proposed project, undertake stakeholder engagement and disclose appropriate information in accordance with ESS10 and conduct monitoring and reporting on the environmental and social performance. Environment and Social framework and requirements of GoN including EPA (2019), EPR (2020) has largely focused on activity type, threshold/size, as well as location of the project. The provisions have limited coverage to associate project activities, no detail OHS requirements, nor any dedicated law for e-waste management and provision of volunteer acquisition of private land. The gap between the agencies needs to be matched with applicable measures. Basically, E&S Screening followed by detailed ESMP shall prepare to bridge the gap between WB and GoN requirements. Further, the ESMF has presented specific measures to match the gap between ESS of ESF/WB and provisions of EPA-EPR and other related laws of GoN and is presented in Annex: 7.

3.4. International Conventions

The project will also adhere with the following international treaties, conventions, and declarations:

- Minamata Convention 2017
- The Strategic Approach to International Chemical Management 2006
- Basel Convention (*Control of Trans Boundary Movements of Hazardous Wastes and their Disposal*) 1989
- Stockholm Convention on Persistent Organic Pollutant 2001
- Declaration of United Nations Conference on the Human Environment 1992
- United Nations Declaration on the Rights of Indigenous Peoples
- ILO Convention 169

4. ENVIRONMENTAL AND SOCIAL BASELINE

The project will be implemented in all seven provinces of Nepal covering all 753 Local Government (LGs). Nepal has a total land area of 147,516 km² and an estimated population of over 28 million. It lies within the sub-tropical to the mountainous region at 26°22' to 30°27' N latitudes and 80°4' to 88°12' E longitudes, with an altitude that ranges from 90 m to 8,848.86 m. Nepal is located between the fertile Gangetic Plain of India and the arid plateau of Tibet, China. The climate of the country is within the subtropical monsoon climate. In terms of the social baseline nationally, Nepal has a population of 26.6 million according to the 2011 census, with 17 percent living in urban areas. Nepal ranks 142 out of 189 countries on the Human Development Index (HDI), and between 1990 and 2018, Nepal's HDI value increased 55.6 percent (from 0.380 to 0.602). According to latest government estimates in FY18, 18.7 percent of the population live below the poverty line, a decrease from 25.16 percent in FY11. In 2020, approximately 37.7 percent of the population in Nepal had access to the internet. This was a significant increase from 2011, in which nine percent of the population in Nepal were using the internet. There are 59 legally recognized indigenous groups, comprising approximately 36 percent of the population, however the majority of the indigenous nationalities are socially, economically, politically, and educationally marginalized. Details of baseline information that are relevant to the project are presented in following sub sections.

4.1. Environmental Profile

Climate and Precipitation

The climate of Nepal is dominantly influenced by the South Asian monsoons. The average annual precipitation in Nepal is 1,760 mm, and 80 percent of rainfall occurs in the monsoon period, being June to September. Winter precipitation is due to moisture coming from the Mediterranean Sea, and its intensity reduces to the east. Most parts of the country have an average annual rainfall of 1,500mm to 2,500mm, the maximum being approximately 4,500mm in Pokhara. A combination of sharp relief and fast-moving monsoon clouds bring frequent hailstorms and cloudbursts; the latter trigger numerous landslides, landslide dams and debris flow. Rainfall intensity exceeding 100mm in 24 hours are frequent in many parts of Nepal. Annual mean temperature of Nepal is around 15°C. In winter, average maximum and minimum temperatures in the Terai range from a brisk 7°C to a mild 23°C. Much colder temperatures prevail at higher elevations. Amongst the 38 stations, the mean temperature varied from below 17.0°C in the northern parts of the country to above 30.0°C at eastern part of Terai.

Data centres and IT centres establishment and operations may emit greenhouse gas if the energy efficient technologies are not embedded in such centres. These greenhouse gas emission may have negligible contribution to climate change and so as implication on temperature rise and precipitation.

Water Resources and Hydrology

Around 6,000 rivers and rivulets including permanent and seasonal rivers, streams, and creeks, from Nepal ultimately become major tributaries of the Ganges River in northern India. Once they reach the Terai Region, they often overflow their banks onto wide floodplains during the monsoon, shifting course periodically. The rivers are deeply incised across the east-west structural grain of Nepal and the Himalaya, having eroded with the up-liftment of the mountains. Nepal is drained by four main rivers the Koshi, Narayani (Gandak), Karnali and Mahakali, running southward across the strike of the Himalayan ranges forming transverse valleys with deep gorges. The watershed of these rivers lies partly in the Himalayas and in Tibet. Glaciers are the sources of the big rivers of Nepal. Similarly, the Koshi, Gandaki, Mahakali and Bagmati are major Rivers having high potential for irrigation.

The rivers, rivulets and tributaries and small streams traversing through urban areas and emerging towns are polluted by large quantities of domestic and industrial waste disposed into them. Towns and villages have expanded without proper provision for sewage disposal facilities, which has led to

the pollution of water bodies. Industries discharge untreated water into the river, which contains non-biodegradable materials and toxic chemicals hazardous to health and hygiene. Civil works interventions; broadband networks infrastructures, towers and data centres under the project shall contribute in soil erosion/sedimentation and discharge of solid/e-waste and sewerage to the downstream river system and deteriorating quality of water and aquatic ecosystem.

Forest and Biodiversity

The forest area in Nepal was last reported at 25.36 percent in 2010 (World Bank, 2011) and coverage is increased to 37% now. Nepal ranks 25th position in terms of biodiversity, with 11 bio-climatic zones, 118 ecosystems and 35 natural forests. Nepal is home to ~12,000 plants and fungus species, 208 mammals, 867 birds, 123 reptiles, 117 amphibians, 230 fish, 651 butterflies, 3958 moths, and 175 species of spiders. Sixteen protected areas including nine national parks, three conservation areas, three wildlife reserves, and one hunting reserve. Six buffer zones have been established for the protection of flora and fauna. The protected areas make up approximately 17 percent of the country's total area. Of these, the Sagarmatha National Park and the Royal Chitawan National Park have been included in the World Heritage List, and the Koshi Tappu Wildlife Reserve, Bishajari Tal in Chitwan, Jagdishpur Jalasha Reservoir in Kapilvastu, and Ghodaghodi Tal in Kailali, have been designated as Ramsar sites in the country.

This rich and unique biodiversity is threatened by multiple anthropogenic and natural factors operating at different spatial scales. Deforestation, biological invasion, pollution, overexploitation, fire, and mining in fragile regions that degrade natural ecosystems; while poaching is responsible for the decline of some keystone species. Infrastructure's development project has created multiple accesses to protected habitat and consequently poaching and illegal cross-border trading is scaled up. Unsustainable harvesting of medicinal plants is another contributing factor to biodiversity loss, and leads to habitat degradation as well. The proposed project having national coverage shall pass through forest with rich biodiversity, particularly while expanding broadband networks infrastructures. The project need to plan and execute with due respect to the requirements of ESSs and GoN's environmental protection act and regulations for managing risk and impact on the forest and biodiversity of the country.

Solid Waste Management

It is estimated that waste from households contributes about 50 – 75 percent of the total solid waste generated in Nepal and the most of urban cities are failing to dispose the waste in the designated sanitary land fill sites. Further, management of hazardous wastes is next key concerns in all cities where batteries, industrial chemical waste and electronic wastes are directly dumped in rivers, in forests or in agriculture areas, as there are no separate arrangements for managing such waste. Waste segregation at source or after collection is generally very poor and the municipalities do not have resources for recycling infrastructures and equipment and consequently it has caused significant adverse impacts on public health and the environment. The project shall also contribute in increasing solid waste from the labor influx during construction. Construction/e-wastes shall also produce while operating different machines and equipment during construction and operation. Considering the fact, the issue of solid waste management would be great concerns in the project.

E-Waste Management

According to the Global E-waste Monitor 2020, Nepal produced 28 metric kilotons of e-waste comprising from household appliances (Refrigerator and washing machine), IT and telecom tools/machines (mobile, computers, laptop) and consumer Equipment (TV). It is revealed that about 8 % fraction of Plastic waste with 1.2 % metal contributions in total solid waste, primarily comes from E-waste (Asian Development Bank, 2013). The data on E-wastes makes it evident that in total, E-waste

21 % is plastic, 50 % is iron with steel, and 3 % is other rare and expensive metals (Asian Development Bank, 2013). It is noted the real stakeholders of E-wastes in Nepal are the producers, household users, business houses, institutions, and electronic repair shops, which may have 50% or more E-waste stocks composed of the total stock of E-gadgets. It is considered harmful mainly due to its hazardous substances like; lead (Pb), cadmium (Cd), barium (Ba), silica (SiO₂), calcium oxide (CaO), magnesium oxide (MgO) which cannot be recycled and are too dangerous to be managed at landfill sites as it has been collected along with other solid waste materials. Despite of this scenario, GoN does not have dedicated policy and plan for proper management of such waste and shall assume that country need to face a hard time in the coming days. Project intervention under Component 3 has dedicated activities of establishing data centre at different locations, cyber security centres and other broadband infrastructures and have high occupancy of e-waste during its operation. There could be additional challenges to the agencies to manage the waste in a proper way.

OHS related to Labor & Working Conditions

OHS practices in Nepal is remained ineffective largely due to inadequate legal provisions to regulate and monitor the OHS practices, limited knowledge, and poor implementation. Though there is a gradual improvement in understanding OHS practices particularly to the contractor, there is big space to be mitigated to enhance the effective compliance of the OHS requirements in the construction business. OHS procedures require adequate surveillance of the work environment and risk assessment, which are often not done in Nepal. General understanding of OHS amongst employers as well as workers is limited to providing personal protective equipment (PPE) to workers, regardless of whether it is appropriate protection for the work. Labor camps and constructions sites often do not have basic minimum provisions such as health and sanitation facilities. The civil construction and supply of equipment is sufficiently planned under the DNA intervention and where there need to give high attention on OHS and management of working condition during construction and operation of the project facilities.

4.2. Socio-Economic Profile

Demography

The population of Nepal is 26.6 million according to the 2011 census with an average annual population growth rate of 1.4 percent, and an average household size of 5.6 persons with a total of 5.66 million households. Of the total population, 1.8 million (6.7 percent) live in the mountain region, 11.5 million (43.2 percent) live in hills region, and 13.3 million (50.1 percent) live in the Southern plains/Terai region. A total of 17 percent of the population live in urban areas.

Poverty

Poverty in Nepal has gradually decreased due to factors including high economic growth, investment in social and economic infrastructure, and robust inflow of remittance. The Living Standard Survey 2011 showed that 25.16 percent of the total population was living below the poverty line FY 2011. Because of the massive migration of youths for employment in foreign countries and the subsequent rise in remittance income, the portion of the population below the absolute poverty line has declined. The latest government estimates reveal that the poverty defined in terms of the population living below the poverty line has reached 18.7 percent in FY 2018. Despite declining poverty, high inequality is still a major concern.

Employment

Labor Force Survey 2017 estimated that the rate of unemployment in Nepal was 11.4 percent in 2017 and the underutilization rate of labor is almost 40 percent. The informal sector still employs 41 of the working-age population and the employment to population ratio stood at 34.3 percent. Of the seven provinces, Province 2 has the highest level of unemployment where one-fifth of the working

population is not employed. Bagmati province, which also includes the capital city and contributes over 35 percent to the national economy, has the lowest rate of employment among the provinces.

Economic Profile

The size of Nepal's economy reached Rs 3,943 billion (US\$ 33.90 billion) in FY2020. Nepal has been maintaining moderate economic growth in recent years, averaging 4.54 percent in the last six years largely due to a steady growth in remittance income and increased government expenditure. However, the country registered a negative growth rate of 1.88 percent in FY2020 mainly due to the economic downturn triggered by the COVID-19 crisis, as per **Error! Reference source not found.** below. As a result, the gross domestic product (GDP) per capita income declined to US\$ 1,134 from US\$ 1,159 recorded in FY 2020.

Table 4-1 GDP growth rate (Real) in %

	FY14	FY 15	FY16	FY17	FY18	FY19	FY20
GDP growth rate (Real)	6.01	3.98	0.43	8.98	7.62	6.66	-1.88

Source: Central Bureau of Statistics, 2020

Remittance

Remittances remains the backbone of the economy since the last several years has and have greatly contributed to maintaining a healthy domestic demand and foreign currency reserves, despite the weak exports. The average growth rate and share of the GDP of the remittance income remained over 23.4 percent in the last six years. Due to the loss of jobs overseas and shrinking economic activities in foreign countries that host Nepali workers amid the pandemic, which has forced many to return to the home country, the inflow of remittance recorded a negative growth of 0.5 percent in the FY 2020. Given the continued impact of the pandemic worldwide, it is predicted that the flow of remittance might be further reduced in the coming months.

Table 4-2 Contribution of remittance to the economy

Remittance Income	FY14	FY 15	FY16	FY17	FY18	FY19
Amount (NRs in billion)	617.28	665.06	695.45	755.10	897.27	875.03
Change in %	13.6	7.7	4.6	8.6	16.5	-0.5
Ratio to GDP	25.47	25.50	22.60	21.85	22.78	22.19

Source: Nepal Rastra Bank, 2020

Caste and Ethnicity

Nepal is a country with great ethnic and social diversity. The predominantly Hindu country has a mixture of ethnic groups and a highly stratified and hierarchical social structure. Based on the distinct characteristics, the National Foundation for Development of Indigenous Nationalities Act, 2002 has recognized a total of 60 different nationalities as indigenous nationalities, representing 37.2 percent of the total population in 2001. The majority of the indigenous nationalities socially, economically, politically, and educationally marginalized. The HDI shows considerable disparities among various nationalities/ethnicities and castes and communities. The 2011 census listed the population belonging to 125 castes and ethnic groups, including 63 indigenous peoples; 60 castes, including 15 Dalit castes; and 3 religious' groups, including Muslim groups. Based on the 2011 census, about 86 percent of the population follows Hinduism, 8 percent follows Buddhism and 3 percent follows Islam.

Dalits

Dalits were categorized as 'untouchables' in the Old Civil Code and are placed at the very bottom of the Hindu caste hierarchy by the discriminatory caste-based system. Dalits comprise 13 percent of the total population of Nepal and do not have a specific location but are scattered throughout the country. Dalits are divided into two broad regional groups: i) Dalits in the hill areas; ii) Dalits in the Terai areas.

Table 4-3 Scheduled Castes of Dalit Community in Nepal

Ecology	Scheduled Dalit Castes
Hill Dalit	Gandharba (Gaine); Pariyar (Damai, Dargee, Suchikar, Nagarchee, Dholee, Hudke); Badi; Bishwokarma (Kami), Lohar, Sunar, Od, Chunanra, Parki, Tamata); Sarki (Mijar, Charmakar, Bhool); Poda (Deula, Pujari, Jalari); Chyame (Kuchikar, Chyamk
Terai Dalit	Kalar; Kakaihiya; Kori; Khatik; Khatwe (Mandal, Khang); Chamar (Ram, Mochi, Harijan, Ravidas); Chidimar; Dom (Marik); Tatma (Tanti, Das); Dushadh (Paswan, Hajara); Dhobi (Rajak); Pattharkatta; Pasi; Bantar; Mushar; Mestar (Halkhor); Sarbhang (Sarbariya); Natuwa; Dhandi; Dharikar/Dhanka

Source: National Dalit Commission, 2003

The living conditions and human development indicators of Dalits are far below the national average, as the community has been greatly deprived of economic and social services and political opportunities unveiled by the state. For instance, in 2011, the incidence of poverty among Dalits was 43.6 percent in the hill areas and 38.2 percent in the Terai, compared to Newars (10.3%) and hill Brahmins (10.3%). Similarly, 15 percent of hill Dalits and 44 percent of Terai Dalits were landless. The poverty index for Dalits is 47% compared to the national average of 31 percent. In total, 44 percent of Dalits in the Terai are landless and 44.6 percent of the Dalits of the hills are marginalized farmers. The HDI for all Dalits is 0.434 whereas it is 0.565 for Newar and 0.557 for Hill Brahman. Given their low standing in all spheres of life, it is imperative that project opportunities are also accessed by the weaker section of the society. Owing to Dalits and IP's standing which is relatively weaker as compared to other groups in the society, there is considerable risk that these people may not have the same bargaining power and the opportunities to benefit from the project.

Gender Gap

Although the female population exceeds the male population according to the Population Census 2011, women are far behind in many social and economic areas in Nepal. One of the sectors with a huge gender gap is women's access to household wealth which has greatly obstructed the economic empowerment of women. The Population Census 2011 states that only 20.5 percent of women hold assets, although the proportion has increased from 17.1 percent in 2001, contributed largely by the tax incentive scheme on land ownership of women. According to an independent 2018 survey by LIRNEasia, less than half the age group 15 to 65 population of Nepal has internet awareness, with 50 percent of the male population and 40% of the female population being aware of the internet. In terms of internet usage, Nepal figures at 34 percent, with just 27 percent women reporting usage compared to 41 percent men². The prominent reason cited for non-usage is lack of awareness, with 70 percent of the female non-users stating that they did not even know what the internet is. The gender gap also becomes evident in mobile phone ownership, as women in Nepal are 19 percent less likely to own a mobile phone relative to men. This is more than double the global gender gap in mobile ownership, which approximates 7 percent³. While 80 percent of the male population in Nepal reported mobile phone ownership, only 65 percent of the female population stated that they own one. The disparity further embeds with regards to smartphone ownership, with a gap of 14 percent. Additionally, as evidenced in Table 8, women relative to men are inclined towards basic phones. Not only does this comment on the disparity in the adoption of digital advances, but it also reiterates the gender gap in internet usage. A distinct lack of online information availability has been observed for women-centric services, in addition to the absence of digital delivery of women-specific public schemes. As such, women may be potentially disproportionately affected by the Project or not benefit equally by the Project, due to lack of voice or equitable means to express their voice and participate in project decisions.

² ICT access and use in Asia and the Global South, LIRNEasia, 2018

³ GSMA Intelligence, 2020

Disabilities in Nepal

The overall prevalence of disability, according to the Census of 2011, was 2 percent, with 2.2 percent prevalence for males and 1.7 percent prevalence for females. Physical disability was the most common type of disability and represents over 33 percent of total disabilities. Physical disability and blindness/low vision combined account for more than 50 percent of total disabilities. Disabilities in rural residents is more prevalent (2.1%) compared to disability in urban areas (1.2%). The prevalence of disabilities is considerably higher in Mountain areas (3.0%) compared to Hill areas (2.2%) and Terai (1.6%). More than one-third of the disabled are less than 30 years old and only one-fourth of disabled persons are aged 60 years or more. The percentage of persons with a disability in the economically active age group (15 – 59 years) was higher in urban areas (59.5%) than in rural areas (56.1%). The proportion in older ages (60 and above) was higher among women (27.2%) compared to men (24.3%). Disability was significantly higher among illiterates (3.87%). Persons with disabilities, as well as their households and caregivers face a number of barriers to accessing development projects and services – physical barriers due to inaccessible infrastructure, lack of appropriate transportation, lower incomes as the education levels and employment of persons with disabilities is often lower due to lack of inclusive education curriculum and infrastructure in all parts of the country. Furthermore, persons with disabilities are often subject to social stigma within their communities which contributed to their invisibility and low participation in public activities, spaces, markets, and services.

