Strategic Road Connectivity and Trade Improvement Project (SRCTIP)

Trade Facilitation Component

Environmental and Social Management Framework (ESMF)

Proposed ICP Parking Yard Site at Birgunj (Photo@ A. Aryal)

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Govt. of Nepal

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ACRONYMS

AADT	Annual Average Daily Traffic
BFC	Barandabhar Forest Corridor
BOQ	Bills of Quantities
CAS	Country Assistance Strategy
CBO	Community-Based Organization
CFAA	Country Financial Accountability Assessment
CFS	Container Freight Station
CPS	Country Partnership Strategy
DFID	Department for International Development (UK)
DoC	Department of Customs (Nepal)
DoR	Department of Roads (Nepal)
DoTM	Department of Transport Management (Nepal)
EA	Environmental Assessment
EMP	Environmental Management Plan
ESMF	Environmental and Social Management Framework
FCS	Fragile and Conflict Affected States
GAP	Governance and Peach Action Plan
GATT	General Agreement on Tariffs and Trade
GDF	Gender Development Framework
GESU	Geo Environment and Social Unit (Nepal DoR)
GoI	Government of India
GoN	Government of Nepal
GTZ	German Agency for International Cooperation
ICD	Inland Clearance/Container Depot
ICP	Integrated Check Posts
ICT	Information and Communication Technology
IEE	Initial Environment Examination
IFC	International Finance Corporation
IPPF	Indigenous Peoples Planning Framework
LCF	Local Consultative Forum
LCLA	Local Community Liaison Assistant

LPI	Logistics Performance Index
M&E	Monitoring and Evaluation
MoCS	Ministry of Commerce and Supplies (Nepal)
MoF	Ministry of Finance (Nepal)
MoPPWTM	Ministry of Physical Planning, Works and Transport Management (Nepal)
NGO	Non-governmental Organization
NITDB	Nepal Intermodal Transport Development Board
NITTFP	Nepal-India Trade and Transport Facilitation Project
NLTA	Non-Lending Technical Assistance
N-M	Narayanghat-Mugling
NTNC	National Trust for Nature Conservation (Nepal)
NTTFC	National Trade and Transport Facilitation Committee
OAG	Office of the Auditor General (Nepal)
ORAF	Operational Risk Assessment Framework
PAP	Project-Affected Person
PCO	Project Coordination Office
PFM	Public Financial Management
PIC	Public Information Center
RAP	Resettlement Action Plan
RoW	Right-of-Way
RPF	Resettlement Policy Framework
RSDP	Road Sector Development Project
RTI	Right to Information
SA	Social Assessment
SAARC	South Asian Association for Regional Cooperation
SAR	South Asia Region
SIA	Social Impact Assessment
SOE	Statement of Expenditure
VCDP	Vulnerable Community Development Plan
VOC	Vehicle Operating Cost
WBG	World Bank Group
WDR	World Development Report

EXECUTIVE SUMMARY

Nepal, lying between two big economies-India and China, is ranked one of the economically poorest countries in the world with low per capita income and poor trade outcomes with high trade deficits. This underlines the importance of addressing economy's vulnerability of Nepal by enhancing the country's trade competitiveness. To take advantage of the opportunity to transform Nepal from a landlocked to a land-linked country that links to regional and global trade, Nepal would need to address its high transport costs, attributable to its poor transport infrastructure and cumbersome trade-related policies, systems and procedures.

Project Description

Enhancing trade competitiveness is one of six priorities of the Government of Nepal's 14thdevelopment plan and Nepal Trade Integration Strategy (NTIS),2016. Towards meeting the priorities identified in the development plan NTIS, the World Bank is currently supporting Government of Nepal to implement Strategic Road Connectivity and Trade Improvement Project (SRCTIP).
The Project has the following components:

Component 1: Trade Facilitation will support (a) augmentation of infrastructure facilities and equipment at major border crossing points; (b) improvements in sanitary-phyto-sanitary management (SPS), to reduce the time taken for testing and hassles related to agricultural trade; and (c) knowledge and capacity building support for improving capacity for managing trade.