Language in Nepal

The population Census 2011 identified 123 languages whereas the number of such languages in 2001 was 92. Almost all the mother tongues listed in the Census of 2011 belong to four language families, which are Indo-European, Sino-Tibetan, Austro-Asiatic and Dravidian. Kusunda is the only isolated language, consisting of a single language without any genetic relationship with other languages. Nineteen mother tongues are spoken by 96 percent of the population, whilst 104 languages are spoken by 4 percent of the total population. Nepali is spoken by 44.64 percent of the population in 2011, which was reported to be spoken by 48 percent in 2001. The majority of the population (59%) were reported to be monolinguals and 41 percent of the population speak at least one-second language. Maithili, Bhojpuri, Tharu, Avadhi, Bajjika, Urdu, and Rajbanshi are the major languages spoken in the Terai. In the hills region, the major languages spoken are Tamang, Magar, Rai-Kirati, and Limbu language, whilst in the mountains region there are Sherpa, Thakali, Tamang, and Gurung speakers. Doteli is the main language spoken in Sudurpaschim province. Given this diversity in language, care needs to be taken when disseminating project information and the benefits that may be had from the project activities. So, the project should ensure availability project materials in the predominant language of the area.

5. POTENTIAL ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

This section highlights the potential environmental and social risks and impacts of proposed activities that will be supported by the project along with associated mitigation measures for the expected negative risks and impacts in the project lifecycle. It outlines the issues on physical, biological, socio-economic and cultural aspects in order to have a broader understanding of the potential E&S risks and impacts of the project. It is national coverage project, given the fact that specific sub-project level interventions are yet to be determined, site-specific assessment of the environmental and social impacts of particular sub projects will be carried out based on the outline presented in the section. The risks, impact and mitigation matrix will guide to prepare environmental and social management plans required for sub-projects to manage potential risks and impacts.

Potential Positive Impacts

The activities to be financed through the project are expected to have both beneficial and adverse impacts on the local communities, including indigenous and other vulnerable groups in the project areas. The effort will support for widening inclusive access to broadband connectivity, and to strengthen the digital enablers to improve the resilience of businesses, governments, and households. The positive impacts of the project are expected to include:

- Project will support for Digital inclusion ensuring that all individuals and businesses have access to affordable, high-speed connectivity and secure digital services with wider coverage;
- It supports to digitize eight sectors; health, education, agriculture through 80 initiatives as it is envisioned in Digital Nepal Framework (DNF) 2019.
- The effort will cooperate with the interest of private sector to play a more-strategic role, building on investments in telecommunication connectivity, digital financial services, and e-commerce platforms.
- It will promote for digital innovation; firms and people using digital technologies to boost productivity and competitiveness enhancing skills including digital and higher-level skills, and management expertise especially outside of the capital, Kathmandu;
- The support and engagement will enhance the digital economy and strengthen the foundations for digital transformation to deliver more inclusive and resilient public services while enabling private services and ultimately support the Green, Resilient, and Inclusive Development (GRID) Agenda
- Support for building broadband infrastructure; data center capacity, coordination among public agencies, institutional capacity financing, development of foundational elements (e.g., identification, digital signatures) to strengthen digital public and private service delivery.

Potential adverse environmental and social impacts

Overall management of the project will be carried by PMU/MoCIT and sectoral implementation of different components of works will be undertaken by four different implementing agencies; MoCIT, Department of IT (DoIT), the National IT Center, and the NTA. The entities have limited experience in implementing externally funded projects and particularly no recent experience of implementing World Bank ESF and therefore could be capacity gaps in light of the ESSs requirements. The project is expected to have following potential environmental and social risk impacts:

- Impacts related to the small-scale construction and upgrading of broadband infrastructures; new data centres, cyber security centres, towers, deployment of fiber optic cables and other facilities.
- Removal of soil and vegetation clearance for the construction of the new data centers, towers and for the deployment of fiber optic cables;
- The construction of towers, Data Centers and laying of fiber cables, may lead to cause landslides and slope failure and shall be triggered further as a result of earthquakes, inadequate design/construction and rainfall particularly in hilly and mountainous terrain.

- Generation of solid waste from residual construction materials, e-waste as a result of the decommission of old equipment which includes unused e-gadgets, fibers and electronic wires and other tools equipment used in data centres;
- Nuisance related to dust generation, vibration and noise during construction activities and Occupational Health and Safety (OHS) and COVID-19 outbreak for the workers.
- Temporary restriction of access to land/property and livelihood impacts during construction of new data centers and laying of fiber optic cables depending on the length and location of the cables (e.g. roadside vendors);
- Cumulative and/or more severe impacts faced by IPs and other vulnerable groups such as women-headed households, elderly population, people with disabilities on livelihoods/physical displacement on the potential route of fiber optic network including social exclusion
- Risks and impacts of beneficiaries and stakeholders, including the indigenous people being uninformed about the project activities and opportunities due to lack of meaningful consultations
- PMT and PIT management capacity to engage in environmental and social risks management
- Weak enforcement of national regulation.
- Lack of adequate consultation with affected persons and access to functioning grievance mechanisms.
- Social exclusion of women, population living in rural and small town areas, persons with disabilities and other members of vulnerable groups in accessing project benefits.
- Potential influx of labor into targeted areas coming from outside the region may trigger social risks to the host community related to sexual abuse and exploitation and sexual harassment (SEA/SH).
- The Project will not finance the construction of the data centers/facilities. However, construction of these facilities have been planned and will be carried out contemporaneously with the project. These data centers are directly and significantly related to the project and are necessary for the project to be viable and would not have been constructed, if the project did not exist. Therefore, according to the ESF, these centers are considered as "associated facilities" and ESF will apply to the construction of these centers. The NITC has already received government land for establishing two new data centres (*Khumaltar and Koholpur*). There shall be requirement of permanent or temporary acquisition or use of land/structures for other broad band infrastructures; data centres, clouds, towers and fibre optic deployment and shall comply the procedure as outlined in the Resettlement Framework presented in Annex -3 in such cases.
- The Project shall also initiate programs to support adoption by specific groups of end users (e.g., women, persons with disabilities) to the internet and digital services including poor and vulnerable communities. There is the potential for exacerbating existing trends of marginalization amongst the poor and vulnerable including the elderly, people with disabilities, and indigenous peoples (IP) groups, religious minorities and lower-caste groups in terms of having access to relevant information around the project benefits which could deepen and undermine the objectives of the project.
- The project has national coverage and no impact is expected to a particular cluster of Indigenous community. Further, it will generate numerous additional benefits for indigenous peoples, Dalits and other excluded/ marginalized groups. The project has been designed to take into account the different contexts, priorities and vulnerabilities of indigenous peoples and includes cross-cutting measures throughout project components to promote gender equality and social inclusion. However, the ESMF presents measures for possible impacts if any.

Potential E&S risk and impact in different stage (pre-construction, construction and operation) under typical intervention and their generic mitigation measures are summarized in Table 5.1 below.

Table 5.1 Environmental and Social Risk & Impacts

Risk/Impact area	Relevant ESS	Key activities and Potential E&S Risk/ impacts	Mitigation Measures	Implementation Responsibility
Pre-Construction / Planning stage				
Preparation of environmental and social Screening and other subsequent instruments	- ESS 1	<ul style="list-style-type: none"> - Impacts due to subprojects/activities if not properly assessed - Human resources and Capacity of PMU and PIT to undertake environment and social risk management activities 	<ul style="list-style-type: none"> - Ensure that all minor upgrading and improvement facilities will be carried out in compliance with the requirements stated in Chapter 6 comprising screening, site-specific ESMPs that are prepared based on the standard template given in Annex 2. - Implement Labor Management Procedures (LMP) and Resettlement Policy Framework (RPF), - Require preparing sub project specific plans as required. - Set up human resources as outlined in section 8 - Plan and execute capacity building activities to PMU and PIT personnel 	- E &S personnel of PMU and PIT
Weak consultations and information disclosure	- ESS 10	<ul style="list-style-type: none"> - Unfavourable public perception of the project - Stakeholders, including the indigenous People and vulnerable people are unable to access project related information and project benefits. - Stakeholders are unable to participate in the planning process of mitigation measures. 	<ul style="list-style-type: none"> - Undertake periodic stakeholder engagement activities in accordance with the stakeholder information disclosure as outlined in the SEP to inform them about project activities and opportunities. - Disseminate project related information through culturally appropriate and locally available means, such as project website, national and local media and social media. - Establish a system through which the stakeholders can obtain project related information. - Thoroughly brief the stakeholders about the possible risks and impacts of project activities and the mitigation measures. Seek their participation in designing and implementing the mitigation measures. - 	- E &S personnel of PMU and PIT
Existing community utilities and facilities	- ESS 1	<ul style="list-style-type: none"> - Disruption of public services; water supply, irrigation, electricity and telecommunication 	<ul style="list-style-type: none"> - Identify and include locations and operators of these utilities in the sub project specific design documents to prevent unnecessary disruption of services during minor construction. - Prepare a contingency plan to include actions to be undertaken in case of unintentional interruption of services. 	- E &S personnel of PMU and PIT
Site Clearance for temporary use for upgrading of broad band facilities	- ESS 1 ESS 5 and ESS 10	<ul style="list-style-type: none"> - Temporary use of private or public land having different land use for establishment of data centre, deployment of optic fibre and tower construction 	<ul style="list-style-type: none"> - Information disclosure at the earliest possible for any activities to be carried out as per the SEP - Obtain all of the necessary consents, permits, No Objections (NOs), prior to start of civil works. - Develop necessary alternatives designs/programs for avoiding the impact on resources. 	- E &S personnel of PMU and PIT

Risk/Impact area	Relevant ESS	Key activities and Potential E&S Risk/ impacts	Mitigation Measures	Implementation Responsibility
		- Failure to obtain necessary consents, permits, No Objections (NOs), can result in design revisions and/or stoppage of works.	- Acknowledge in writing and provide report on compliance of all obtained consents, permits, clearance, NOs etc.	
Sub project specific ESMP Implementation	- ESS 1	- If E&S risk management unit is not established and adequate training is not provided to the E&S team, there is a possibility of the ESMP not being implemented efficiently and accurately, leading to adverse impacts to environment, workers and community	- Strengthening of E&S system with specified ToR, resources and training with due assessment as explained in Chapter 8. - Ensure that personnel at PMU and PITs are trained in ESMP implementation, including standard operating procedures (SOP). - Ensure timely implementation of the ESMP. - Develop and execute measures for any unanticipated impacts.	- E &S personnel of PMU and PIT
Construction phase				
		Physical Environment		
Topography, landforms, geology and soils	- ESS 1	- Trench cutting and excavation works may cause small scale erosions and slope failure and impact on surface drainage - Construction of data centres, towers, and deployment of optical fibre may cause landslides and slope failures and shall be triggered as a result of earthquake, rainfall and weak construction design particularly in hilly and mountainous terrain. -	- Soil erosion will be minimized by taking precautionary measures such as:(i) reuse of excavated soil, (ii) immediate and proper backfilling of the trenches, and (iii) the excavated soil temporarily stored properly to prevent erosion by using barriers or silt traps. - Consent will be taken before excavating where existing land use is present. - Use of temporary fencing to enclose demolition area to protect the community and public - Incorporate slope stabilization measures; toewall, bioengineering while constructing broadband infrastructures.	- E &S personnel of PMU and PIT- Contractor
Community facilities and utilities	- ESS 1	- Small scale impacts on existing community facilities utilities like drains, compound walls, WASH facilities causing dismantling of the structures - Disruption of services of water supply, irrigation, electricity and telecommunication - Possible conflict for use of community facilities	- Existing facilities and utilities such as drains, compound walls, WASH facilities causing dismantling of the structures, and disruption of services; water supply, irrigation, electricity and telecommunication will be rehabilitated with coordination of local community. - All concerned stakeholders will be consulted before the dismantling of any structure. Safe dismantling will be carried out with due assessment of possible impact of the material used in the structures. - Use of water for construction works will not disturb local water users. - If construction work is expected to interrupt any community activities, community will be informed in advance.	- E &S personnel of PMU and PIT- Contractor

Risk/Impact area	Relevant ESS	Key activities and Potential E&S Risk/ impacts	Mitigation Measures	Implementation Responsibility
			<ul style="list-style-type: none"> - Provide signage for safety at critical locations for warning and informing the community with images and text in local language. - Use of temporary fencing to enclose demolition area to protect the community and public - Identify and develop an Environmental, Health and Safety (EHS) plan that includes adequate precautions in place to prevent or minimize the spread of disease and inclusion as part of civil works contracts. 	
Water bodies and water quality	- ESS 3	<ul style="list-style-type: none"> - Pollution of water bodies and loss of aquatic habitat, - Contamination of water sources due to construction waste, e-waste disposal and transport of sediments from worksites-trenching and excavation of foundation for data centres and building towers- and/or construction camps (if any) - 	<ul style="list-style-type: none"> - Earthworks will be undertaken in the dry season as far as possible to avoid the potential runoff. - Spoil disposal will be properly managed at designated sites - Location for stock yards for construction materials will be identified at least 500m away from water courses. - Place for storage of fuels and lubricants will be away from any drainage leading to water bodies. - Management of e-waste will need to follow the procedure as outlines in the ESMP. - Temporary silt traps or sediment basins along the drainage leading to the water bodies will be installed. - While working across or close to any water body, the flow of water will not be obstructed - Ensure that no construction materials like earth or stone are disposed of in a manner that may block the flow of water of any watercourse. - Establish baseline and periodic water quality test of downstream major sources, complying with National Drinking Water Quality Standard (NDWQS), 2006 and WB's EHS guidelines (see annex-10). 	- E&S personnel of PMU and PIT- Contractor
Ambient air	- ESS 3	<ul style="list-style-type: none"> - Conducting works at dry season and moving large quantity of materials may create dust and increase in concentration of vehicle-related pollutants (such as carbon monoxide, Sulphur oxides, particulate matter, nitrous oxides, and hydrocarbons) which will affect people who live and work near the sites. 	<ul style="list-style-type: none"> - Water sprinkling at dry exposed surfaces and stockpiles of aggregates as necessary at settlements of trenching stretches. - If re-surfacing of excavated portion requires movement of trucks for delivering aggregates and cement, ensure that the trucks have tarpaulin cover. - Limit speed of construction vehicles in access roads to construction location maximum of 30kph. - All vehicles, equipment and machinery used for construction to be regularly maintained. Follow applicable national emission standards for the use of equipment and vehicles. 	- E&S personnel of PMU and PIT- Contractor

Risk/Impact area	Relevant ESS	Key activities and Potential E&S Risk/ impacts	Mitigation Measures	Implementation Responsibility
			- Establish a baseline and regular monitoring of ambient air quality as per National Ambient Air Quality Standard, 2003 and WB's EHS guidelines (see annex-10).	
Acoustic environment	- ESS3	- Construction activities at or near settlements, schools, and areas with small-scale businesses will temporarily increase the noise level and vibrations may be caused by movement of equipment and excavation.	<ul style="list-style-type: none"> - Plan activities in consultation with local administration so that activities with the potential to generate noise are conducted during periods of the day which will result in least disturbance. - Prohibit construction activities during night time hours. - Minimize drop heights when loading and unloading coarse aggregates. - Discourage the use of horns. - All vehicles, equipment and machinery used for construction to be regularly maintained. - Regular monitoring of noise level complying with National Noise Standard Guidelines, 2012, WB's EHS guidelines (see annex-12). 	- E&S personnel of PMU and PIT-Contractor
Generation of hazardous waste and e-waste	- ESS3	<ul style="list-style-type: none"> - Possible generation of e-wastes; fabric materials, IT equipment and tools to be used in data centres, cyber security centres, clouds and towers including computers, servers and data drivers - Possible generation of asbestos-containing hazardous waste, especially during dismantling of some old civil structures for upgrading and connecting data services 	<ul style="list-style-type: none"> - Procurement of energy-efficient ICT equipment so as to reduce radiofrequency emissions and energy use. - Introduce buy-back arrangements with the suppliers of electrical and internet equipment at the end of its useful life. - Prepare, adopt, and implement, where relevant, a Hazardous Waste/ E-Waste Management Plan as outlined in Annex-9, commonly as part of the ESMP, to manage risks of e-waste in a manner acceptable to the Bank. - During screening, if significant Hazardous Waste particularly asbestos are anticipated, a standalone Hazardous Waste Management Plan will be prepared. Otherwise, hazardous waste management will be included as part of the ESMPs. - Appropriate formal arrangements for the disposal and management of hazardous and / or e-waste prior to commencement of civil works will be ensured. 	- E&S personnel of PMU and PIT-Contractor
Construction waste and solid waste disposal	- ESS 3	- Pollution of water and land resources, and cases of vector borne diseases due to solid/construction/camp waste disposal.	<ul style="list-style-type: none"> - Ensure that the site specific ESMPs include the measures for management of demolition debris/construction/camp solid waste for subproject/ activity implementation. - Install bins with labelling for careful waste segregation at camps - Regular collection, treatment and dispose-off of solid waste at designated facilities - Ensure appropriate formal arrangements for the disposal and management of demolition debris prior to commencement of civil works. - Clear unutilized construction materials, heavy equipment and debris from construction site. 	- E&S personnel of PMU and PIT-Contractor

Risk/Impact area	Relevant ESS	Key activities and Potential E&S Risk/ impacts	Mitigation Measures	Implementation Responsibility
Traffic flow congestion and disruption	- ESS 4	<ul style="list-style-type: none"> - Disruption of traffic flow during construction trenching works along road reserves. - Risk of accident and community safety in the construction area in the absence of awareness/notice and proper barricading 	<ul style="list-style-type: none"> - Expedite and comply all alternatives for maintaining traffic flow during construction works - Provide temporary signs and employ flag persons to warn road users on dangerous conditions and works ahead - Comply hard barricading in the trenching and other construction area - Provide diversions and alternatives where road being used - Provide proper information and awareness to the community in advance 	- E&S personnel of PMU and PIT- Contractor
		Biological Environment		
Impacts on Vegetation	- ESS 6	<ul style="list-style-type: none"> - There will be minimal losses of vegetation/ bushes cover during construction of data centres, towers and trenching for deployment of optic fibre - May be loss of exotic, indigenous and fruit trees along stretches of optic fibre 	<ul style="list-style-type: none"> - Design project activities in such a way that minimizes loss of vegetation - Restrict vegetation clearing and stripping to project areas to minimize project footprint and soil erosion - Greenery promotion around the construction area is proposed - The losses will be compensated with compensatory plantation @ 1:10 if any and will receive prior approval from the authority - Species of local economic significance and values will be planted 	- E&S personnel of PMU and PIT- Contractor
Impacts on Fauna	- ESS 6	<ul style="list-style-type: none"> - Disturbances to local birds, reptiles and mammals - Disturbance and loss of habitat from construction of trenching works and tower construction 	<ul style="list-style-type: none"> - No heavy vehicles will be made available to run on the access road that may disturb the wildlife of the nearby area - Horn prohibited sign will be placed in nearby wildlife inhabited area - Prohibit workforce from any wood logging, hunting - Designating stockpiling areas - Providing alternative fuel to workers for cooking. - Conducting environmental awareness activities for the workforce (especially with respect to importance of conservation and protection of wildlife) 	- E&S personnel of PMU and PIT- Contractor
	-		-	-
Socioeconomic and Cultural Environment				
Social harmony of the area	- ESS 4, ESS 2 and ESS 10	<ul style="list-style-type: none"> - Poor sanitation practices by workforce may cause pollution of surrounding environment. - Social problems may arise due to anti-social behaviour of the workforce such as gambling, alcoholism and disrespect to local people 	<ul style="list-style-type: none"> - Provide detailed orientation to influx/workers on the procedures to be followed in work areas. - Orient the workers on the Code of Conduct and compliance of Code of Conduct by the workers - Keep Information, Education and Communication (IEC) material to sensitize and the workers adherence to proper housekeeping practices at worksites. - Prioritize local people for opportunities to work in the subproject which helps to minimize the chances of cultural discrepancy and conflict due to increased outside workers. - Ensure GM is in place and is managed effectively. 	- E&S personnel of PMU and PIT- Contractor

Risk/Impact area	Relevant ESS	Key activities and Potential E&S Risk/ impacts	Mitigation Measures	Implementation Responsibility
Occupational Health & Safety	- ESS 2	<ul style="list-style-type: none"> - During the construction work, laborers involved in civil works may be exposed to different levels of health risks and accidents - Physical injuries from accidents– fall during construction of towers, fibre cable installation and servicing of IT infrastructure. 	<ul style="list-style-type: none"> - Require mandatory use of safety measures and PPE such as masks, helmets, hand gloves and rubber boots with proper training to workers in respect to working at heights - Keep first aid box at an appropriate and easily accessible place. - Provide safe drinking water for laborers and other facilities at site. - Prohibit child labor in all construction activities by keeping records of their age which can be verified through some document (citizenship or any other document that verifies the workers age). - Prohibit forced labor practices in construction activities - Ensure workers follow health and safe hygiene practices; precautions will be taken in response to current risk of COVID-19. - Comply with COVID-19 protocols and keep the record of infections, if any. - Provide orientation and training to workers for maintaining social harmony, prohibition of ill social behaviours (alcohol, gambling etc). - Engage local people in construction as per their skills and qualifications. - Develop Labor Management Procedure (LMP) and include in civil works procedures . - Provide orientation to workers, contractor and the project. - Establish standalone GM for direct and contract workers to raise workplace grievances. 	- E&S personnel of PMU and PIT- Contractor
Labor camp management	- ESS 2	<ul style="list-style-type: none"> - Impacts encountered through construction workers camp include disposal of solid waste (i.e organic waste, plastic and metal scraps, and domestic effluent) Pressure on the existing public utilities like (i.e drinking water sources, health services) and poor sanitation and transmission of communicable diseases, use of alcohol, gambling and conflict with local communities leading to fatal accidents and on site/work accidents. 	<ul style="list-style-type: none"> - Develop Labor Management Procedure (LMP) and include in civil works contracts - Maintain labor registry that should include contact details of the worker hired for project activities and update it regularly - Provide orientation and training to workers for maintaining social harmony, prohibition of ill social behaviours (alcohol, gambling etc) - Provide first-aid training to construction workers for safety of workers for all types of construction related injuries. - Establish and operate a standard level of labor camp considering gender and disabilities - Maintain proper sanitation at camps with provision of potable water and regular health check-ups of construction crew. - Regular collection, treatment and dispose-off of labor camp waste at designated places - 	- E&S personnel of PMU and PIT- Contractor

Risk/Impact area	Relevant ESS	Key activities and Potential E&S Risk/ impacts	Mitigation Measures	Implementation Responsibility
Community Health and Safety risks	- ESS 4	<ul style="list-style-type: none"> - Overall, communities will be exposed to cross-cutting risks from impacts on air and water quality, ambient noise level; chances of accidents, communicable and transmissible diseases may potentially be brought into the community by construction workers - Community members including vulnerable groups such as women, children, disabled and elderly persons could fall into open trenches and excavated areas as well as trip on wire cables. 	<ul style="list-style-type: none"> - Proper awareness and orientation to workers and community will be provided on OHS, community health and safety and GBV. - Contractor will maintain adequate space and adequate lighting, temporary fence, barriers and signage at worksites. - Children will be prohibited from active construction sites. - Proper fencing of stockpile and other risk area. - Awareness programs on communicable diseases and hygiene practices will be carried out throughout the project lifecycle. - Backfill all open trenches and excavated soon after completing construction works - Ensure GM is in place, well known and is managed effectively. 	- E&S personnel of PMU, PIT and PIT- Contractor
		<ul style="list-style-type: none"> - Transmission of COVID- 19 within the community 	<ul style="list-style-type: none"> - Regular communication with the community in the vicinity about the procedures put in place to address the risks of COVID-19. - Different communication approach and materials will be developed that are clear and designed to be easily understood, particularly by the vulnerable groups including indigenous people, people with disability. - Make sure workers adhere to COVID-19 OH&S precautions and protocols to minimize the risk of COVID-19 transmission between workers on construction sites and within the community - Thermal scanning, wearing face masks and related PPE, maintaining social distancing and hygiene practices to be mandatory management requirement. 	- E&S personnel of PMU, PIT and PIT- Contractor
SEA/SH-related risks	- ESS 2 and ESS 4	<ul style="list-style-type: none"> - SEA/SH-related incidents, giving the rise of sense of insecurity in the project area 	<ul style="list-style-type: none"> - Prepare, adopt, and implement measures to manage risks of SEA/SH through the implementation of SEA/SH prevention and risk mitigation plan. - Identify risks, key stakeholders and available service providers to address and manage any incidences of SEA/SH. - Prepare Code of Conduct (CoC) as part of the bid document for laborers, and contractors and also for project staff. - Conduct orientations on CoC to workers and require all workers to sign the CoC. 	- E&S personnel of PMU, PIT and PIT- Contractor
Physical and cultural heritage	- ESS 8	<ul style="list-style-type: none"> - Loss or damage of physical cultural resources from trenching activities, as the subproject area holds no visible above-ground PCRs, potential archaeological relics could be discovered 	<ul style="list-style-type: none"> - Avoid sites of cultural importance during network design - Develop Chance finds procedure as part of ESMP. - In the unlikely event that a physical cultural heritage is identified or suspected, the contractor will immediately stop work to allow further investigation, in coordination with district level authority and with the Department of Archaeology. 	- E&S personnel of PMU, PIT and PIT- Contractor

Risk/Impact area	Relevant ESS	Key activities and Potential E&S Risk/ impacts	Mitigation Measures	Implementation Responsibility
		underground and could be damaged due to construction activities.		
Weak consultations and information disclosure	- ESS 10	<ul style="list-style-type: none"> - Unfavourable public perception of the project - Stakeholders, including the indigenous People and vulnerable people are unable to access project related information and project benefits. - Stakeholders are unable to participate in the planning process of mitigation measures. 	<ul style="list-style-type: none"> - Undertake periodic stakeholder engagement activities in accordance with the SEP and inform them about project activities and opportunities. - Disseminate project related information through culturally appropriate and locally available means, such as project website, national and local media and social media. - Establish a system through which the stakeholders can obtain project related information. - Thoroughly brief the stakeholders about the possible risks and impacts of project activities and the mitigation measures. Seek their participation in designing and implementing the mitigation measures . 	- E&S personnel of PMU, PIT and PIT- Contractor
Lack of accessible mechanism for stakeholders to raise questions and concerns	- ESS 10	<ul style="list-style-type: none"> - Grievances and complaints not being addressed 	<ul style="list-style-type: none"> - Establish a functioning grievance mechanism (GM) as envisaged by the SEP and raise awareness to stakeholders of the GM. - Regularly monitor GM to ensure grievances are being received and addressed, and that the GM is functioning as envisaged. 	- E&S personnel of PMU, PIT and PIT- Contractor
Land-based impacts triggered by land acquisition	- ESS 5	<ul style="list-style-type: none"> - Though establishment of data centres will only acquire government land and however, there could be temporary Physical and economic displacement due to loss of land/structures in case of trenching work - Temporary/permanent restriction to land use due to tower construction work 	<ul style="list-style-type: none"> - Avoid use of private land for any broadband infrastructures - Prepare a Resettlement Policy Framework (RPF) as per the ESS5 to address the situation that may require a small land-take or resource alienation. It is however not expected that the project will require any land acquisition that may triggers permanent/temporary physical/ economic displacement and restriction to land use. - Should the need arise, the RPF will be used to inform the preparation and implementation of Resettlement Action Plans (RAPs) for site-specific projects, and the RAPs will address compensation and livelihoods needs of persons affected by the land acquisition. 	- E&S personnel of PMU, PIT and PIT- Contractor
Disproportionate impact to indigenous people and disadvantaged groups including women	- ESS 7	<ul style="list-style-type: none"> - Indigenous people and disadvantaged groups including women may remain uninformed about project activities and opportunities due to their distinct social conditions, including illiteracy and poverty, and their needs may not be adequately addressed through project interventions 	<ul style="list-style-type: none"> - Project activities will ensure the inclusion and participation of IP groups, DAG including women as outlined in this ESMF and will be provided in the SEP. Measures will include targeted interventions to IP groups to ensure meaningful consultation, identification of needs with regards to accessing and using upgraded IT services. 	- E&S personnel of PMU, PIT and PIT- Contractor
Operation and Maintenance Phase				

Risk/Impact area	Relevant ESS	Key activities and Potential E&S Risk/ impacts	Mitigation Measures	Implementation Responsibility
Increased use of energy	- ESS 3	- Level of energy consumption will be increased with installation of devices and equipment in data centres, cyber security centres and other broadband facilities and increased pollution by the corresponding waste	<ul style="list-style-type: none"> - Incorporate measures for sustainable use of energy, water and raw materials into design and rehabilitation works e.g. consider solar wherever feasible and effective. - Consider general environmental concerns in material specifications for supplying machines and equipment - Provide orientation and training to the corresponding staff for controlling pollution from emissions/discharges and produced hazardous waste 	- E&S focal person of PMU and PIT
Generation of e-waste	- ESS 3	- Possible generation of e-wastes through IT tool and equipment used in data centres, clouds, optic fibre and towers including batteries computers, servers and data drivers	<ul style="list-style-type: none"> - Prepare, adopt, and implement, where relevant, an E-Waste Management Plan as outlined in annex-9, commonly as part of the ESMP, to manage risks from batteries, health care wastes, asbestos and e-waste etc. in a manner acceptable to the Bank. - Procurement of energy efficient ICT equipment so as to reduce radiofrequency emissions and energy use. - Provide guidance on management measures in line with international best practice. - Introduce buy-back arrangements with the suppliers of electrical and internet equipment at the end of its useful life. 	- E&S focal person of PMU and PIT
Occupational Health and Safety	- ESS 2	<ul style="list-style-type: none"> - Occupation health and safety risks for workers maintaining the IT equipment and infrastructure - Safety risks to communities by accidental attempts at and around the broadband infrastructures/data centres 	<ul style="list-style-type: none"> - Provide appropriate training on occupational health and safety - Enforce use of personal protective wear - Install fences around ICT facilities and employ guards to man the facilities. 	- E&S focal person of PMU and PIT
Lack of meaningful consultations with the stakeholders & equitable benefit of the services	- ESS 10	<ul style="list-style-type: none"> - Confusion and discontent with the project, leading to weak ownership of the project among project stakeholders - Disproportionate access to services of the facilities to indigenous people and disadvantaged groups including women 	<p>Organize periodic consultations with the project stakeholder as envisaged by the SEP and disclose project related information in the way that is understandable to the local communities and culturally appropriate throughout the project lifecycle.</p> <p>Communications and engagements with indigenous people and disadvantaged groups including women adhering cultural norms and for accessibility.</p>	E&S focal person of PMU and PIT
Non or weak functioning of the GM	- ESS 10	- Discontent with the project among project stakeholders	<ul style="list-style-type: none"> - Ensure that the GM established at the PMU and PIT as envisaged by the SEP throughout the project lifecycle. - Provide orientation and training to concerned person to handle and manage the GM. 	- E&S focal person of PMU and PIT

6. ENVIRONMENTAL AND SOCIAL MANAGEMENT PROCEDURES

This section sets out a detailed procedure for the environment and social risk management process to be followed during the implementation of the project activities. The E&S procedures ensure effective integration of the environment and social aspects into subproject design and implementation to strengthen social and environmental risk management and determine the appropriate instrument. The procedure ensures the compliance of systematic criteria to identify the level of processes involved in environmental assessment, their sequence to conduct the studies for various components/phases of the project, including legal requirements and implications. Once the need/justification of a subproject/activity is finalized, the process of E&S risk management starts with environmental and social screening processes. It is essential that the potential environment and social concerns of the proposed project activities are thoroughly assessed in planning phase and design (project identification to detail project report preparation) phases during which appropriate measures can be considered for the project implementation. The ESMF will therefore guide the correct screening and risk assessment of identified activities as per the Nepal's legal framework, as well as the WB's ESSs. The following process and the figure 6.1 given below depicts the detailed procedure for assessing and managing E&S risks and impacts.

6.1. Category of Sub-projects

Categorization of subproject activity is essential for early understanding of the type, nature and scale of any impacts. Complying with the classification provision of WB ESF and national legal instruments, the following category are in place:

Category I Subprojects: Activities which will not be eligible and therefore not supported by the project, as outlined in Annex 1 Section. A and section 2.4 above.

Category II Subprojects: Activities which have some adverse environmental and/or social impacts that are limited to specific subproject site including its immediate surroundings and which can be addressed through the readily known or readily available mitigation measures, including construction and upgrading of small-scale broad band infrastructures; new data centres, towers, deployment of fibre optic and other facilities. Those subprojects may require an ESIA and/or ESMP including e-waste management plan as the part of the ESMP to address the possible issues e-waste. In addition, a Brief Environmental Study (BES) or Initial Environmental Examination (IEE or Environmental Impact Assessment (EIA) as per country requirements⁴. If the E&S screening indicates land-based impacts particularly for establishing new data centres and towers, including physical and/or economic displacement along with restriction in land use, preparation of RAPs may be required. Category II subprojects may also have impacts on IPs or vulnerable groups. Support measures to address vulnerability and inclusion issues related to IPs will be integrated into ESMPs and SEPs. Stakeholder engagement activities will be required in all cases throughout the project life cycle.

Category III Subprojects: Activities which have minimal or no adverse environmental and/or social impacts will be included in this category. For these subprojects, no further environmental and social assessment is required after initial E&S screening. The screening report will recommend mitigations measures for minor issues or impacts identified in the screening process. In some situations, site-specific code of practice may be needed. The code of practice may be in the form of a good practice code for activity implementation.

⁴ Schedule 1, 2 and 3 of EPR (2020) has explicitly listed the types and natures of the project requiring Brief Environmental Study (BES), Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) Respectively.

With subject to the intervention type, nature and size of upgrading of service unit magnitude and extent of impact is minimal to moderate. Procedures followed for assessing E&S risk and impacts and its implementation is designed in line with the requirements set for the for category II and Category III.

6.2. Environmental and Social Screening

In compliance with Nepal's Environmental Protection Act 2019 and the Environmental Protection Rules (EPR) 2020, as well as the World Bank's ESF, every potential sub-project to be financed under the project will undergo an E&S screening following the checklist developed and included in annex 1. The key objectives of an environmental and social screening are to:

- Screen the eligibility of the sub-project activities against the Eligibility Criteria in Annex 1 (A);
- Identify potential environmental and social risks and impacts of the proposed activities, assign a subproject category and type, and;
- Determine the level and scope of environmental and social assessments and specific instruments/management plans required to address and mitigate the potential risks and impacts.

PITs under MoCIT, DoIT, NITC and NTA would be responsible for the E&S screening of respective sub projects and prepare a screening report. The sub projects will be implemented by the PIT, a clear guidance will be provided by the PMUs to ensure that screening takes place to categorize activities and that all concerned local stakeholders are consulted and involved in the screening process. To fulfil the satisfactory requirement of the environmental study of the respective subproject pertaining to the national legal provisions, PMU will ensure the provision of the EPR (2020) Schedules 1, 2 and 3, and the relevant guidelines issued by MoFE.

6.3. Preparation of Environmental and Social Risk Instruments

Based on the outcomes of the E&S screening low, moderate, substantial risks are identified for a particular sub project and then it will undergo subsequent steps of environmental and social assessment. Sub project falling under category II will require a BES or IEE, the PIT will need to prepare a Terms of Reference (ToR) for carrying out the environmental and social assessment. The PIT will ensure that the ToR covers, apart from national requirements, all relevant World Bank ESS requirements and that it considers the impacts and mitigation measures identified in this ESMF. The respective PIT will submit the ToR for review to the PMU ESS as required by the EPR 2020. PIT shall undertake the environmental and social assessment in accordance with the approved ToR. The PIT with prior review from PMU will submit it for approval from the concerned authorities.

If required and feasible, RAPs (as RF given in annex-3) or other management plans such as; hazardous waste management plan or e-waste management plan will be prepared simultaneously with the BES/IEE or ESMP as determined by E&S screening report. Subprojects falling under category III will not need to undertake any further environmental assessment. The screening report prepared by PIT will recommend mitigations measures with detail plan of action for the minor issues/impacts identified. This may be in the form of a good practice guidance/code of conduct for activity implementation. Table 6-1 further details the E&S assessment and plans for different categories identified after screening.

6.4. Approval of E&S documents

All the E&S screening, ESMP and other E&S risk management documents will be prepared and submitted by the PIT and will be reviewed by the PMU for compliance to the ESMF. The PMU will ensure that all the impacts are assessed and adequately addressed in the subproject's ESMP and code of conduct and satisfactory to the requirement of the ESMF. E&S instruments as described in 6.1 shall follow the procedure set forth in EPR 2020 and ESF.