Component 2: Regional Connectivity Improvement will support (a) improvement of the existing Nagdhunga-Naubise-Mugling road to a 2-lane standard, including adoption of engineering measures to improve climate resilience and road safety, and involvement of citizens' engagement and beneficiary feedback mechanisms; (b) upgrading of the Kamala-Dhalkebar-Pathlaiya road from 2-lane to 4-lane, including adoption of engineering measures to improve climate resilience and road safety, and involvement of citizens' engagement and beneficiary feedback mechanisms; and, (c) implementation of a safety corridor demonstration program, covering a length of 250-300 km of Strategic Road Network (SRN) including the NNM and KDP roads, which program shall include support for enhanced enforcement of traffic rules and post-crash response.

Component 3: Institutional Strengthening will support the National Road Safety Council, capacity enhancement of DoR for improved management of SRN and support for multi-year periodic maintenance program covering 5,000 lane-km of roads with high traffic within the Strategic Road Network.

Trade Facilitation Component

Component 1 or the Trade Facilitation Component is designed to enhance the government's capacity to for trade facilitation by providing technical assistance to the key trade-related institutions, namely Ministry of Industry, Commerce and Supply (MoICS) and Ministry of Agriculture (MoA), wherein: i) the level and quality of border infrastructure will be improved in select locations in keeping with expected growth in trade volumes via those points, ii) selected labs will be enhanced with equipment and/or accreditation to enhance market access for agricultural commodities, iii) access roads sections will be improved for better linkage to transport and the trade, iv) the parking yards around ICDs will be further expanded and improved to enhance the connectivity and trade, and v) capacity will be enhanced through training and facilitation. The border infrastructure and laboratories under the Trade Facilitation component will be developed at existing selected ICD sites: Biratnagar, Birgunj and Bhairahawa.

Key risks and impacts

While the overall environmental and social risk classification of the project is high due to the road component, the trade facilitation component will likely have moderate to substantial environmental and social risks and impacts given that most of the subprojects will involve rehabilitation and improvements of existing border infrastructure and laboratories. Specific sites and subprojects have not been selected yet but there maybe land acquisition and small-scale physical and economic displacement. Some subprojects may potentially impact physically or economically on Indigenous Peoples (IPs) and IP communities and vulnerable and disadvantaged groups although the scale is expected to be low to moderate, to the extent they cannot be avoided. Also, based on experience in Nepal, occupational and community health and safety will be a risk given Nepal's overall weak performance and track record in managing these issues. Other risks and impacts of the trade component are construction-related such as increase in noise, dust, air pollution and safety risks that expose workers and communities to these hazards. There maybe increase in labor influx during construction and the consequent social impacts related to it such as gender-based violence, child and forced labor and poor labor and working conditions of workers.

Environmental and Social Management Framework

In order to undertake the project, an Environmental and Social Management Framework (ESMF) is prepared at the Ministry level. The ESMF assesses risks and impacts of the project on environment, individuals and communities. The ESMF serves as a guideline and sets out principals, rules and procedures to screen, assess, manage

and monitor the mitigation measures of environmental and social impacts. The environmental and social impacts refer to (i) any change, potential or actual, to the physical, natural or cultural environment, and (ii) impact on people (including social aspects of labor, health, safety, IPs, disadvantaged and vulnerable groups, equity and security) resulting from the project implementation.

The project will facilitate MoICS and MoA to improve their capacity for better management of the trade and environmental & social risks and impacts. The main beneficiaries from the Project will be traders and businesses in Nepal and India who will benefit from reduced time and cost of exporting and importing goods. Consumers will also benefit from lower prices on imported goods.The human resources at various levels can benefit from the comprehensive capacity building and skill development components. The expected site specific environmental, social and cultural impacts are diverse based on currently identified activities. Since priorities, project activities and their exact location evolve over time, the exact nature and scale of their environmental and social impacts are not clearly known at this stage. In this light, the framework has identified the key potential adverse environmental and social impacts that may arise on account of the proposed intervenions so that measures to address them can be taken early-on in the project planning and implmentation cycle.