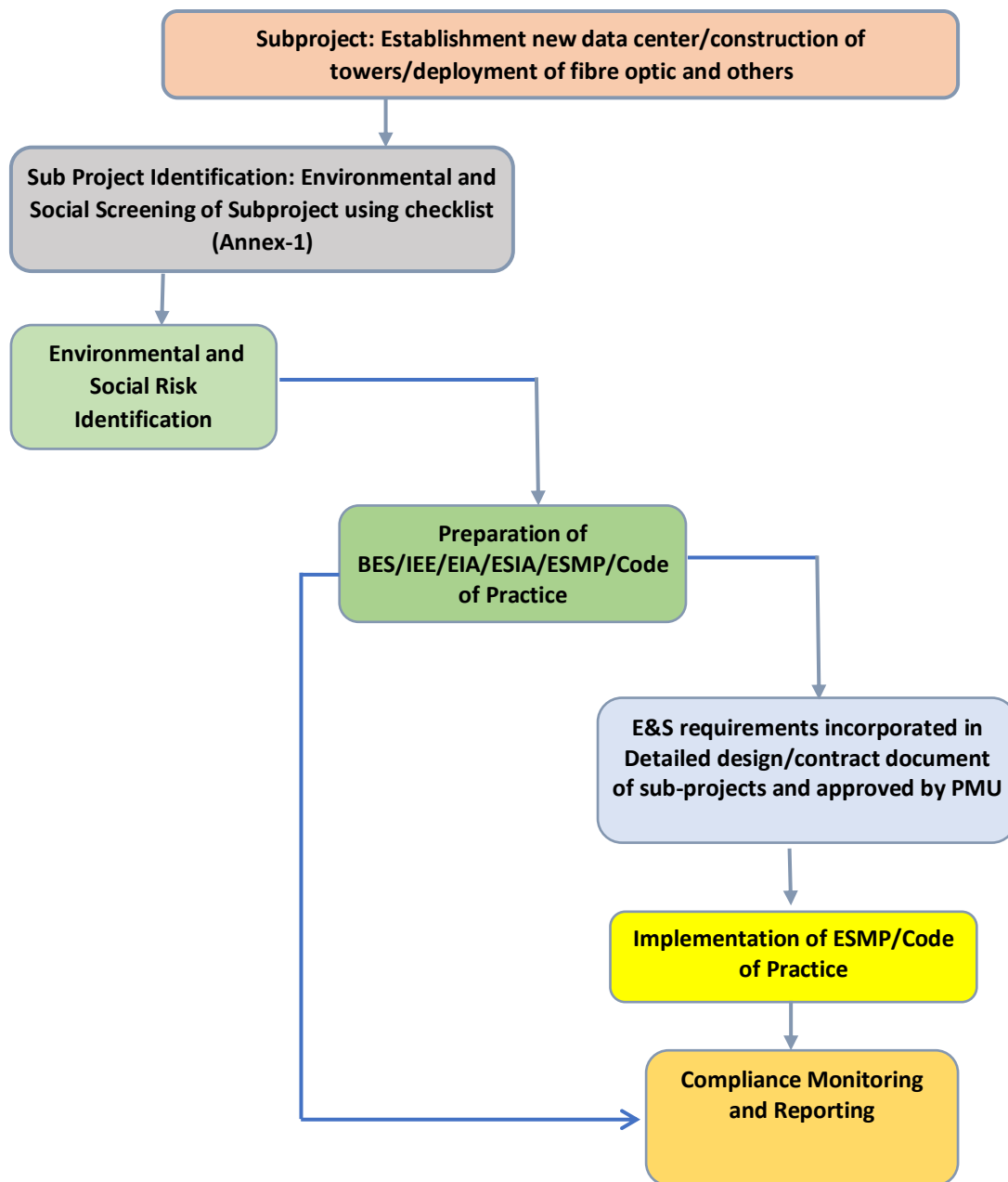
6.5. Implementation of Mitigation Measures

Primary responsibility of implementing mitigation measures outlined in ESMPs and good practice code of conduct will be of respective PIT with the support of PMU. The implementation of the E&S risk management plans starts with process of procurement of concerned works and services. Basically, the corresponding plans will describe and prioritize mitigation measures, corrective actions and monitoring measures necessary to manage the impacts and risks. The respective PIT with the technical support from PMU will ensure that all works contracts have included the ESMPs as an item in the Bill of Quantities (BoQ). Further, contract documents need to comply with the provision of OHS and labor camp management, and other precautionary measures for preventing SEA/SH and prohibiting child labor as stated in Annex-5. Implementation performance of mitigation measures will be reported to PMU by the respective PIT for their support and feedback. The key steps and key agencies involved in managing any potential adverse impacts in any civil works are presented in following table and figure 6.1.

Table 6-1 Stages of Subproject Development & E&S Activities and Requirements

Stage in subproject cycle	Step in assessment process	Required Document	Agencies involved
Subproject Identification	Environmental and social screening to determine key risks and impacts and category of sub project	Environmental and Social Screening Form / Report	PIT- MoCIT, DoIT, NITC and NTA
Subproject design (for subprojects that do not require assessment and only require code of conduct)	Consultation with key stakeholders Preparation of good practice Guidance Ensure integration of code of conduct into bidding documents	Site specific good practice code of conduct	PIT- MoCIT, DoIT, NITC and NTA
Project design (for civil works requiring BES or IEE; <i>(new data centre, towers, fibre optic and other infrastructures)</i>)	Prepare ToR to carry out IEE; ToR should be approved by MoCIT ESMP preparation	BES or IEE or and ESMP, RAP (if any)	PIT- MoCIT, DoIT, NITC and NTA
Subproject review and approval	Review Environment and Social Risk Management reports to assess if all possible issues have been adequately addressed to facilitate the decision-making process; decide if project should proceed, or if further alternatives must be examined or be abandoned.	BES/IEE or and ESMP, RAP (if any)	PMU
Procurement of works and services	Integrate BES/IEE or and ESMP and other management plans, good practice code of conduct into bidding documents	Bidding document with safeguard provisions/BOQ	PIT- MoCIT, DoIT, NITC and NTA
Implementation/Construction	Orient/train contractor and other workers/field staff on ESMP requirements Supervise, monitor and report on ESMP compliance Take corrective action where needed	Compliance Monitoring Report	to PMU: by PIT- MoCIT, DoIT, NITC and NTA to WB- by PMU
Completion and Operation	Post construction maintenance and operation in line with ESMP	Compliance Monitoring Report	to PMU: by PIT- MoCIT, DoIT, NITC and NTA to WB- by PMU

Figure 6.1 Detail of Procedure E&S Management



7. STAKEHOLDER ENGAGEMENT, INFORMATION DISCLOSURE AND GRIEVANCE MECHANISM

A Stakeholder Engagement Plan (SEP)⁵ has been developed in accordance with ESS10 and GoN's policies. The SEP describes (i) the project stakeholders, making a distinction between those directly affected by the project and other interested parties; (ii) the timing and methods of engagement with key stakeholders throughout the life cycle of the project, including engagement activities before project appraisal, as well as local-level consultations once the locations of infrastructure interventions is known; (iii) the type of information that will be provided to stakeholders and how feedback from stakeholders will be solicited and recorded, (iv) differentiated measures to remove obstacles to participation as well as allow the effective participation of those identified as disadvantaged or vulnerable, and (v) the project-level Grievance Mechanism to be developed by the borrower. The SEP is a living document and will be updated as required throughout the project's life cycle.

Stakeholder engagement is an integral part of the preparation and overall project design process and will continue throughout the implementation. Key likely stakeholders of this project include government officials, private sector businesses, internet users, women, people living in rural communities and small towns, members of social minorities, small business owners, people with disabilities, school-going children – other stakeholders will be identified early on in the engagement process. These will also include indigenous groups for whom a culturally appropriate process may be required. The Borrower will seek stakeholder feedback and opportunities for proposed future engagement, ensuring that all consultations are accessible, inclusive and through suitable channels in the local context. The project will include appropriate institutional arrangements to carry out the stakeholder engagement process. Given the anticipated scale of the project activities, and lack of experience of implementing agencies in carrying out stakeholder engagement, specific liaison officers will need to be identified or recruited at the PIU and the field level to coordinate and implement the SEP.

7.2 Proposed Strategy for Information Disclosure

All relevant documents of the project, including the ESMF, SEP, Environment Social Commitment Plan (ESCP), among others, will be disclosed and made accessible to all stakeholders. The information will be disclosed through all possible means, ranging from face-to-face and virtual consultations with the project stakeholders, distribution of hard copies, posters, leaflets, and brochures, MoCIT/NTA and project website and local media so that the documents are accessible to all project beneficiaries of the project, including those in residing in the remote areas.

7.3. Grievance Mechanism (GM)

The project will put in place a responsive and functioning Grievance Mechanism (GM) to address concerns and complaints of beneficiaries and project stakeholders by adopting an understandable and transparent process that is culturally appropriate and readily accessible to all the segments of affected communities. The project's GM is at no cost to complainants and guarantees that there will no retribution for people who lodge complaints on project activities. Furthermore, the grievance mechanism will not impede access to judicial and administrative remedies.

7.4 Objectives of the GM

The objectives of the GM are:

- Provide affected people with avenues for lodging complaints or resolving any dispute that may arise during the project lifecycle.

⁵ Please refer to Stakeholder Engagement Plan for details

- Ensure that appropriate and mutually acceptable redress actions are identified and implemented to the satisfaction of complainants.
- Avoid the need to resort to judicial proceedings as far as possible.
- In the case of indigenous people and vulnerable people, adopt culturally appropriate and accessible means by which they can lodge complaints about redress through their customary dispute settlement mechanisms.

7.5 Grievance Mechanism Implementation Procedure

The project will develop a written grievance procedure/manual in consultation with project impacted parties and stakeholders. It will incorporate the following steps.

- Means and ways to inform and educate stakeholders about GM procedures
- Receive, register, and acknowledge the grievance.
- Review and investigate the grievance
- Develop resolution or escalate the grievance
- Report back on the grievance, and
- Implement, monitor, and evaluate the functioning of the GM.

7.6. Grievance Mechanism (GM) System

The main purpose of this system is to ensure there is a robust and transparent process, consisting of a sequential process of resolution available to swiftly address the complaints. A subsequent level of resolution is triggered if the complainant remains unsatisfied with the resolution made by the lower level or if it remains unable to provide a resolution within a given time. The SEP proposes the following GM systems.

Subproject Level Grievance Committee (SLGC): The first level and most accessible and immediate venue for the fastest resolve of grievances will be the site official. If any complaints arise, the project representative/official, the construction contractors and) with the assistance of municipalities/rural municipalities representatives will immediately resolve the complaint on site. Any person with a grievance related to the project works can contact the project representative responsible for grievance handling or the respective ward office. The project representative will document the complaint, and immediately address and resolve the issue at field-level with the construction contractor, representatives of the respective municipalities/rural municipalities and the affected persons within 7 days of receipt of a complain/grievances. If a grievance has also been filed at the ward office, then the project representative will also have to record that complaint. The project representative will fully document the following information: (i) name of the person, (ii) date of complaint received, (iii) nature of complaint, (iv) location of complaint, and (v) how the complaint was resolved. If the complaint remains unresolved at the field level, the project representative will forward the complaint to the respective PITs.

PIT Level Grievance Committee: If the grievance remained unresolved or if the person filing the grievance is not satisfied, the person filing the grievance will be notified by the project representative at the sub-project level that the grievance will be forwarded to the PIT. PIT with the support of project representative at the sub-project level, PIT ESS and PMU E&S specialist will try to resolve the grievances through continuous interactions with the affected persons within 15 days of complaints forwarded by the project representative at the sub-project level. While trying to resolve the grievance the committee can also consult with the respective ward representatives of the municipality and the rural municipality.

PMU level Grievance Committee: If the complainant cannot be resolved at PIU level grievance committee or the complainants are not satisfied with the resolution, the grievance will be

forwarded to this level. This level will be headed by chief of the PMU and it will function in close coordination with the grievance unit established at MoCIT. Project chief of the PIT, unit head and members of Environment and Social Risk Management team of the PMU, focal person of GM unit of the ministry and representatives of construction contractor will be the members of the committee. In addition to the complainant, the committee can invite or consult with the concerned representatives of Municipality, District Coordination Committee, and District Administration Office. This level will also try to resolve the grievances within 15 days of receiving the complaints from the PIU Level.

8. PROJECT IMPLEMENTATION ARRANGEMENTS, RESPONSIBILITIES, AND CAPACITY BUILDING

8.1. Overall Project Management and Coordination

Project Management Unit under MoCIT

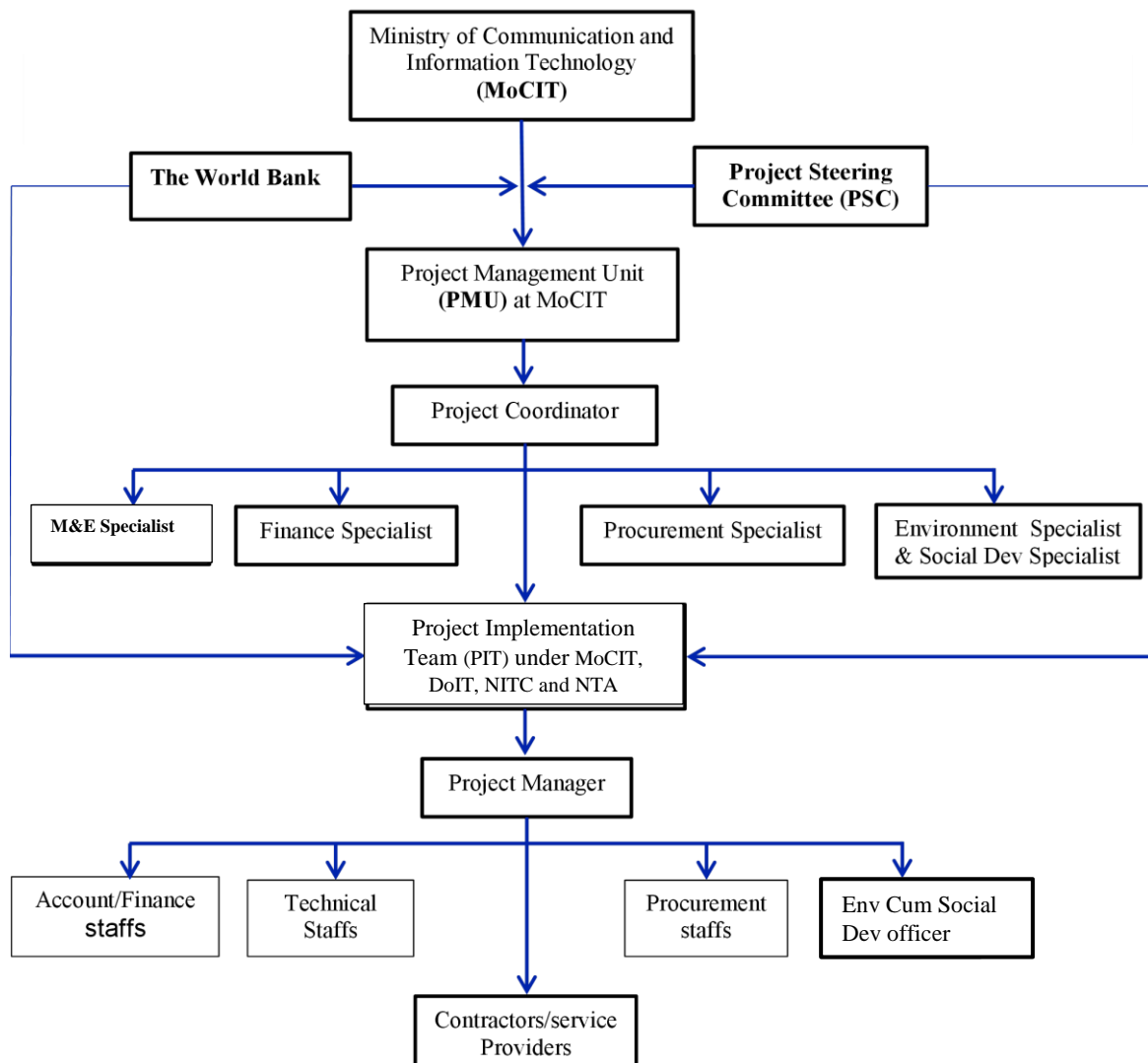
The Ministry of Communications and Information Technology (MoCIT) will oversee implementation of the Project. It will constitute a Project Steering Committee (PSC), chaired by the Secretary of MoCIT and with the participation of representatives of key agencies involved in the implementation of various activities, including the MoCIT itself and its Department of IT (DoIT) and the National IT Center, the NTA, and possibly Ministry of Education, Science, and Technology, the National Planning Commission, and other ministries and organizations—including private sector representatives that are key stakeholders. A Project Management Unit (PMU) will be established under the MoCIT and will be the lead responsible agency for operationalizing the project and for managing day-to-day operations. The PMU will have required operational set up, reviewing, approving and conducting monitoring of the project activities and disclosing periodic monitoring and other assessment reports associated with the project. The PMU will include a project coordinator, a financial management specialist, a procurement specialist, a monitoring and evaluation specialist, an environmental specialist and a social development specialist. The Project Steering Committee (PSC) chaired by the secretary of MoCIT constituted as a sub-group of the DNF Coordination Committee and support for smooth implementation of the overall Project and plays coordination role among the implementing agencies and with other GoN agencies and stakeholders.

Project Implementation Team (PIT)

Project Implementation Team at MoCIT DoIT, NITC and NTA will be established with a minimal composition of a project staffs; project manager, accountant/finance officer, procurement specialist, and one environmental and social risk management officer for undertaking relevant components of works. Given that existing structures of MoCIT, DoIT, NITC and NTA do not have environmental and social units and dedicated officers. The PIT will assign the E&S focal person (PIT ESS) among government officer of the respective offices and will be supported by E&S specialists/officers. The PIT will be responsible for the implementation of the designated project activities as outlined in Project Appraisal Document (PAD) and Project Operational Manual (POM) and performance monitoring and evaluation of the project activities. The PIT will remain in close coordination with the PMU, which will provide technical assistance across all key component areas and project activities. The PIT will implement the project in close collaboration with local levels and shall develop local level committee represented by the local level representatives, civil society, non-governmental organizations (NGOs), and civil servants of technical services. A PITs manager must sign the Memorandum of Understanding (MOU) with PMU in accordance with the Project Operations Manual, and be aware of the provisions of Financing Agreement and Project Operations Manual of the project. Staffing will be informed about their roles and responsibilities through tailored knowledge and management activities offered by the PMU, and described in the POM.

The respective PIT will prepare sub project specific/site-specific E&S instruments complying with ESF standards, procedures and templates, this proposal will be submitted to PMU for review and clearance. Following to the ESMF requirements, the PMU shall review the respective documents for compliance with Project documents (including the ESCP, ESMF, etc.) and support the PIT in its implementation. Regular monitoring and supervision of activities would be done by the E&S specialist of the PMU. The respective PIT must also prepare and submit consolidated E&S performance report and submit to PMU and consequently the PMU will report to the World Bank. The project operational manual developed for the project can guide and support for implementation of the sub project activities.