This ESMF forms part of the comprehensive environmental and social management approach that is adopted for addressing potential environmental and social impacts from SRCTIP-trade component. In line with ES Requirements of GoN and applicable 9 out of 10 Environmental and Social Standards (ESS) of WB the ESMF defines (a) the approach for identifying the environmental and social issues associated with the SRCTIP-trade component activities, (b) the requirements for conducting environmental and social screening and environment and social assessment studies, and (c)measures to avoid, minimize, mitigate and manage adverse impacts and enhance positive ones. It includes exclusion list and a simplifiedtools used to determine types of environmental and social assessment required for proposed initiatives. A gender development framework and capacity building measures and a monitoring mechanism are included in the ESMF. The ESMF preparation is grounded on methodology on objectives of project with room for availability of revisions and modification based on beneficial and adverse impacts rendered by SRCTIP-Trade Component.

To complement the ESMF and to address risks and impacts of relevant standards, the trade component has also prepared stand-alone Resettlement Policy Framework (RPF) describing mechanisms for addressing land acquisition and physical and economic displacement related to land taking and potential disruptions of services, employment and income (e.g., temporary or permanent displacement of affected peoples/informal vendors, loss of business or commercial sites etc.), and temporary and permanent restrictions on access to facilities, including land use while the construction work is

ongoing in the project area. A stand-alone Indigenous Peoples Framework (IPF) that also describes the process of Free and Prior Informed Consent (FPIC), if required, are also prepared.

Key Gaps between GoN and ESF

The ESMF has included a gap analysis between the GoN requirements vis-à-vis ESF. The analysis indicated that each World Bank ESS has counterpart country legislations except that some of these legislations are not formally covered in the EIA scope and process. The main gap is that the relevant provisions of these laws are not yet integrated into the EIA process, both in terms of formal regulations or guidelines and in practice. Naturally, the agencies that are mandated to implement these laws are also not involved in the EIA process, even as oversight during project implementation.

In terms of the specific requirements of the ESS, the few critical gaps include the following:

I. Although each ESS has a counterpart law, the current Screening protocol under the country EIA system does not examine relevant risks and impacts with respect to these laws (such as health & safety) and hence also not cover all standards;
II. Natural habitats are not specifically required to be not assessed in the EIA nor require Biodiversity Management Plan even where biodiversity impact is found significant in the EIA
III. Resettlement Action Plan (RAP) is not required. The eminent domain land acquisition procedure is already fixed by law hence it does not afford for the consideration of participatory planning or for compensation options with the affected people;
IV. Although the government recognizes Indigenous People and respect their rights, the current system does not require preparation of an IP plan and free, prior and informed consent, where situation dictates that these should be required; and,
V. Partly as a result of non-involvement of the agencies mandated to implement them, occupational health and safety standards and community health and safety are weakly enforced, with impacts and risks to community health and safety often also poorly assessed.

These gaps are addressed in this ESMF to meet the requirements of the ESF, including the preparation, adoption and implementation by MoICS and MoA of the RPF, VCDF, IPF, Stakeholder Engagement Plan, Labor Management Procedures and the Environmental and Social Commitment Plan.

Institutional Arrangements

The Ministry of Industry, Commerce and Supplies (MoICS) and Ministry of Agriculture (MoA) will be the implementing agencies of the trade component. As such, a Project Coordination Office (PCO) will be established within MoICS/MoA. The PCO will be responsible for the day-to-day implementation of the component and for coordinating with the Department of Roads and other the relevant implementing ministries/agencies. The PCO will have Project Director, a full-time Project Coordinator and a Finance Specialist. The PCO will also recruit Specialists/Consultants for

procurement, environmental and social safeguards and engineers. The PCO will also hire Construction Supervision Consultant to oversee and supervise civil works.

MoICS/NITDB has experience managing environmental and social risks and impacts safeguard issues related to the Bank funded projects under the ongoing Nepal India Regional Trade and Transport Project (NIRTTP). The PCO will be included in E&S capacity building program for MoICS and MoA supported by the project.

Structure of this ESMF

The Environment and Social Management Framework is structured along the lines:

- Chapter 1: Introduction
- Chapter 2: Over-view of the Project Area
- Chapter 3: Regulatory and Legal Framework
- Chapter 4: Potential Environmental and Social Impacts
- Chapter 5: Environmental and Social Management Process for the SRCTIP
- Chapter 6: Generic Environment Management Measures / Codes of Practice
- Chapter 7: Stakeholder Engagement Framework
- Chapter 8: Institutional Arrangements (including monitoring and reporting).
- Annexure

कार्यकारी सारासं

दुई ठुला अर्थतन्त्र चीन र भारतको बिचमा अवस्थित नेपाल, न्युन प्रतिव्यक्ति आय र अत्याधिक व्यापार घाटको कारण विश्वको सबैभन्दा गरिव मध्येको राष्ट्रमा सुचिकृत छ । यसले देशको व्यापार प्रतिस्पर्धालाई सबल गराई आर्थिक संकटलाई सम्बोधन गर्नुपर्ने महत्वलाई उजागर पार्दछ । नेपाललाई भुपरिवेष्टित राष्ट्रबाट क्षेत्रिय र विश-्व व्यापारको लिङ्क बनाउदै, उच्च यातयात खर्चलाई न्युनिकरण गरी साथ साथै विद्यमान कमजोर यातयात प्रणाली र अपर्याप्त व्यापार प्रक्रिया तथा नीति र प्रणालीहरुलाई सुदृढ गरी देशको रुपान्तरण गर्नुपर्नेछ ।

व्यापार सुदृढिकरण गर्नु, नेपाल सरकारको चौधौँ विकास योजना र नेपाल व्यापार एकिकृत रणनीति २०१६ का ६ प्राथमिकता मध्ये एक पनि हो । नेपाल सरकारको उक्त रणनीतिको प्राथमिकतालाई प्राप्त गर्न विश्ववैङ्कले तत्कालै रणनैतिक पारवहन तथा व्यापार सुधार परियोजना लागू गर्न र सरकारको क्षमता विस्तार गरी व्यापार सहजिकरणको लागी जिम्मेवार संस्थाहरु जस्तै उधोग बाणिज्य तथा आपुर्ति मन्त्रालय र कृषि मन्त्रालयलाई आवश्यक प्राविधिक सहयोग गर्दैछ : : । जसमा

क. व्यापारिक सामाग्री ओसारपसारको लागि अपेक्षित बृद्धिलाई मध्येनजर गरी निश्चित सीमाहरुको संरचनाहरु र पुर्वाधारहरुलाई संस्थागत,स्थानगत, तहगत र गुणात्मक सुधार गरिनेछ ।

ख. कृषि उपजहरुको बजार पहुँच र बजार एकृडिसनको लागी निश्चित प्रयोगशालाहरुमा उपकरणहरुको सबलिकरण तथा स्तरोन्नती गरिनेछ ।

ग. यातयात सुविधा र व्यापारको लागी एक्सेस रोडहरुलाई सुधार गरिनेछ ।

घ. आन्तरिक भन्सार विभागको पार्किङ्गलाई विस्तार गरी कनेक्टिभिटि र व्यापारलाई सहजता दिईनेछ ।

ङ. तालिम र सहजिकरण सेवा प्रदान गरी क्षमता अभिबृद्धि गरिनेछ ।

विश्वबैङ्कद्वारा सहयोग भई उद्योग बाणिज्य तथा कृषि मन्त्रालयद्वारा लागू हुने यस SRCTIP-Trade Component सुरुवाति चरणमा छ । यस SRCTIP-Trade Component को मुख्य उद्देश्य विकास का लागी भौतिक र संरचनागत तथा संस्थागत क्षमता बृद्धिगरी व्यापार र

पारबहनलाई उकास्ने हो । यस प्रस्तावित योजनाले नेपाल प्रतिस्पर्धामा उत्रिन नसक्ने दुई टड्कारो चुनौतिहरु ,पारबहन यातयात र व्यापार बृद्धि : जुन दुईले देशको समग्र व्यापार वातावरणलाई सिमित पनि गर्दछन, त्यसलाई स्तरोन्नती र सबलीकरण गरी आन्तरिक र बाह्य आवतजावत तथा सामान आयात निर्यातको सुदृढीकरण गर्दै बजार पहुँचलाई बढाई अवसर र व्यापारको बिस्तार गरिनेछ । यसै योजनाको अर्को चिन्तन सामान ओसारपसार पारबहन समय र खर्चको (चासो) सडक सु ,बचावटरक्षा र लचकता,सामाग्रीहरुको बजार पहुँच पुऱ्याउने , जस्ले गर्दा नेपालको यातयात र व्यापार कनेक्टिभिटि आन्तरिक र छिमेकी मुलुकहरुसंग व्यापारमा अनपेक्षित बढोत्तरी हुनेछ ।