Figure. 8 Organogram of the E&S activities related to the Project



8.2. Responsibility for Implementing and Monitoring the ESMF

The project Steering committee chaired by the secretary of the MoCIT will play a coordination and provide policy level support for smooth implementation of the ESMF. The Environmental and Social officer along with one environmental specialist and one social Development specialist in the PMU will be responsible for environmental and social matters and will undertake overall accountability for implementing and monitoring the ESMF and ESCP and other agreed safeguards requirements. The PIT under MoCIT, DoIT, NITC and NTA having a dedicated environmental/social focal person along with E&S officer and will be responsible for environmental and social matter at the PIT level. Specific responsibility of PMU and PIT is outlined in Table 8-1 below.

Table 8-1 Role and Responsibilities in implementing the ESMF

Responsible Person/Agency	Responsible task
Project Steering Committee (PSC)	<ul style="list-style-type: none"> • Coordinate with PIT, government organizations, provincial, local level governments and other agencies in the issues related to the project. • The PSC is responsible for oversight of the project and coordinating PMU and PIT for smooth implementation • Laise and coordinate with different ministries for establishing data centres, sharing of towers and deployment of fibre optic • Provide policy level support for smooth implementation of the project activities
Government Nodal officer + one Environment Specialist and one Social Development Specialist at the PMU	<ul style="list-style-type: none"> • Coordinate and oversee E&S activities required under the project. • Review (and where required, conduct) verification and approval of environmental and social screening conducted by respective PIT • Facilitate and guide the preparation of environmental and social instruments, such as BES/IEE/EIA and or ESMPs. • Review, verification and approval of ESMPs and sub project specific code of conduct • Conduct sample based sub project site observation visit as per the requirements • Support and guidance in planning, implementation and monitoring of E&S risk management works • Compliance performance reporting of ESMF implementation to World Bank • Regular communication with PIT and guide them to accelerate safeguards works • Communicate with the World Bank on environmental and social concerns received from PIT and reflected during the field visit • Design and deliver relevant capacity building and training, including on the World Bank ESS's, to effectively implement the ESMF to relevant project staff and stakeholders. • Ensure the implementation of environmental and social management plans, and functioning of the Grievance Mechanism (GM). • Address E&S risks and impacts including monitoring of the implementation of all E&S instruments, community health and safety measures. • Ensure the implementation of the SEP periodic stakeholder consultations, information disclosure and addressing feedback received from stakeholders. • Liaise with other government and non-government agencies at the federal, provincial and Local level to implement the ESMF and other management documents including the ESCP and SEP.
PIT ESS (E&S focal officer) at PIT under MoCIT, DoIT, NTA and NITC	<ul style="list-style-type: none"> • Ensure implementation of the ESMF and SEP at the sub project level project activity. • Undertake environmental and social screening of potential subprojects and determine level of assessment required such as BES/IEE/EIA and or ESMP

Responsible Person/Agency	Responsible task
	<ul style="list-style-type: none"> • Implement and monitor the mitigation measures as envisaged by the EMSP. • Organize periodic consultations with the project stakeholders including strategic engagement with the women, IP, Dalit and other vulnerable groups. • Ensure regular dissemination of project-related information at the local level. • Ensure smooth functioning of the GM system. • Support the PMU in reporting and implementation of the ESMF, ESCP and SEP. • Coordination for the purpose of implementation and monitoring ESMF and SEP. • Organize capacity building and training for the sub project level staff.

8.3. Capacity of the PMU/MoCIT and PIT in Implementing the ESMF

It is already known that a very few World Bank-financed projects are implemented by MoCIT and other implementing agencies; DoIT, NITC and NTA and therefore the PMU and PIT have limited knowledge and experience of engagement in designing and implementing the World Bank environmental and social standards. The MoCIT has no dedicated environmental and social unit and officers dedicated for the safeguards. However, MoCIT has already nominated a focal person for E&S for proposed DNA project. Considering this fact, the environmental and social management capacity of the MoCIT needs to be strengthened to ensure the effective implementation of this ESMF and other environmental and social activities and plans as agreed in ESCP.

The project has provisioned to establish four PIT under MoCIT itself, Department of IT, Nepal Information technology Centre (NITC) and Nepal Telecommunication Authority (NTA). The DoIT, NITC and NTA do not have their dedicated units for E&S safeguards and do not have subject related officers as well. DoIT have not implemented any other project financed by development partners and therefore is very poor knowledge and experience in managing safeguards. NTA had implemented some of the World Bank financed projects like, Telecommunication Sector Reform Project (TSRP-2003-2008) and therefore have practiced of complying WB safeguards policies. As it has no dedicated unit and does not practice of complying WB ESF, NTA also need further support for strengthening its capacity on E&S. Similarly, the NITC also does not have its dedicated unit for safeguards and have limited knowledge and practice of planning and implementing the safeguards issues. However, the NITC has engaged in one of the project of establishing Government Integrated Data Centre (GIDC) financed by Korea International Cooperation Agency (KOICA). Therefore referring to the context, all three agencies involved in implementing the project required extensive capacity building and training support to ensure they can effectively monitor the implementation of the E&S management measures

The project will finance capacity building programs at the PMU and PIT and even at sub project level. It is expected that the capacity building support will contribute to an increase in environmental and social awareness among the project's team and encourage them to implement sound environmental and social practices and compliance requirements of the project activities. This will contribute to minimizing adverse environmental and social impacts, ensuring compliance with the applicable regulations and standards. Under the proposed capacity building activities, the PMU and then PIT, including the E&S consultants, will receive trainings on the World Bank ESSs, ESMF implementation procedures and including systematic and standardized practice of e-waste management and resource recovery and OHS. The training activities, which will be initially led and facilitated by the World Bank, will also focus on monitoring and reporting procedures, conducting meaningful stakeholder engagement, and on the use of GM and conducting stakeholder consultations. In addition, contractors associated with the project including their workforce will trained on ESMF compliance and basic OHS considerations.

Table 8-2 Planning for Capacity Building Training

Training program	Targeted Audience	Conducted by	No. of training program
WB ESSs including implementation of the ESMF, management procedures, consultation and GM, monitoring and reporting, OHS	PMU, PIT personnel including E&S staffs	World Bank	One training program as soon as the E&S staff is on board Refresher after one year or as needed
WB ESSs and implementation of E&S management plans	Staff of PIT including Contractor and consultants' team	PMU	First session prior to the execution of the project and there after yearly basis
Training on e-waste management resource recovery	PMU, PIT personnel including E&S staffs	PMU/ World Bank	- General session-Three days training- initial stage of project (by PMU) - Advanced level training at the last of the project (by WB)
Training on Influx management; OHS, LMP and SEA/SH including COVID-19 Infection Prevention and Control	- PMU and PIT project staffs - PIT project staff, Contractor representatives	PMU and PIT	- One OHS specific training to senior officer of PMU and PIT - Two training sessions during project life cycle
Training on stakeholder engagement and GM management	PIT staffs	PMU	Two training sessions during project life cycle

8.4. Monitoring and Reporting Plan

The project planning and implementation will be regularly oversight by the Project steering committee chaired by the secretary of the MoCIT. The monitoring will be carried on sample basis and as required by the project. The committee will provide policy feedback for smooth implementation of the project.

Project level Monitoring and Reporting

Each PIT will carry out implementation performance monitoring and will submit safeguards implementation compliance report quarterly (every three month) to the Project Management Unit (PMU). The PMU will compile the compliance reports received from the respective PIT and submit a consolidated compliance performance report to the WB. The Monitoring reports will be disclosed in the official project/PMU website. The regular monitoring report will cover the EHS performance of the project, and status of implementation of environmental and social mitigation measures, stakeholder engagement activities and functioning of the grievance mechanism, among others. The compliance report will be produced in standard template as provided in Annex 4.

The PMU, E&S specialist will carry onsite compliance performance monitoring on the sample basis as agreed by WB and will provide close support and guidance to the PIT. The Internal monitoring/reporting for ESMF will be the responsibility of the Environmental Specialist, and Social Development Specialist at the PMU. Regular implementation monitoring of mitigation measures and its reporting will be carried by Environmental cum social development officer of PIT. The compliance reports will cover (for those activities that require application of environmental and social standards):

- List of consultations held (sites, dates, names or participants, details of participants consulted, for example, indigenous groups).
- Key issues raised during consultations.
- Description of mitigating actions/corrective actions (if required).
- Status result of periodic monitoring of air, water and noise pollution at upgrading and construction of broad band infrastructures against the prescribed standards and schedule given in annex 10.

- Follow up monitoring visits will be required to ensure the effective implementation of any required mitigation measures and to assess whether the standards continue to be met.

Supervision by the World Bank

Supervision of ESMF-related project activities, including field visits as appropriate, will be carried out as part of the World Bank's regular project supervisions. In the case of specific issues/complaints or non-compliance, the World Bank task team may wish to contract further independent monitors to carry out site-based investigations and prepare reports identifying further actions required.

8.5. Budget Resource Plan

The breakdown of estimated costs for putting the ESMF into operation is provided in Table 10. This includes the costs of providing the capacity building and training set out in Chapter 8 and others. The total estimated costs for mainstreaming environment into the DNA subcomponents are Nrs. 68000000.00

Table 8-3 Estimated Budget for Implementation of the ESMF under DNA

Activities	Qty.	Unit	Rates (NRs)	Total	Remarks
Technical assistance support for preparation of ToR, selection of E&S staffs and Preliminary works for implementation of ESMF	3	MM	200000	600000	Assume 1 person shall accomplish E&S inception activities at PMU & PIT
PMU Envi risk management experts (Envi Specialist)	48	MM	200000	9600000	Assume 1 person will be in place at PMU
PMU Socials safeguards risk management experts (Soc. Dev. Specialist)	48	MM	200000	9600000	Assume 1 person will be in place at PMU
PIT ESS - Envi & Social risk management officer (Env cum Social development officer)	4*4 8	MM	100000	19200000	Assume 1 person will be in place at PMU for both E&S compliance
Cost for material production		LS	2000000	2000000	Assume Nrs. 500000 will be used for first every four years
Capacity Development Training as per Section 8.3	5	nos	1000000	5000000	
Cost for implementation of SEP	LS	-	-	20000000	-
Establish baseline and monitoring of Air, water and noise level standards	LS	-	-	2,000,000	Establish baseline for each category and their periodic monitoring as required by ESMP of respective sub projects
Total	NRS.			68000000	
	In USD			-----	

ANNEX 1: ENVIRONMENTAL AND SOCIAL SCREENING FORM TEMPLATE

Environmental and Social Screening Form

Name of Subproject: _____

Type of Subproject (check):
☐ Data Centre Subproject
☐ Deployment of Fibre Optic
☐ Tower construction
☐ Others specify- _____

Location of Subproject:(Ward, Municipality, Province):

A. Eligibility Criteria

Criteria Question	Answer (Yes/No)
1. Does the Subproject contravene Nepal's obligations under its international commitments as stated in section 3.4?	
2. Is the Subproject going to encroach into national parks of protected area, including their buffer zone, wet land and special area for protecting biodiversity?	
3. Is the Subproject going to displace, modify or restrict/block access to cultural heritage sites, historical monuments, religious structure and other sites considered sacred by the local community?	
4. Is the Subproject going to convert or degrade critical natural habitats and critical habitats?	
5. Would the subproject involve clearing of trees in larger number covering wider forest area?	
6. Would the subproject involve in generating large volume of e-waste casing significant irreversible adverse impacts to human health and natural resources.?	
7. Would the subproject require the acquisition of any private land by any government body/unit?	
8. Is the subproject affect lands or rights of indigenous people or other vulnerable minorities ?	
9. Would the subprojects result in the exclusion/restriction of certain groups including IP who are traditional users, from accessing an otherwise open-access resource which they have traditionally accessed such as public forests, lakes or rangelands?	

Note: If the answer of at least one of the questions above is "Yes", then the subproject is NOT ELIGIBLE FOR FUNDING.

B. EPA/EPR Categorization Please consult Schedule 1, 2 and 3 of EPR (2020) or the latest MoFE Screening/Scoping Protocol relevant to the Subproject, if any. Attach the completed protocol to this ES Screening Form.

What is the Subproject's type (Check)?	EA Process Requirements
<input type="checkbox"/> Schedule 3?	The subproject would be required to undertake the national regulatory requirements of the EIA process and approved by MoFE or concerned provincial authority prescribed by provincial law.
<input type="checkbox"/> Schedule 2?	The subproject would be required to undertake an IEE as per national requirements to be approved by appropriate agency
<input type="checkbox"/> Schedule 1?	The subproject would be required to prepare a Brief Environmental Study and to be approved by appropriate provincial or local government agency

For potential sub-projects that do not fall under any Schedule due to their nature or cost, no environmental report will be required to be prepared under EPR 2020 requirements. However, the subproject will still be required to follow WB ESS requirements in terms of any assessments.

C. Issues

Questions	(Yes/No)	Remarks
1. Labor and Working Conditions		
1.1 Is the number of laborers to be hired more than 50 at the peak of the activity/construction?		
1.2 Would the subproject during operations phase involve operation of equipment/ tools?		
2. Pollution Prevention and Resource Efficiency		
2.1 Would the subproject involve substantial amount of earth works or hauling of materials?		
2.2 Would the subproject when operational generate substantial amount of liquid waste?		
2.3 Would the subproject when operational generate substantial amount of air emission?		
2.4 Would the subproject when installation and operational generate substantial amount of e- waste?		
3. Community Health and Safety		
3.1 Would the subproject likely involve hiring/bringing in more than 10 laborers from outside the community during construction?		
3.2 Are there endemic infectious or vector-borne diseases in the project community?		
3.3 community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to community or where their failure could result in injury to the community throughout project construction, operation and decommissioning.		
4. Biodiversity and Sustainable Management of Living Natural Resources		
4.1 Would the subproject cause use of forest product like fuel wood and other encroachment to natural resources ?		
4.2 Would the sub project lead to illegal hunting/poaching ?		
4.3 Would the sub project lead to temporary use or clearance of vegetation?		
5. Involuntary Resettlement and Restriction of Access		
5.1 Are there residential structures within proposed site or right-of-way of the subproject?		
5.2 Are there crops and privately-owned trees in the proposed subproject sites or rights-of-way?		
5.3 is there any livelihood structures or resources to be impacted within proposed site or right-of-way of the subproject?		
6. Indigenous People*		
6.1 Is there presence of indigenous people (as defined in the World Bank ESF*) within the direct influence area of the subproject?		
6.2 Are there other ethnic minorities that have been marginalized from the mainstream in the project site?		
6.3 Are there vulnerable households or households with vulnerable persons within the beneficiary community?		
7. Cultural Heritage		
7.1 Is there a cultural heritage site/structure within or adjacent to the proposed subproject site or along the right-of-way?		
7.2 Would the subproject involve excavation and there is a high probability of encountering buried archaeological artifacts or objects paleontological value on the project site?		

Indigenous Peoples refer exclusively to a distinct social and cultural group possessing the following characteristics in varying degrees:

1. Self-identification as members of a distinct indigenous social and cultural group and recognition of this identity by others; and
2. Collective attachment to geographically distinct habitats, ancestral territories, or areas of seasonal use or occupation, as well as to the natural resources in these areas; and
3. Customary cultural, economic, social, or political institutions that are distinct or separate from those of the mainstream society or culture; and
4. A distinct language or dialect, often different from the official language or languages of the country or region in which they reside.

The term still applies even if the group has already lost, within the lifetime of the members, collective attachment to distinct habitats or ancestral territories in the project area due to forced severance, conflict, government resettlement programs, dispossession of their land, natural disasters, or incorporation of such territories into an urban area. The term also applies to forest dwellers, hunter-gatherers, pastoralists or other nomadic groups, subject to satisfaction of the criteria above.

D. Summary of Screening Results

1. Eligibility (Base on item A above, please check those that apply below).

☐ This Subproject is eligible for funding as per eligibility criteria.

☐ This Subproject cannot be considered for funding due to (Please describe the reason/s):

☐ This Subproject is deemed ineligible for funding but may be revised and resubmitted for re-Screening with a change/changes on the following (Please specify the required changes):

2. Subproject will need to prepare the following instruments (Please check the ones that are required based on the answers in item B and C above):

☐ ESIA/EIA ☐ Others please specify ☐ IEE

☐ BES

☐ ESMP

☐ RAP

☐ IPP

☐ LMP

☐ Change Find Procedure

☐ Grievance Mechanism

3. Scope of the assessments. Note that all subprojects must undergo some assessments (i.e. EIA/ESIA, IEE and Brief Environmental Study. (Check the items that apply to the assessments. The assessments shall discuss/determine the significance of the risks regarding the checked items and mitigation measures will be developed in proportion to identified risks, the ESMP must include a mitigation measure on that specific risk.)

☐ Labor and Working Conditions

☐ Occupational Health and Safety Risk

☐ Child Labor

☐ Pollution and Resource Efficiency

☐ Dust nuisance

☐ Noise nuisance

☐ Waterway sedimentation

☐ Generation of wastewater

☐ e- waste

☐ Vulnerable households

☐ Presence of households below National poverty threshold

☐ Households with small children

☐ Households with person with disability

☐ Community Health and Safety

☐ Risk of spread of diseases (Prevalence of HIV/AIDs, Other endemic infectious or vector-borne diseases in the community).

☐ Construction traffic and traffic routes

- ___ Exposure of residents to safety issues at construction sites
- ___ Risk of migrant workers clash with local community culture
- ___ Land Acquisition, Involuntary Resettlement and Restriction of Access
- ___ Acquisition of private lands/properties by a government entity
- ___ Displacement of homes
- ___ Displacement of trees and damage to crops
- ___ Temporary possession of private properties during construction
- ___ Indigenous People
- ___ Presence of IP (as defined in WB ESS7)
- ___ Stakeholder Engagement and Disclosure
- ___ Stakeholder analysis
- ___ Stakeholder engagement plan and disclosure
- ___ Subproject level Grievance Mechanism

Prepared by: _____

Screening Officer/Proponent ES Focal Person

Verified by: _____

Environmental Specialist

ANNEX 2: ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP) TEMPLATE

Environmental and Social Management Plan for Subproject

[Note: the ESMP will cover all impacts identified in the environmental and social assessment. For subprojects that do not require an ESMP, guidance will be developed]]

Name of Subproject: _____

Address (Ward, Municipality, Province):

Type of Subproject (): _____

Implementation unit: _____

I. Project Information

This should include maps and pictures and a clear description of the sub-project

A. Subproject Components and Scale

Component (Specify if: Data centres, towers, deployment of optical fibre etc.)	Parameter (Specify if: Length, Width, Area, Capacity etc.)	Unit of Measure (km, m, kg, tons, etc.)	Value
<i>Examples:</i>			
Building	Floor area	sqm	100

B. Subproject Location

Component (Specify if: Building, access Road, equipment, , etc.)	Describe the site (Salient features such as topography, presence of/proximity with waterbody/drainage, vegetation, existing structures, roads, settlements, other locational issues, ownership status of lot, etc.)
<i>Examples:</i>	<i>Example:</i>
Building	Flat, built up area along the highway.