मन्त्रालय स्तरमा तयार गरीएको वातावरण तथा सामाजिक व्यवस्थापन कार्यविधि ESMF योजनालाई सुचारु गर्नु अगावै ESMF ले योजनाबाट व्यक्ति तथा समुदायमा पर्ने नकरात्मक प्रभावको मुल्याङ्कन गर्दछ । ESMF ले त्यस्ता वातावरणीय र सामाजिक अवसरहरुको पहिचान, मुल्याङ्कन व्यवस्थापन र अनुगमन तथा रोकथामको उपायहरुको लागी निश्चित र निर्धारित सैद्धान्तिक मुल्य अनुरुप नियमन गर्नेछ । वातावरणीय तथा सामाजिक असर भन्नाले निम्न बुँदाहरुको तत्थ्यलाई जनाउछ ।

क. कुनैपनि भौतिक, सांस्कृतिक, प्राकृतिक तथा वातावरणीय वर्तमान परिदृश्यमा सम्भाव्य वा प्रत्यक्ष परिवर्तन र

ख. योजना कार्यान्वयनबाट व्यक्तिको श्रम स्वास्थ्य सुरक्षा र समानतामा पर्ने प्रभाव ।

यस योजनाले उधोग तथा कृषि मन्त्रालयलाई उक्त मन्त्रालयको वातावरणीय तथा सामाजिक जोखिम र असर व्यवस्थापनको क्षमता अभिबृद्धि गर्न सहयोग गर्नेछ । यस योजनाका मुख्य लाभग्रही नेपाल र भारतका व्यापारीहरु हुनेछन् । जसले बस्तु आयात र निर्यातको समय र खर्चको न्युनीकरणको लाभ उठाउनेछन् । बृहत क्षमता अभिबृद्धि तथा सिप विकास अवसरको विभिन्न तह तप्काका कर्मचारीहरुले फाईदा लिन सक्नेछन् । निश्चित वातावरणीय सामाजिक तथा सांस्कृतिक असरहरु विविध हुनेछन् जुन योजनाको प्राथमिकता क्रियाकलाप संचालन र स्थान अनुसार निर्धारण हुनेछन् जुन वर्तमानमा सुरु भईसकेका छैनन् । यसैलाई आधार मान्दा यस कार्यविधिले केहि, संभावित वातावरणीय र सामाजिक असरहरु पहिचान गरेको छ जसले गर्दा योजनाको तयारी र कार्यान्वयन प्रक्रियाको प्रारम्भिक चरणमा नै सम्बोधन गर्न सकिनेछ ।

यस SRCTIP-Trade Componentले निम्त्याउने वातावरणीय र सामाजिक असरको सम्बोधन गर्नको लागी ESMF बृहत वातावरणीय र सामाजिक व्यवस्थापन कार्यक्रम अंगिका गर्ने एउटा हिस्सेदार बन्छ । नेपाल सरकारको ES Recruitment र विश्वबैङ्कका १० मध्ये उपयोगी ९ वातावरणीय तथा सामाजिक सुचक ESS को आधारमा ESMF भनेको

क. यस SRCTIP-Trade Componentकार्यक्रमको क्रममा हुनसक्ने वातावरणीय तथा सामाजिक मुद्धाहरुको पहिचान गर्ने विधि
ख. वातावरणीय तथा सामाजिक अध्ययन र मुल्याङ्कन कार्यक्रमको आवश्यकता छुट्याउने निर्धारक र
ग. नकरात्मक प्रभावलाई यथासक्य नपार्ने रोकथाम गर्ने ,न्युनिकरण गर्ने , तथा व्यवस्थापन गर्ने र सकरात्मक प्रभावको अभिबृद्धि गर्ने तत्व हो ।

अब यसमा कार्यक्रम पहलको लागी आवश्यक वातावरणीय तथा सामाजिक मुल्याङ्कन संभाव्य सुविधा र सेवाहरुको ,(जसमा प्रभावित व्यक्ति व्यवसाय वा व्यवसायिक केन्द्रहरुको ,व्यापारी , अस्थायी वा स्थायी पुनर्स्थापना गर्ने संयन्त्रहरुको व्याख्या र निक्यौंल र निर्माण योजना कार्य (हुँदै गर्दा योजना क्षेत्रमा अस्थायी वा स्थायी रुपले सुचारु सेवाहरु तथा जमिनको प्रयोगमा निषेध पर्न जान्छ ।

त्यसका अलवा यस भित्र जोखिमपूर्ण समुदाय विकास योजना निशुल्क तथा पुर्वसुचित) सहमति सहित(, लैङ्गिक विकास योजना क्षमता बृद्धि साध्य र एक अनुगमन संयन्त्र पर्दछन् । यस , SRCTIP-Trade Component ले पैदा गर्ने सकरात्मक र नकरात्मक असरको आधारमा पुनर्मुल्याङ्कन र परिवर्तनको यथेस्ट उपलब्धता र संम्भाव्यता सहितको कार्यविधिय उद्देश्य ESMF मा परिभाषित छ ।

यस ESMF ले विश्वबैङ्कको वातावरणीय तथा सामाजिक वातावरणीय र सामाजिक व्यवस्थापन मार्गचित्र (WB ESF) तथा नेपाल सरकारको बिद्यामन नियम कानुन बिच को भिन्नता हरुको बिश्लेशन गरी उक्त भिन्नता हरुलाई समयोजन गर्न को लागि उचित मार्गदर्सन गर्ने छ

प्रस्तुत ESMF को सम्रचना निम्नानुसार रहेको छ

खण्ड १परिचय :

खण्ड २ आयोजना क्षेत्रको :

खण्ड ३ निमायाक तथा कानुनी ब्यवस्था :

खण्ड ४सम्भवित वतावरणिय तथा सामाजिक प्रभाव :

खण्ड ५वतावरणिय तथा सामाजिक ब्य्वस्थापन प्रकृया :

खण्ड ६ :समग्र वातवरण ब्य्वस्थापन उपायकार्यनिती/

खण्ड ७ :सरोकरवाला सहभागिता कार्ययोजना

खण्ड ८ :संस्थागत ब्यवस्था नियमन तथा अनुगमन)

अनुसुची

Chapter 1

INTRODUCTION

1.1 Background

The South Asia Region (SAR) has experienced rapid growth of Gross Domestic Product over the past three decades, averaging nearly six percent per annum. However, there are two faces of this development. The first South Asia is dynamic, growing rapidly, highly urbanized, and is benefiting from global integration. The second South Asia is largely agricultural, landlocked, exhibits high poverty levels, suffers from many conflicts, is lagging and needs to be better integrated with the dynamic sectors in the region. Divergence between the two faces of the region is on the rise and several policy, institutional, and infrastructure constraints contribute to this dichotomy. Together, South Asia Region (SAR)—which accounts for 25 per cent of the world population but only for 5 per cent of the world GDP—also needs to tackle medium-term challenges and structural constraints to unleash its enormous growth potential[1]. However, their trade balance (% of GDP) as -4.34% as of 2017[2]indicating a relatively poor performance in trade. In 2015, intra-regional trade as a share of regional GDP was less than 1% -- the lowest in the world. Similarly, intra-regional trade accounted for only 5% of South Asia's total trade while it was 50% of the total trade in East Asia and the Pacific and more than 20% for Sub-Saharan Africa.[3]

The South Asia Region has the potential to raise growth through increased intra-regional trade. The region has the highest population density in the world and the average distance between cities and borders is low. These features naturally propel trade between countries, but presently this is hindered by policy, administrative and physical barriers. The World Bank's 2018 Logistics Performance Index (LPI), a global multi-dimensional assessment of logistics performance, shows that as in previous years, South Asia lags behind all other regions except Sub-Saharan Africa in overall logistics performance. India's Logistic Performance Index (LPI) is relatively strong (ranked 44 out of 160), but Nepal's LPI– at 114 out of 160 countries – is well behind most of its South Asian Neighbours; even among the 33 land-locked states, it ranks at 20.[4]. These two countries are also the poorest in the region. Estimates suggest that annual

[1] UN (2019). World Economic Situation and Prospects 2019. Available at https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/WESP2019_BOOK-CH3-5-south-asia-en.pdf

[2] World Bank (2017). South Asia Trade Indicators 2017. Available at https://wits.worldbank.org/CountryProfile/en/Country/SAS/Year/LTST/Summary

[3] Sirohi, S. (2018). South Asia: High costs of not trading with neighbours. Available at https://www.orfonline.org/expert-speak/south-asia-high-costs-of-not-trading-with-neighbours-45195/

[4] https://lpi.worldbank.org/international/global/2018

intra-regional trade in the region could increase from the current US$5 billion to US$20 billion if restrictions on trading with neighbors are removed. The benefits of scale economies could be even larger for the small landlocked countries.