II. ESMP Matrix

(Note: Please refer table 5.1 for details for generic impacts and mitigation measures)

Activities	Impacts/Risks	Assessment (Check Yes or "Not Applicable" Briefly describe why.)	Management Measure (Identified Impacts/Risk must have mitigation measure)	Responsibility	Timeline	Budget
Pre-Construction Stage						
Construction Phase						

Operation Phase						

ANNEX 3: RESETTLEMENT POLICY FRAMEWORK

A. Overview

The Digital Nepal Acceleration (DNA) Project aims to expand inclusive access to broadband connectivity, and to strengthen the digital enablers to improve the resilience of businesses, governments, and households with the national coverage. It will support for Digital inclusion ensuring that all individuals and businesses have access to affordable, high-speed connectivity and secure digital services with wider coverage. It aims to address the gap and initiatives and consequent support to digitize eight sectors including health, education, agriculture as identified by Digital Nepal Framework (DNF) 2019. The list of project development activities are packaged in three components namely; Component 1: Enhancing Broadband Infrastructure, Component 2: Building Digital Capabilities and Component 3: Supporting Digital Transformation.

Under different components of works major broad band infrastructure; Data centres are expected to establish in government land. Government Land for two locations; Khumaltar and Kohalpur for establishing data centre is already received and whereas land for other locations of data centres is being searched. It is agreed that the unused government land will be used for this propose. Similarly, the broadband networks; deployment of fibre optic will not acquire land for permanent purpose and therefore it is not expected that land acquisition will be required, such that any permanent or temporary physical or economic displacement is not expected. However, given that site-specific subproject activities under the project have not been determined, and that there may be some small amount of potential land acquisition for future subprojects, this Resettlement Policy Framework (RPF) has been prepared to guide any required resettlement activities. In this circumstance, potential negative impacts include the relocation of squatters, encroachers and street markets existing with the area of the proposed physical improvement works including, households notably poor and vulnerable households, and small businesses. However, any displacement is likely to be small-scale and any impacts avoided or mitigated.

This RPF represents a “living document” which can be revised throughout the project lifecycle based on the new project information. Given the rapid nature in which the ESMF, including the RPF, was prepared, comprehensive consultations with project stakeholders, including poor and vulnerable groups, and Indigenous groups, have not yet been carried out. These consultations will be undertaken prior to project effectiveness. Details and outcomes of these consultation, including how they have been incorporated into project design, will be captured in revised iterations of the SEP, this RPF and other relevant environmental and social management plans prepared for the project.

As any further potential resettlement impacts are determined, this RPF will be updated, consulted upon by stakeholders including community members, and re-disclosed.

B. Land acquisition and resettlement policy under the project

This RPF sets out the policies, processes, and procedures for addressing and managing impacts for involuntary resettlement impacts occurring under the DNA. The project’s land acquisition and resettlement policy is based on the World Bank’s Environmental and Social Standard (ESS) 5 on Land Acquisition, Restrictions on Land Use and Involuntary Resettlement, particularly: (i) the provision for the avoidance or minimization of involuntary resettlement impacts; (ii) the preparation of a Resettlement Action Plan (RAP) which would allow for the consultations of PAPs and consideration and resettlement options; (iii) support to be provided to poor and vulnerable groups. Whilst as noted above land acquisition is not expected under the project, the following will apply to any subprojects in the case where environmental and social screening determines that there will be some involuntary resettlement, as undertaken during project identification. This RPF will guide preparation of RAPs proportionate to the potential subproject risks and impacts. Project activities that will cause physical

and/or economic displacement will not commence until such specific plans have been finalized and approved by the World Bank.

The objectives of ESS5, which are also applied to this project, are as follows:

- Involuntary resettlement will be avoided, or when unavoidable, will be minimized by exploring project design alternatives
- Forced eviction will be prohibited
- Unavoidable adverse social and economic impacts from land acquisition or restrictions on land use will be mitigated by: (a) providing timely compensation for loss of assets at replacement cost⁶, and (b) assisting displaced persons in their efforts to improve, or at least restore, their livelihoods and living standards, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of the project implementation, whichever is higher
- Living conditions of poor or vulnerable persons who are physically displaced will be improved through provision of adequate housing, access to services and facilities, and security of tenure
- Resettlement activities will be conceived and executed as sustainable developed programs, providing sufficient investment resources to enable displaced persons to benefit directly from the project, as the nature of the project may warrant
- Resettlement activities will be planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.

The RPF provides guidance to the project management unit (PMU) including Environmental and Social Specialists and Project Implementation Unit (PIT) along with safeguards and other project staff, and project stakeholders and beneficiaries, in the acquisition and compensation of private property and in the management of involuntary resettlement impacts arising from these acquisitions. This is, in particular, to address the needs of individuals and households who are potentially adversely impacted due to involuntary resettlement. This may involve impacts triggered by the acquisition of land and other private property for the purpose of implementing activities under the project, resulting in the loss of shelter, assets, livelihoods and/or loss of productive resources.

Each RAP should be based on identifiable, basic information collected, and will include the following aspects: those whose houses are wholly or partly affected by proposed civil works (who may or may not be residing on government land); those who commercial enterprises wholly or partly affected by proposed civil works (which may or may not be on government land); crops and ground attachments wholly or partly affected by the project. All impacts may be permanent or temporary.

C. Preparation and approval of Resettlement Action Plans

Where a subproject environmental and social screening determines that there will be involuntary resettlement impacts, the PIT will prepare a resettlement action plan (RAP) in accordance with this RPF, and submit these to the PMU and World Bank [confirm process for approving RAPs] for review and clearance. The preparation and implementation of the RAPs (including the payment of all resettlement costs) will be the responsibility of the PIT. The RAPs will cover the following information:

- General description of the subproject and identification of potential impacts
- Objectives of the resettlement program
- Census survey and baseline socioeconomic studies: The findings of socioeconomic studies to be conducted in the early stages of subproject preparation and with the involvement of potentially displaced people
- Legal framework: the findings of an analysis of the legal framework, covering the scope of the power of eminent domain and the nature of compensation associated with it, the applicable

⁶ See ESS5 footnote 6 for a definition of “replacement cost”

legal and administrative procedures, environmental and social legislation and regulation and any legal steps necessary

- Institutional framework: including the identification of agencies responsible for resettlement activities and non-government organizations (NGOs) that may have a role in project implementation; an assessment of their institutional capacity, and any steps that are proposed to enhance their institutional capacity
- Eligibility: definition of affected persons and criteria for determining their eligibility for compensation and other resettlement assistance
- Valuation of and compensation for losses
- Community consultation and participation
- Implementation schedule, costs and budget
- Grievance mechanism: affordable and accessible procedures for settlement of disputes arising from resettlement
- Monitoring and evaluation

Only after the NPC and the World Bank have accepted RAPs can resettlement and rehabilitation activities begin. Such activities must be completed before commencement of civil works.

D. Legal Framework

The legal framework guiding the implementation of RAPs is based on World Bank's ESS5 and applicable laws, regulations and policies of the national level.

National legislation and policy

Nepal has various legislation and regulations at the national level to guide land acquisition and resettlement activities. Key national legislation and policies which the project will need to follow in the case of any land acquisition are as follows:

Key relevant provision under national framework

Legislation/policy	Key relevant provisions
Constitution of Nepal 2015	Article 25(1) establishes the right to property for every citizen of Nepal, whereby every citizen is entitled to earn, use, sell, and exercise their property rights under existing laws Article 25 (2) provides that except for public interest the state will not requisition, acquire or otherwise create any encumbrances on property of a person Article 25 (3) provides that when the state acquires or establishes its right over private property, the state will compensate for loss of property and the basis and procedure for such compensation will be specified under relevant laws
Land Acquisition Act 1977	The key legislation for land acquisition and resettlement. The Act empower the GoN to acquire land for development purposes through payment of compensation to landowners. Some key provision: Compensation is generally provided in cash (lump sum) at market value, or land for land where land is available. The public notification process is undertaken by the executing agency. To determine compensation amount, a Compensation Determination Committee (CDC) is established under the chairmanship of the Chief District Officer In determining the compensation, the CDC considers the loss incurred by persons due to land acquisition process, shifting of residence or other place of business
Land Reform Act 1964	The Act establishes the rights of land-owners and tenants over land. Key provisions include that a landowner may not be compensated for more than he is entitled to under the law; it also outlines compensation rights of registered tenants on land sold by the owner or acquired for development purposes. When the state acquires land under tenancy, the tenant and landlord are entitled to 50 percent of the compensation amount.
Land Revenue (land administration and revenue) Act 2034	Provides for the administration, maintenance of land including keeping of records, collection of land revenue and settlement of land disputes. It authorises the Land Revenue Office (LRO) to undertake registration, ownership transfer and deed transfer of land.

Land Use Policy 2015	A policy documents of the GoN regarding the limits and protection of land and land resources, optimum use and management.
Land Acquisition, Resettlement and Rehabilitation Policy for Infrastructure Development Projects, 2015	Key relevant points: Persons affected by land acquisition should be provided with training on life skills, income generating activities, saving and credit schemes to enable affected persons to establish their own business Vulnerable groups including IP groups, landless, women, differently-abled groups should receive special benefits and assistance packages in addition to compensation and resettlement

Gaps between the national system and ESS5

There are a number of notable gaps between national legislation and ESS5 is that national legislation. These include a narrow definition of eligibility, which for example does not include squatters/information settlers, eviction may be permitted under some circumstances, there is no compensation for temporary displacement with few exceptions, requirements for consultations are focused on public notices and hearing, and there are no regulatory commitments in terms of livelihoods restoration. Key gaps are provided below:

Key gaps of national system with ESS5

Aspect of resettlement	Relevant provisions under ESS5	Gaps with ESS5 and national system
Planning	Preparation of Resettlement Action Plan required through participatory process or consultation	No explicit requirement for design, preparation and disclosure of resettlement plans (list of compensatees must be published)
Consultation and participation	Requirement for the disclosure of relevant information; meaningful consultations with affected persons communities, and other stakeholders; consultations must be on-going and inclusive	Scope of consultations is limited and linear; emphasis on public notices and public hearings; no requirement for ongoing consultations with affected persons and other stakeholders
Mode of acquisition	Forms include: negotiated purchase; donation; expropriation	Forms include: negotiated purchase; donation; expropriation. Eviction is permitted under some circumstances
Impacts considered	These impacts include: loss of assets; disturbance costs and associated expenses; loss of access to resources; and broader socio and economic consequences (physical and economic displacement)	Impacts considered are limited to: loss of assets; and disturbance costs and associated expenses
Compensation	Options developed in consultation with PAPs through consultation. Cash or in-kind at 'replacement value' eg replacement land, replacement houses, rehabilitation program, community/livelihood support program (for economically displaced), other forms of assistance Compensation provided for temporary acquisition or restrictions on use of land	Cash compensation favoured. Replacement land in defined circumstances, for example, if land is available, at discretion of GoN Compensation valued at prevailing 'market rate' as against 'replacement value' No compensation for temporary acquisition or restriction of use of land with few exceptions No regulatory commitments in relation to relocation (housing), livelihood restoration
Delays in accessing compensation	On an exceptional basis, with prior agreement from the Bank, the Borrower may deposit compensation funds as required by the RAP (plus a reasonable amount for contingencies) into an interest-bearing escrow account or other deposit account and proceed with the relevant project activities.	Time limit is prescribed for taking compensation
Vulnerable PAPs and gender considerations	Particular attention is paid to the needs of vulnerable groups. Consultations need to ensure that women's perspectives are	No special provision for vulnerable groups or gender considerations

Aspect of resettlement	Relevant provisions under ESS5	Gaps with ESS5 and national system
	obtained and that their interests are factored into all aspects of resettlement planning and implementation.	
Eligibility for compensation	All legal claimants and informal occupants and structures on land	Eligibility for compensation is narrowly defined - only legal claimants including registered tenants entitled to compensation; excludes 'squatters'
Grievance mechanism	Access to grievance mechanism required regarding any project related complaint, no time limit	Provided but restricted to a few key aspects/decisions and only for a limited period
Support during transition	Monitoring and evaluation system is required as part of the RAP; status of PAPs needs to be monitored and evaluated; transitional support provided to economically displaced as necessary	No such provisions provided

Key principles of this RPF are as follows:

Land acquisition and resettlement should be avoided, minimized and mitigated and compensated where feasible, exploring all viable alternative project designs

As of baseline survey, all affected persons are entitled to restoration to help them improve or at least restore their living standards, ability to earn income and production level; lack of legal title will not be a bar to their entitlement to resettlement measures;

All options for compensation should be kept open; decisions should be made only after detailed project analysis, meaningful consultation, and accepted by project affected households, based on full information made available to them about the implications of their various options; cash compensation will be the preferred form of compensation

All affected persons who are physical or economically permanently or temporarily displaced, including squatters and unregistered tenants, are entitled to full compensation at replacement value for lost assets and entitled to livelihoods restoration where impacted by economic displacement. All compensation will be paid promptly before evacuation. In the case of residential land, current market price of similar sized land must be provided together with transfer arrangements in the case of displacement, and cash compensation in the case of partial loss without displacement. Tenants residing on residential land will be compensated in cash and assisted in finding suitable alternative residence.

Wherever necessary, financial and material resources for resettlement and restoration must be available; the budget in the RAPs should include contingencies;

The institutional and organizational arrangements should ensure that assets and resettlement are designed, planned, consulted and implemented in a timely manner

The implementation of RAPs shall be supervised, monitored and evaluation effectively
Capacity building measures shall be detailed and provided to specialists and officers involved in assessing land acquisition impacts, and in designing and implementing RAPs.

E. Eligibility and entitlement

Eligibility

The purpose of preparing RAPs is to ensure that affected persons have sufficient opportunities to replace their lost assets, and to improve or at least restore their income level and living standard. To

realize this purpose, all affected persons should be identified, and the subproject should ensure that all affected persons consider that remedies outlined in the RAP are fair and appropriate.

The World Bank's ESS5 provides compensation for the loss of assets at replacement cost to both title and non-titled owners. Examples of non-titled owners include squatters, encroachers and unregistered tenants. Resettlement assistance and rehabilitation is also provided for lost income and livelihoods. Special measures will be taken for any poor and vulnerable affected persons. Vulnerable persons are those who because of their particular circumstance may be disadvantaged. Under the project, vulnerable persons include: IP groups, Dalits, women (including female-headed households, women of low-income households, landless women), children, youth and the elderly; people with disabilities; those who identify as lesbian, gay, bisexual, transexual, or intersex (LGBTI); religious minorities; and households living in poverty.

Persons affected by land acquisition, and relocation and/or rehabilitation of assets are entitled to a combination of compensation measures and resettlement assistance, depending on the nature and extent of loss and impact, to enable them to return to their pre-displacement levels. The cut-off date for eligibility for entitlement is when the census survey is complete. Persons encroaching into the area after this time are not entitled to compensation or other form of resettlement assistance. During planning and design of subproject activities, efforts will be made to minimize the impacts on land, people and property. However, where screening determines that land acquisition will be required, processes in line with this RPF, ESS5 and national legislation will be followed.

Entitlement matrix

The general entitlements of PAPs by ownership status and type of asset affected are outlined in below. This entitlement matrix is a generic representation of entitlements in compliance with ESS5. A complete entitlement matrix will be prepared as part of the site-specific RAP and may contain different entitlements, depending on local conditions. This entitlement matrix is prepared based on the expected resettlement impacts, if any, which will likely be restricted to small areas of land, or locations on which squatters are located for either housing or commercial purposes.

Entitlement matrix applicable for the project

Type of loss	Status of PAP	Entitlement
Permanent loss of private land	Titleholder Encroacher	Cash compensation for affected assets or land-for-land compensation; resettlement assistance in lieu of compensation for land occupied; compensation at replacement cost ⁷
Temporary loss of private land	Titleholder Encroacher	Compensation for crop, land productivity and other property losses for duration of temporary occupation, and for other disturbances Land to be restored to owner at end of temporary acquisition period, restored to its original or improved condition, as agreed with the owner
Displacement of informal dweller	Informal dweller/squatter	Compensation for structure of abode (if owned by the dweller) equal to replacement cost without depreciation; assistance in relocation; transportation assistance.
Loss of structures or part of house	Owner of affected structure	Replacement value without depreciation

⁷ Replacement cost is broadly defined as the market price plus necessary transaction costs associated with asset replacement

Permanent loss of business or livelihood source	Business/livelihood owner	Cash compensation of loss during disruption; resettlement allowance; livelihood development assistance/program as part of subproject
Temporary loss of business or livelihood	Business owner	Cash compensation for duration of loss of income
Loss of trees or crops	Recognised owner of trees and crops	Replacement value

Valuation of affected assets

Compensation for all affected assets will be determined based on replacement value. All affected assets will be recorded and verified in the presence of the owner of the assets. Geo-referencing of assets is also recommended. Each asset will be enumerated and inscribed on a register. The valuation of the assets will be undertaken by the Compensation Fixation Committees (CFC). Values will be captured in the register of affected asset and will be explained to the owner. When valuing assets, the CFC will take account of rates on the open market, and information gathering during consultations with PAPs to ensure that compensation is at replacement value. The final valuation will be based on the principle of improving, or at least restoring, their livelihoods and living standards, in real terms, to pre-displacement levels. Compensation payments will be made by cheque and deposited into the joint bank account (that is, husband and wife) of project-affected households. The RAP will include a detailed implementation schedule to outline the time by which resettlement-related activities will be completed which will ensure timely payment of compensation. Specific considerations taken into account include the following:

Considerations in valuing assets

Type of asset	Considerations
Land	Review recent value of land transfer Determine whether established rates are sufficient to purchase same size and quality of land in a similar location
Structures	Evaluate whether compensation will enable the PAPs to acquire or rebuild the affected structure, based on a review of: Types of structures, sizes, levels, land, in a similar location, and the nature and quality of materials used Cost of labour to rebuild Cost of materials and transport costs Comparison with other assets in area
Trees and crops	Collect information to determine average price of items eg currently market prices in consultation with District Agricultural Office and Division Forest Office

F. Public participation and consultation

Public participation will run through the whole process, especially through social assessment of affected assets, evaluation of assets, compensation determination and resettlement implementation. During the process of RAP preparation, consultations will be held with project affected persons, as well as with affected families, institutions, and representatives of directly affected municipalities. The Stakeholder Engagement Plan developed for the project outlines the measures for public participation and meaningful consultation with project stakeholders, including project affected persons, throughout the lifecycle of the project.

The RAPs must describe all measures taken or to be taken, involving the affected persons in the proposed resettlement arrangements. To ensure that affected persons opinions and suggestions are fully considered, public participation should be undertaken prior to project design and

implementation of relief measures. Engagement and consultation must run through the whole RAP planning, implementation and external monitoring process.