With regard to Nepal specifically, exports suffer from low productivity, high tariffs, and poor transportation infrastructure. Over 60 percent of Nepal's imports and exports are traded with India, while China is emerging as a major source of imports for the country. Nepal needs policies to enhance linkages to shipment lines, improve the efficiency of customs, expand airport storage capacity, and address transport and labor issues.

In addition to policy and institutional reforms aimed at removing domestic constraints to growth and job creation, market integration and infrastructure connectivity are key elements to removing the trade facilitation constraints faced by landlocked countries such as Nepal. That landlocked countries face much higher trade costs than coastal countries is well established. Such countries have to rely on their coastal neighbors for access to export gateways and to access regional and global markets. The interdependence is across several fronts, in terms of infrastructure development, harmonization and integration of policies and procedures and synchronization of operational practices. Effective cooperation and coordination across these areas is fundamental to reducing trade costs and enhancing trade competitiveness.

To address the hard and soft infrastructure bottlenecks to trade and transport connectivity, the Government of Nepal has requested financial and technical assistance from the World Bank to support the Government's goals of enhancing international and intra-regional trade by addressing the infrastructure and non-infrastructure constraints in the country.

1.2 Need for the Project

Nepal is a geographically small landlocked country, nestled between China and India, the two most populous and among the world's most rapidly growing economies. Its territory is mostly mountainous and hilly and its transport infrastructure is poor, leaving many communities with limited access to local and international markets. As a consequence, transport costs are high and the country near-completely depends on India for transit routes.

Sharing a 1,800 km long border and 22 border points, India is often considered Nepal's 'natural' trading partner. The port of Kolkata in India has been serving as Nepal's access to the sea and is a major transit point for Nepal's third-country trade. India also provides a large market for Nepali goods and services, and is Nepal's largest trading partner, with about 60 percent of Nepal's trade going to or coming from India. Despite its proximity and deep economic relations with India as well as China, Nepal's trade outcomes have been poor. Since 2007, exports have been stagnant (declined by about 5 percent), while imports have increased by more than 50 percent. The trade deficit is

offset by high remittances, dependence on which is raising the economy's vulnerability, underlining the importance of enhancing Nepal's trade competitiveness.

Nepal's 2010 Trade Integration Strategy (NTIS) and 2013-16 National Development Plan prioritize the need to facilitate trade and improve the country's export competitiveness. Key objectives include strengthening the capacity of the country's trade-related institutions, strengthening export industries that promote economic inclusion, and strengthening the Government's capacity to implement the NTIS, coordinate trade-related institutions and technical assistance. To take advantage of the opportunity to transform Nepal from a landlocked to a land-linked country that links to regional and global trade, Nepal would need to address its high transport costs, attributable to its poor transport infrastructure and cumbersome trade-related policies, systems and procedures.

Enhancing trade competitiveness is one of six priorities of the Government of Nepal's development plan. The GoN's 2010 Trade Integration Strategy (NTIS) seeks to enable inclusive growth in Nepal through enhancing the competitiveness of Nepal's exports and reducing the cost of trade. The priorities of this strategy include: (i) reducing the time and cost of trade-related transactions through efforts at simplification, harmonization, and automation; (ii) building the capacity of domestic trade-related institutions including for sanitary and phytosanitary inspections, trade negotiations, trade facilitation and logistics, and monitoring and regulating trade-related sectors; and, (iii) enhancing the Government's ability to coordinate trade-related institutions and development partners.

The Nepal Trade Integration Strategy (NTIS) of 2016 recognizes inadequate transport connectivity, supply chain and regulatory bottlenecks as major hindrances. To alleviate these constraints, the Government of Nepal (GoN) is pursuing several solutions domestically and with India, China, Bangladesh and Bhutan, and development partners such as the World Bank and the Asian Development Bank.