During RAP drafting and finalization stages, the PIT should disclose the RAP to the affected persons and in public place. Information should be disseminated throughout the project lifecycle using various channels including: printed information displayed on notice boards at municipal and ward offices, clinics and schools; via radio, and electronic media such as via Facebook. Information should be disseminated in local languages where relevant.

Special measures will be followed to ensure meaningful participation and consultation with poor and vulnerable groups including women, Dalits, and IP groups who are impacted by any land acquisition activities. Different forms of consultations will be undertaken with these groups, and may involve consultations with representatives of these groups, to identify particular concerns around the land acquisition activities, and to ensure the any compensations measures required for these groups are appropriately designed and provided. Relevant information will be disclosed in the local language as required. The timing and location of consultations with these vulnerable groups will be determined as appropriate to the needs of the groups. A summary of the RAPs will be disclosed in local languages as required, and in locations accessible to all stakeholders and in particular poor and vulnerable groups.

G. Grievance mechanism

A project-level grievance mechanism (GM) system will be established to enable stakeholders to raise any questions or concerns. In particular, the GM will allow the questions and grievances in relation any land acquisition or compensation process to be raised and addressed. As part of consultations, PAPs will be made aware of the GM and their ability to access the GM to raise complaints in regards to land acquisition such as asset valuation, compensation entitlement and livelihoods programs. The GM is outlined further in the SEP and comprises a multi-step process for the raising and escalation of complaints, where complaints are unsatisfactorily addressed. The PIT will designate a grievance officer at the subproject level to receive, record, conduct evaluation, and forward grievances as required for resolution to the appropriate committee or body. As per capacity building mechanisms in the ESMF and SEP, the grievance officer will receive training on dealing with grievances related to land acquisition and resettlement, and livelihood restoration. In addition, the grievance officer will be orientated on basic legislation related to land acquisition, gaps in comparison to ESS5 and international good practice, and additional measures that may be required to meet the ESF. The project will blend with local committees at the ward level to hear and resolve grievances. Grievances that cannot be resolved at the ward level will be escalated to the PIT, and then to the PMU as required. If the PAP is not satisfied with the resolution received under the project GM, the PAP may escalate to the PM. More information around the function of the GM will be detailed in each RAP. PAPs are also able to file complaints directly with the Chief District Officer (CDO) regarding the amount of compensation being offered and after the list of land acquisition has been published, a 15-day window to file an appeal with the Ministry of Home Affairs (MoHA) through the CDO for exclusion in the land acquisition. If the PAP is not satisfied with a decision reached in the GM they may submit at any time their complaint through the judicial system.

H. Monitoring and evaluation

Subprojects will have their own individual monitoring plans regarding land acquisition and resettlement activities and will be provided in the RAP. The PIT and PMU will undertake internal monitoring and supervision and will: check the progress of implementation, including checking baseline information, valuation of asset losses, and the implementation of compensation and resettlement according to the RF and the RAP; monitoring if the RAP is being implemented as designed; check if funds for RAP implementation are appropriately timed and full used in a manner consistent with the RAP; record all complaints and ensure their resolution in a timely manner. The

PMU will provide monitoring reports including on any RAP activities. The PMU will appoint an independent agency to undertake external monitoring as required to perform periodic M&E to assess the extent to which RAP objectives and activities have been met.

I. Institutional arrangements

At the central level, a project management unit (PMU) established within the MoCIT will be responsible for day-to-day management of the project, monitoring of activities and production of implementation progress reports and assessments. Specifically the PMU will include an Environmental Specialist and a Social Development Specialist responsible for managing environmental and social risks and impacts, and Gender and GBV related issues. The respective PIT will be responsible for overall planning, budgeting, approval with due consent from PMU and implementation of RAPs developed for subprojects. The Social Development Specialist (at PMU) in particular will oversee the screening of subprojects including on any land acquisition and resettlement impacts, where such impacts arise, will oversee the preparation of the RAPs in line with this RF, ESS5 and national systems. This includes ensuring that poor and vulnerable people are appropriately and meaningfully consulted in resettlement preparation and implementation activities. The PIT will be addressed all aspects relating to resettlement and land acquisitions in close consultation and collaboration of the PMU environmental and social specialists.

Non-government organizations (NGOs) experienced in resettlement, rehabilitation and livelihoods restoration will be engaged to provide support in implementing RAPs including implementing specific activities and undertaking consultations and information dissemination.

J. Capacity building

The PMU/MoCIT as lead implementing agency does not have adequate experience working as an implementation agency with the World Bank, including in undertaking land acquisition and resettlement activities under World Bank-supported projects. Details of capacity building on implementation of the RPF is captured within the project Environmental and Social Management Framework (ESMF). For the individual subprojects involving land acquisition, the PIT will be required to nominate a focal person on land acquisition activities. This focal person shall be required to attend orientations on RPF implementation before preparation of the subproject, in particularly on eligibility, RPF criteria, and gender considerations. The focal person will also be required to attend other relevant trainings to be conducted during project implementation. The PIT and PMU, in particular the Social development Specialist, will be required to undertake any capacity building sessions on the ESF, and in particularly on ESS5, including in assessing impacts on land, identifying affected persons, undertaking consultations, determining compensation, and implementing RAPs. Any NGOs supporting the implementation of resettlement activities will also be required to undergo orientation and trainings in resettlement policy particularly on the World Bank's ESS5.

ANNEX 4: SUBPROJECT ESMP COMPLIANCE REPORT TEMPLATE

Subproject ESMP Compliance Report

Reporting Period: _____

Name of Subproject: _____

Address (Ward, Municipality, Province): _____

Type of Subproject (): _____

Name of Implementing Organization: _____

Impacts/Risks	Management Measure	Status/Implementation Issue/Constraints
Land Acquisition and Involuntary Resettlement		
Presence of Indigenous People		
Potential Chance Discovery of Artefacts and Objects of Paleontological and other scientific Value		
<i>Labor and Working Conditions</i>		
Hiring and/or involvement of children in the project activities		
Worker's exposed to unsafe working environment in construction and operation of project-funded facilities		
Workers being denied of employee rights		
Possible occupational health and safety issues in the operation of data centres and other facilities		
<i>Pollution Prevention</i>		
Generation of dust and noise during construction of subprojects		
Possible sedimentation of waterways during construction of subprojects		
Potential erosion of slopes particularly road cuts and embankments as well as slope cuts on sites of buildings and facilities		
Possible generation of wastes during the construction and operation of project-funded facilities		
Possible generation of e-waste during the installation and operation of project -funded facilities		
<i>Community health and safety</i>		
Spread of diseases among residents and workers such as HIV/AIDs during construction due to presence of non-resident laborers, triggering outbreak of epidemics		
Possible conflict between contractors and local communities due to lack of sensitivity of local culture		
Exposure of local communities to safety issues due to construction activities (e.g. traffic accidents or a fall into deep excavations)		
Other issues if any		

ANNEX 5: RESPONSIBILITY AND OBLIGATIONS OF CONTRACTORS FOR SUBPROJECTS

Checklist of ES Risk Management Obligations for Contractors of Subprojects

[This checklist shall be reflected and/or made part of the contractor's contract]

The Contractor of the Subproject shall be responsible for complying with the following:

1. The implementation of the management measures in the Subproject's Environmental and Social Management Plan (ESMP) for which the Contractor is identified as responsible.
2. Compliance with the Nepal Labor Act (2017) and ILO/International Labor Standards, giving special attention to the following:
 - i. Compliance with Occupational Health and Safety (OHS) Regulations of the Department of Labor and Occupational Safety. The contractor should provide to its workers: (a) appropriate gears and personal protective equipment (PPE); (b) access to safe drinking water; and (c) toilet and washroom facilities at workers' camp.
 - ii. No hiring of minors below 14 years of age. Minors below 18 years old shall not be assigned to perform heavy or hazardous tasks or to work in hazardous areas. Minors should not be required to work beyond standard working hours.
 - iii. No gender-based or caste-based discrimination in hiring of workers and in the provision of wages and benefits.
3. It shall be the responsibility of the Contractor to ensure that all its subcontractors including labor subcontractors comply with the Labor and OSH Standards. The Contractor shall be responsible for Health and Safety, and SEA/SH prevention and mitigation of all workers in the construction site, including workers hired through informal labor contracting (e.g. Naike system).
4. The Contractor should provide a Grievance Mechanism which are accessible to all its workers on site. It should designate a Grievance Officer among his HR personnel to receive grievances from workers, and to relay the same to the concerned managers.
5. The Contractor shall brief its workers about local endemic diseases and how to avoid contracting them.
6. The Contractor shall adopt the following Code of Conduct for their workers. The Code of Conduct will be signed by each worker and it will be displayed where easily visible to all workers.

Worker's Code of Conduct for Subprojects

A. Health and Safety at Work and Living Quarters

- i. Wear prescribed Personal Protective Equipment (PPE) when required by Superiors or Safety Officers.
- ii. Be aware of endemic diseases in the area and take the necessary precautions as provided by your Health and Safety Officer
- iii. Avoid wading through streams and pools of water if area is infested with Schistosomiasis.
- iv. Use mosquito repellent lotion when working in Malaria infested area. Use mosquito nets when sleeping at night.
- v. Avoid open defecation or urination. Use latrines or sanitary toilets when available at work site.
- vi. Practice personal hygiene daily.
- vii. Inform your employer of any personal health issues and conditions. Immediately inform your Health and Safety Officer when feeling sick. Separate living quarters, toilets and facilities for male and female workers. 24-hour well-lit camp site, quarters, facilities.

B. Community Relations and Community Health and Safety

- i. Slow down your vehicles in residential area. If you are not the one driving, remind your driver to do so.
- ii. Respect the local culture: customs and traditions. Be aware of the local regional sensitivities.

- iii. Respect women. Avoid making remarks or actions which could be misconstrued as sexual harassment and abuse. No catcalls. Lewd and lascivious remarks and behaviours towards women in the workplace or in the community are strictly prohibited.
- iv. Do not engage in debate over religion or politics with any community member.
- v. At work, do not discriminate any members of your team, including community hired workers and volunteers. Treat everyone as equals.
- vi. Any act of SEA/SH violation (with children, members of the community of the project area, inside and outside working area and during and after working hours) will result in the breach of contract and punishable by existing laws.

C. Sanctions

Anyone caught violating this Code of Conduct shall be subject to appropriate disciplinary actions.

ANNEX 6: APPLICABILITY OF THE RELEVANT ESSs FOR THE PROJECT

WB ESS	Relevancy	Overview of Relevance of the ESS	Addressing the ESS
ESS 1: Assessment and management of environmental and social risks and impacts	Relevant	Project activities include civil works and E&S risks, and impacts are expected. Environmental risks of air and water pollution and construction waste are anticipated from establishment of data centres, cyber security centres, constructing towers, trenching for deployment of fibre optic and other broadband infrastructure. The potential impacts anticipated will be OHS of workers, the generation of construction waste, dust and noise pollution and other nuances during civil works.	An Environmental and Social Management Framework has been drafted to provide procedures in addressing and mitigating these risks. The ESMF will guide the further E&S screening and assessment of the sub project level activities.
ESS 2: Labor and working conditions	Relevant	Large labor influx is not expected, and given the nature of work, the majority of workers are likely to be recruited locally. Potential associated labor risks include non-payment of wages and benefits, discriminatory employment practices, OH&S issues including clearing of construction and medical waste, workplace accidents, grievances amongst the workers, and SEA/SH including risks associated works taking place in the vicinity of school.	The risks of community health and safety and occupational health and safety are relevant due to operating in a pandemic environment. As the very limited capacity and practices to handle the testing and treatment of COVID patients, the risks of disease transmission among workers and communities, particularly through asymptomatic carriers, are very high. Labor management Procedure (LMP) incorporating aspects of National Labor Act 2074 and Labor Rules, 2075 and, non-discrimination and equal opportunity, grievance mechanism to all workers, OHS protocols (especially those working under existing and post COVID-19 situation, using disinfection equipment and chemicals, etc) and SEA/SH Risk Mitigation Action Plan have been developed
ESS 3: Resource efficiency and pollution prevention and management	Relevant	The project will contribute in producing emissions, construction wastes, e-waste and solid waste from influx camp and shall contaminated soil, water and ambient air. The waste particularly generated from improvement and rehabilitation of broadband infrastructures are hazardous nature and greatly trigger the standard.	The ESMF includes sections on Pollution Prevention and Management with a focus on those issues which might arise while carrying out project activities. Relevant measures, including for impacts deriving from the disposal of e waste will be integrated into ESMFs.
ESS 4: Community health and safety	Relevant	As the construction activities; small scale civil works and installation of hardware may result in the presence of workers with the potential to impact community health. Project activities shall trigger geographical coverage of broadband fiber-optics and installation of towers will result in excavations consisting of trenches. Open trenches can cause risks to community safety especially in the settlement area.	The ESMF includes the assessment of risks and impacts to the community such as excessive construction noise and dust levels, e-wastes, site safety awareness, and access restrictions and mitigation measures by adopting adequate OHS and community health and safety protocols for WBG EHS Guidelines. It also includes a detailed SEA/SH outlining potential risks and

WB ESS	Relevancy	Overview of Relevance of the ESS	Addressing the ESS
		Increased traffic movements due to subproject and digital equipment installation activities may also cause community safety hazards. Improperly managed electronic waste stream generated by subproject supported activities may also pose public health risks in the long term.	specific mitigation measures during different stages of the project.
ESS5: Land acquisition, restrictions on land use and involuntary resettlement	Relevant	The project does not include activities that would require land acquisition, leading to the physical or economic displacement of the people. Since upgrading and improvement broadband infrastructures works will take place on existing premises and) temporary restriction of access to land/property and there could be some temporary restriction of access to land/property and livelihood impacts during construction of new data center and laying of fiber optic cables depending on the length and location of the cables (e.g. roadside vendors);	A Resettlement Framework is prepared as part of the ESMF to provide guidance for any temporary displacement.
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant	The sensitive terrestrial habitats including national parks shall be located close to construction of digital facilities/infrastructure by the private or public sector could affect sustainable use of natural resource. There could be temporary and permanent impacts to habitat could be more significant during construction and installation of linear infrastructure, such as long-distance fiber-optic cables, cell towers as well as access roads to infrastructure along previously undeveloped land. This ESS 6 is relevant as the project activities are anticipated to affect or involve the impacts on biodiversity or natural resources.	The ESMF includes the assessment of risks and impacts to biodiversity and natural resources. Siting of construction in buffer zone and minimum distance requirement from natural habitats (forestry, wetlands, parks, etc.) for the construction to become ineligible for project financing. However, there may be temporary use and clearance of vegetation, encroachment to forest, and poaching to wild lives shall occur and will be mitigated with site-specific mitigation measures in the ESMP to be developed for respective sub projects
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant	Nepal is culturally diverse country, hosting multiple ethnic groups including 59 indigenous groups or nationalities across all provinces. Of the total population, the indigenous people account for about 37 percent. The project is unlikely to pose adverse impacts to indigenous people as the project doesn't aim to acquire or put the restriction in the use of land or take land on a lease that belongs to indigenous peoples for the project activities. However, the possibility of exclusion or restriction of indigenous peoples to the project's benefits and medical services cannot be ruled out.	ESMF provides specific measures to ensure there is meaningful consultation with representative institutions of relevant affected indigenous peoples at different levels and to ensure they are not deprived of opportunities offered by the project.

WB ESS	Relevancy	Overview of Relevance of the ESS	Addressing the ESS
ESS8: Cultural Heritage	Relevant	The construction of digital facilities/infrastructure by the private or public sector shall be located close to important cultural heritage and resources and potential impacts to the resources could be more significant during construction and installation of linear infrastructure, such as long-distance fiber-optic cables, cell towers.	The ESMF includes the assessment of risks and impacts to cultural heritage and resources and will purpose a specific mitigation measures in the ESMP to be developed during different design of the project.
ESS9: Financial Intermediaries (FIs)	Not Relevant	No FI involvement is envisaged in the project.	N/A
ESS 10: Stakeholder Engagement and Information Disclosure	Relevant	The project will ensure that it will adopt a consistent, comprehensive, coordinated, and culturally appropriate approach for engaging stakeholders and disclosing project related information.	The project has prepared a Stakeholder Engagement Plan (SEP) to ensure that stakeholder engagement activities are effective and meaningful consultation is carried out including guideline for establishing a clear, safe and accessible procedures to identify and respond to SEA/SH, cases to project GM

The World Bank Group's Environmental Health and Safety Guidelines

The Environmental, Health and Safety (EHS) Guidelines of the World Bank Group are technical reference documents with general and industry-specific examples of Good International Industry Practice and applied as required by their respective policies and standards. The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs. Application of the EHS Guidelines to existing facilities may involve the establishment of site- specific targets, with an appropriate timetable for achieving them. The applicability of the EHS Guidelines should be tailored to the hazards and risks established for each project based on the results of an environmental assessment in which site-specific variables, such as host country context, the assimilative capacity of the Defined as the exercise of professional skill, diligence, prudence and foresight that would be reasonably expected from skilled and experienced. Some of the applicable guidelines for the project under General Environmental Health and Safety is discussed in Table 0-1 below:

Table 0-1 EHS guidelines and applicability

EHS guidelines	Applicability/discussion
EHS 1.5 – Hazardous Materials Management	The World Bank Group EHS Guidelines for Hazardous Waste is also applicable and can be used for guidance on the management of infectious and other forms of health care waste which are categorized as hazardous. These guidelines apply to projects that use, store, or handle any quantity of hazardous materials (HazMats), defined as materials that represent a risk to human health, property, or the environment due to their physical or chemical characteristics.
EHS 2.5 – Biological Hazards	Biological agents represent the potential for illness or injury due to single acute exposure or chronic repetitive exposure. The guidelines provide sets of measures for preventing Biological hazards.
EHS 2.7 – Personal Protective Equipment (PPE)	Personal Protective Equipment (PPE) provides additional protection to workers exposed to workplace hazards in conjunction with other facility controls and safety systems. The guideline provides measures on using the PPE effectively for protecting the workers
EHS 3.5 – Transportation of Hazardous Materials	This guidance note provides procedures for transportation of hazardous materials which needs to comply with local laws and international requirements applicable to the transport of hazardous materials, including
EHS 3.6 – Disease Prevention	This guidance note provides intervention for the control of the communicable diseases and vector borne diseases at the project level. The recommended interventions include

	surveillance and active screening and treatment of workers, training health workers, providing health services, educating project personnel and area residents on risks, prevention, and available treatment; monitoring communities during to detect and treat cases and following safety guidelines for the storage, transport, and distribution of pesticides to minimize the potential for misuse, spills, and accidental human exposure etc.
The World Bank Group EHS Guidelines for Health Care Facilities are also applicable and can be used for guidance for the design and operation of HCFs.	This guideline includes information relevant to the management of EHS issues associated with health care facilities (HCF) which includes a diverse range of facilities and activities involving general hospitals and small inpatient primary care hospitals, as well as outpatient, assisted living, and hospice facilities. Ancillary facilities may include medical laboratories and research facilities, mortuary centers, and blood banks and collection services.

ANNEX 7: COMPARISON BETWEEN NATIONAL AND WORLD BANK E&S REQUIREMENTS

It describes a gap analysis and measures to bridge the gaps between the ESSs and GoN policy and legal requirements for environmental and social risk management related to this project.

Comparison between national and WB E&S requirements

World Bank		Nepal's policy framework and requirements	Gaps between ESSs and GoN & legal and policy requirements	Gap-Bridging Measures
ESS	ESS Requirements			
ESS 1: Assessment and management of Environmental and Social Risks and Impacts	ESS 1 requires the Borrower will assess, manage and monitor the environmental and social risks and impacts of the project throughout the project life cycle so as to meet the requirements of the ESSs in a manner and within a timeframe acceptable to the Bank. The Borrower will: (a) Conduct an environmental and social assessment of the proposed project, including stakeholder engagement; (b) Undertake stakeholder engagement and disclose appropriate information in accordance with ESS10; (c) Develop an ESCP, and implement all measures and actions set out in the legal agreement including the ESCP; and (d) Conduct monitoring and reporting on the environmental and social performance.	Environment Protection Act (2019), Environment Protection Regulation, (2020) and National Environmental Impact Assessment Guidelines, (1993) are legal instruments for the requirements of Environmental and Social Assessment of any development	<ul style="list-style-type: none"> The Schedules are based on activity type, threshold/size, as well as location. The Potential risks associated with the project are omitted in GoN policy. No provision for associate projects /activities; Scope of EIA may not cover all WB ESS. EPA/EPR does not allow use of other types/forms of assessments. Does not emphasize hierarchy of measures in ES risk management planning 	<ul style="list-style-type: none"> Detailed E&S Screening shall be carried out followed by detailed ESMP to bridge the gap between WB and GoN requirements. The ESMP aims to address all the adverse environmental impacts that arise during execution and operation of the project. The ESMP so prepared will be made integral part of the bidding document so that the contractor shall adhere to the provisions prescribed in the ESMP during the execution of the project.
ESS 2: Labor and Working Conditions	There are numbers of requirements of ESS2 under the following heading: <ul style="list-style-type: none"> Working conditions and management of worker relationships; 	Labor Act (2017); and; Child Labor Act (2001) are legal instruments.	<ul style="list-style-type: none"> Current OHS legislation is not adequate (No separate legislation on OHS. Current OHS mandate is provided only in 	LMPs will be developed and implemented for the project <ul style="list-style-type: none"> Guidelines to be developed for firms on OHS issues

	<ul style="list-style-type: none"> • Protecting the work force; • Grievance mechanism; • Occupational Health and Safety • Contracted workers; • Community workers; and • Primary supply workers 		<p>Chapter 12 of the Labor Act)</p> <ul style="list-style-type: none"> • Lack of industry-specific standards (DoLOS has so far issued only one directive: OHS Directive for Brick Workers) 	<ul style="list-style-type: none"> • GM will be established
ESS 3: Resource Efficiency and Pollution Prevention and Management	The Borrower shall consider ambient conditions and apply technically and financially feasible resource efficiency and pollution prevention.	<p>EPA (2019), EPR (2020), National Ambient Air Quality Standards (2003)</p> <p>Nepal Vehicle Mass Emission Standard (2012), National Ambient Sound Quality Standard (2012), Standard on Emission of Smoke in Air by New and Existing Diesel Generator (2012), National Water Quality Standard (2008)</p> <p>Tolerance Limits for Industrial Effluents to be discharged into Inland Surface Waters (2003)</p> <p>The Solid Waste Management Act (2011)</p> <p>Solid Waste Management Rule (2013)</p> <p>Water Resources Act (1992)</p> <p>Water Resources Rules (1993)</p> <p>Drinking Water Regulation (1998)</p> <p>Drinking Water Quality Standards</p> <p>Water Quality Guidelines for the Protection of Aquatic Ecosystem.</p>	<ul style="list-style-type: none"> • Lack of suitable enforcement mechanisms for legislation on resource use efficiency in projects • Management of pesticides and hazardous waste is done as per country legislations and GIIP and EHS guidelines are not followed except for IFI funded projects. • Lack of Regulation and Directives relating to e-waste management incorporating provisions for formal process for registration and authorization for collectors, recyclers, disposers. • No proper application of 3R for E-waste management 	<ul style="list-style-type: none"> • Resource efficiency and pollution prevention in any project activity need to be emphasized during the design and implementation of the activity. • National standards related to environmental protection and resource efficiency will be complied by the project. • E-waste management plan (outline given in annex-9) will be prepared and implemented (if any)
ESS 4: Community	There are numbers of requirements of	The EPA identifies the direct and indirect human	There is limited coverage as scope of ESIA's do not	ESMPs developed under the project will aim to address all

Health and Safety	<p>ESS4 under the following headings:</p> <ul style="list-style-type: none"> Community health and safety and Security personnel 	<p>health impact as one of the components in assessing the effect of development projects.</p> <p>EPA Section 7: Nobody shall create pollution in such a manner as to cause significant adverse impacts on the environment or likely to be hazardous to public life and people's health.</p>	<p>necessarily include community safety issues.</p> <ul style="list-style-type: none"> Public health legislation does not specifically impose requirements for development and infrastructure projects. 	<p>community health and safety issues that arise during execution and operation of the project.</p>
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	<p>There are a number of requirements ESS5:</p> <ul style="list-style-type: none"> To avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives avoid forced eviction mitigate adverse impacts from land acquisition or restrictions on land use through timely compensation and assisting displaced persons to improve, or at least restore, livelihoods and living standards, in real terms, to pre-displacement levels improve living conditions of poor or vulnerable persons who are physically displaced 	<p>Clause 3 of this Land Acquisition Act states that any asset that is required for public purposes shall be acquired by providing compensation. Compensation Fixation Committee will establish the Compensation rates. Similarly the act provisioned land acquisition through negotiation which has been understood of land (free of costs).</p>	<p>Volunteer acquisition of private land is not in the provision of WB ESF and need s to be matched with applicable measures</p>	<ul style="list-style-type: none"> The project does not include activities that would require land acquisition, leading to the physical or economic displacement of the people but upgrading and improvement of civil works may require some temporary displacement to establish work areas for carrying out construction activities. A Resettlement Policy Framework (RPF) has been prepared as part of the ESMF to provide guidance for any temporary displacement.

	<ul style="list-style-type: none"> ensure that resettlement activities are planned and implemented with appropriate disclosure of information, meaningful consultation, and informed participation 			
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	There are numbers of requirements of ESS 6 Legally protected biodiversity rich area Provision for conservation of Bio-diversity and habitat and sustainable management of living natural resources.	EPA (2019) Section 9-10; and EPR (2020) The Aquatic Animal Protection Act (1960) National Park and Wildlife Conservation Act (1973) Forest Act (2076	Natural habitats are not specifically required to be assessed in the EA Does not specifically require Biodiversity Management Plan even where biodiversity impact is found significant in the EIA level	ESMF provides specific procedure to ensure there is required assessment and consultation with stakeholders and measures are complied as per ESMP to be prepared. The ESMF and ESMP provides guidance protection and management f biodiversity and natural resources
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	The project is unlikely to pose adverse impacts to indigenous people as the project doesn't aim to acquire or put the restriction in the use of land or take land on a lease that belongs to indigenous peoples for the project activities	NFDIN Act 2002 along with Local Self Governance Act, 1999 and current 15th five yr Plan focused to incorporate infrastructure and income generation program targeted to indigenous community.	Nepal is culturally diverse country, hosting multiple ethnic groups including 60 indigenous groups or nationalities across all provinces. Of the total population, the indigenous people account for about 37 percent. However, the possibility of exclusion or restriction of indigenous peoples to the project's benefits and medical services cannot be ruled out.	institutions of relevant affected indigenous peoples at different levels and to ensure they are not deprived of opportunities offered by the project. The ESMF and SEP provides guidance on inclusion of and engagement with indigenous program under the project.
ESS 8: Cultural Heritage	There are numbers of requirements of ESS 8 under the following headings: Stakeholder consultation and identification of cultural heritage (Confidentiality; Stakeholders' access);	The Environment Protection Rules, (2020) states that physical and cultural resources shall not be disturbed or damaged without the prior approval of the concerned authority. EPA (2019) Section 9-10; and EPR	Does not include intangible cultural heritage Does not provide for the development of Cultural Heritage Plan Does not provide for the application of globally recognized practices in the study, documentation, and protection of cultural heritage	ESMF provides specific measures to ensure there is meaningful consultation with stakeholders and complied as per ESMP to be prepared. The ESMF and ESMP provides guidance protection and management of cultural heritage and resources

	Legally protected cultural heritage areas; Provisions for specific types of cultural heritage (Archaeological sites and material; Built heritage; Natural features with cultural significance; Movable cultural heritage); and;	(2020) Section 5; and; Ancient Monument Act (1956) have provisions on cultural heritage	Does not provide for adoption of chance find procedures	
ESS 10: Stakeholder Engagement and Information Disclosure	The project will ensure that it will adopt a consistent, comprehensive, coordinated, and culturally appropriate approach for engaging stakeholders and disclosing project related information.	Prevailing national policies including EPA 2019 and EPR 2020 has envisaged the stakeholder engagement at different stage of the project design and implementation. Stakeholder consultation, disclosure and grievance hearing system is provisioned.	A framework approach to address and ensure stakeholder engagement and disclosure is lacking for systematic planning and implementation of activities related to Stakeholder Engagement and Information Disclosure	The project will prepare a Stakeholder Engagement Plan (SEP) to ensure that stakeholder engagement activities are effective and meaningful consultation is carried out including guideline for establishing a clear, safe and accessible procedures to identify and respond to SEA/SH, cases to project GM.

ANNEX 8: ESF/SAFEGUARDS INTERIM NOTE ON COVID-19 CONSIDERATIONS IN CONSTRUCTION/CIVIL WORKS PROJECT

This interim note is intended to provide guidance to teams on how to support Borrowers in addressing key issues associated with COVID-19 in construction activities. Projects involving construction/civil works frequently involve a large work force, together with suppliers and supporting functions and services. Given the complexity and the concentrated number of workers, the potential for the spread of infectious disease in projects involving construction is extremely serious, as are the implications of such a spread. Depending on what kind of contract exists (between the Borrower and the main contractor; between the main contractors and the sub-contractors) the Contractor will be responsible for health and safety of workers.

The PMU (borrowers) should confirm that projects (i) are taking adequate precautions to prevent or minimize an outbreak of COVID-19, and (ii) have identified what to do in the event of an outbreak. Addressing COVID-19 at a project site goes beyond occupational health and safety and is a broader project issue which will require the involvement of different members of a project management team. In many cases, the most effective approach will be to establish procedures to address the issues, and then to ensure that these procedures are implemented systematically. The issues especially pertinent in preparing the project response procedures to COVID-19 include:

- (a) Assessing workforce characteristics
- (b) Entry/exit to the work site and checks on commencement of work
- (c) General hygiene
- (d) Cleaning and waste disposal
- (e) Adjusting work practices
- (f) Project medical services
- (g) Local medical and other services
- (h) Instances or spread of the virus
- (i) Continuity of supplies and project activities
- (j) Training and communication with workers
- (k) Communication and contact with the community

ANNEX-9: SUB PROJECT SPECIFIC HAZARDOUS/E-WASTE MANAGEMENT PLAN (WMP) (TEMPLATE)

1. Name of Subproject: _____

2. Address (Ward, Municipality, Province): _____

3. Type of Subproject (): _____

4. Implementation unit: _____

5. Sub Project Information:

Brief about

- Description of site specific surroundings; settlement, land use, community facilities, water sources and other specificities if any with photographs
- Description of sub project construction and operation activities with possible material used and waste to be produced.

6. Purpose of WMP

The purpose of the Waste Management Plan is to ensure wastes are reduced, reused and recycled wherever possible. It outlines measures to manage and mitigate waste generation and resource consumption during the construction and operation of the sub project activities.

7. Detail of activities and waste Generation

S.N.	Activities	Waste generation	Volume (m ³)
1	Installation and operation of IT equipment such as computers, servers and data drivers	Possible generation of Hazardous Waste/Electrical and Electronic waste; Batteries, parts of equipment	-
2	Establishment of data centres, cyber security centres, deployment of optical fibre and towers	Possible hazardous Waste/ E-Waste; inverter battery, tools and equipment from increased used of energy	-

8. Types of Hazardous/E-waste generation and management matrix

Types of waste generation	Management measures	Monitoring indicators	Cost	Responsibility
Possible generation of Hazardous Waste/Electrical and Electronic waste; Batteries, parts of equipment, tools and machines	Procurement of energy-efficient ICT equipment so as to reduce radiofrequency emissions and energy use. Introduce buy-back arrangements with the suppliers of electrical and internet equipment at the end of its useful life. Systematic record keeping of equipment purchased and waste produced is kept Appropriate formal arrangements for the disposal and management of hazardous and / or e-waste prior to commencement of civil works shall be ensured Collection and supply of Hazardous Waste/ E-Waste and arrangement with municipal or other formal or informal waste management unit for reuse and recycle.	Inventory of waste production and handover to waste collector	-	
Possible Hazardous Waste/ E-Waste; inverter battery, tools and equipment from	Incorporate measures for sustainable use of energy into design Consider solar wherever feasible and effective.	Inventory record of the waste	-	

increased used of energy	Consider general environmental concerns in material specifications for rehabilitation works. Establish an arrangement with reuse and recycle agencies			
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ANNEX 10: RELEVANT ENVIRONMENTAL QUALITY STANDARDS

1- Ambient Air Quality Standards

Parameter	Averaging Period	Nepal's Ambient Air Quality Standard ($\mu\text{g}/\text{m}^3$) *	WHO Air Quality Guidelines ($\mu\text{g}/\text{m}^3$) **	
			Global Update 2005	Second Edition ^ 2000
TSP	Annual	-	-	-
	24-hour	230	-	-
PM ₁₀	Annual	-	20	-
	24-hour	120	50	-
PM _{2.5}	1-year	-	10	-
	24-hour	-	25	-
SO ₂	Annual	50	-	-
	24-hour	70	20	-
	10-minute	-	500	-
NO ₂	1-year	40	40	-
	24-hour	80	-	-
	1-hour	-	200	-
CO	8-hour	10,000	-	10,000
	15-minute	100,000	-	100,000
Pb	1-year	0.5	-	0.5
Benzene	1-year	20	-	-

* National Ambient Air Quality Standards for Nepal, 2003. Obtained from Environment Statistics of Nepal 2011, Government of Nepal, National Planning Commission Secretariat, Central Bureau of Statistics, Kathmandu, Nepal.

** Environmental, Health and Safety General Guidelines, 2007. International Finance Corporation, World Bank Group.

^ Air Quality Guidelines for Europe, Second Edition, 2000. WHO Regional Office for Europe, Copenhagen.

Parameter that either has no national standard value for 24-hour observation or with WHO guideline value for 24-hour observation as more stringent than that specified in the national standards.

2- National Drinking Water Quality Standards, 2006

Group	National Drinking Water Quality Standards, 2006			WHO Guidelines for Drinking-water Quality, 4th Edition, 2011*
	Parameter	Unit	Max. Concentration Limits	
Physical	Turbidity	NTU	5 (10) **	-
	pH		6.5 - 8.5	none
	Color	TCU	5 (15)	none
	Taste & Odor		Would not be objectionable	-
	TDS	mg/l	1000	-
	Electrical Conductivity	µc/cm	1500	-
	Iron	mg/l	0.3 (3)	-
	Manganese	mg/l	0.2	-
	Arsenic	mg/l	0.05	0.01
	Cadmium	mg/l	0.003	0.003
	Chromium	mg/l	0.05	0.05
	Cyanide	mg/l	0.07	none
	Fluoride	mg/l	0.5 - 1.5 ^	1.5
	Lead	mg/l	0.01	0.01
	Ammonia	mg/l	1.5	none established
Chemical	Chloride	mg/l	250	none established
	Sulphate	mg/l	250	none
	Nitrate	mg/l	50	50
	Copper	mg/l	1	2
	Total Hardness	mg/l	500	-
	Calcium	mg/l	200	-
	Zinc	mg/l	3	none established
	Mercury	mg/l	0.001	0.006
	Aluminum	mg/l	0.2	none established
	Residual Chlorine	mg/l	0.1 - 0.2	5 ^^
Micro Germs	E-coli	MPN/100ml	0	must not be detectable in any 100 ml sample
	Total Coliform	MPN/100ml	0 in 95% of samples taken	

* Health-based guideline values

** Figures in parenthesis are upper range of the standards recommended.

^ These standards indicate the maximum and minimum limits.

^^ From WHO (2003) Chlorine in Drinking-water, which states that this value is conservative.

Parameter with WHO guideline value as more stringent than national standard value.

National Drinking Water Quality Standards was obtained from the Environment Statistics of Nepal 2011, Government of Nepal, National Planning Commission Secretariat, Central Bureau of Statistics, Kathmandu, Nepal.

3- Noise Level Standards

Receptor / Source	National Noise Standard Guidelines, 2012 (dB)		WHO Guideline Values for Noise Levels Measured Out of Doors * (One Hour L_{Aeq} in dBA)	
	Day	Night	07:00 - 22:00	22:00 - 07:00
Industrial area	75	70	70	70
Commercial area	65	55		
Rural residential area	45	40	55	45
Urban residential area	55	50		
Mixed residential area	63	55		
Quiet area	50	40	-	-
Water pump	65		-	
Diesel generator	90		-	

* Guidelines for Community Noise, WHO, 1999.

4- Air, Water and Noise level monitoring Plan

Monitoring category	Parameters	Location	Frequency	Responsibility
Air quality (<i>National Ambient Air Quality Standards, 2003</i>)	TSP, PM10, PM2.5, SOX, NOx (only if potential source is due to subproject)	Work site locations/nearby settlement	- Prior to construction to establish baseline - Every 6 month for the entire period of construction	PMU-PIT/Contractor
Noise and vibration (<i>National Noise Standard Guidelines, 2012</i>)	Equivalent day and night-time noise levels	Work site locations and influx camp	- Prior to construction to establish baseline - Every day during construction work	PMU-PIT/Contractor
Water quality (<i>National Drinking Water Quality Standards, 2006</i>)	TSS, pH, BOD, COD, DO, fecal coliform (other parameters as required by NDWQS)	Sources of Supplied water to influx and sources at Adjacent to construction sites	- Prior to construction to establish baseline - Every 6 month for the entire period of construction	PMU-PIT/Contractor