Towards meeting the priorities identified in the NTIS, the World Bank is currently supporting Government of Nepal to implement 'Strategic Road Connectivity and Trade Improvement Project (SRCTIP)'designed to enhance the government's capacity to for trade facilitation by providing technical assistance to the key trade-related institutions, namely MoICS and MoA, wherein: i) the level and quality of border infrastructure will be improved in select locations in keeping with expected growth in trade volumes via those points, ii) selected labs will be enhanced with equipment and/or accreditation to enhance market access for agricultural commodities, iii) access roads sections will be improved for better linkage to transport and the trade, iv) the parking yards around ICDs will be further expanded and improved to enhance the connectivity and trade, and v) training and capacity building..

Institutions covered by this SRCTIP include the Ministry of Industry, Commerce and Supplies (MoICS) (and its agencies Nepal Intermodal Transport Development Board Secretariat and Trade and Export Promotion Council), Department of Customs, Ministry of Physical Planning, Works and Transport Management, and Ministry of Agriculture (MOA) and its agencies. Key results expected by implementing ***'Strategic Road Connectivity and Trade Improvement Project (SRCTIP"*** include: i) Improved level and quality of border infrastructure in selected locations in keeping with expected growth in trade volumes via those points, ii) Enhanced labs at selected sites equipped with instruments and/or accreditation to enhance market access for agricultural commodities, iii) Improved/Expanded access roads sections for better linkage to transport and the trade, iv) Improved/Expanded parking yards around ICDs to enhance the connectivity and trade, and v) training and capacity building. The Government of Nepal (GoN) has requested the World Bank to provide IDA financing, to support Nepal in addressing its commitments to enhancing the regional trade.

In addition to improving cross-border infrastructures, laboratories, access roads and parking yards around ICDS, reforms are planned to address the fragmented supply chains arising from operational, organizational, procedural, regulatory issues and business practices, and to modernize the transit regime within Nepal and between Nepal and India.

1.3. Objectives of the Project (SRCTIP)

The proposed development objective is to improve transport efficiency on selected project corridors and strengthen infrastructure and institutional capacity to improve connectivity and facilitate trade.

The proposed project seeks to address poor transport connectivity and trade facilitation - two notable reasons for Nepal's low competitiveness, a key factor limiting its growth - through increasing efficiency in movement of people and goods within and across the borders to enhance access to markets and opportunities and trade competitiveness.

To accomplish the objectives, SRCTIP-trade component will support the trade facilitation, wherein: i) the level and quality of border infrastructure will be improved in select locations in keeping with expected growth in trade volumes via those points, ii) selected labs will be enhanced with equipment and/or accreditation to enhance market access for agricultural commodities, iii) access roads sections will be improved for better linkage to transport and the trade, iv) the parking yards around ICDs will be further expanded and improved to enhance the connectivity and trade, and v) training and capacity building.

The proposed interventions together are envisaged to reduce time and costs of transport and trade facilitation, increase safety and resilience of road improvements and enhance market access, and thereby significantly improve Nepal's transport and trade connectivity with its neighbors India and China and also Bangladesh and Bhutan (via India).

1.4 Components of the Project

The SRCTIP comprises of following three different components including trade facilitation:

Component 1: Trade Facilitation

(a) Support for physical infrastructure, equipment, traffic flow, inspection and related border transit management systems that are required to absorb increasing traffic and trade volumes at key border crossing points including Birgunj, Bhairahawa and Biratnagar;

(b) Provision of equipment and training, and construction and/or renovation of lab buildings at key border locations with the target of achieving international accreditation in selected parameters; and

(c) Knowledge and capacity building for: continuous improvement of the trade policy environment; monitoring of trade performance; and development and implementation, and monitoring and evaluation, of targeted trade promotion measures.

This component will support (a) augmentation of infrastructure facilities and equipment at major border crossing points; (b) improvements in sanitary-phyto-sanitary management (SPS), to reduce the time taken for testing and hassles related to agricultural trade; and (c) knowledge and capacity building support for improving capacity for managing trade.

Component 2: Regional Connectivity Improvement

(a) Improvement of the existing Nagdhunga-Naubise-Mugling road to a 2-lane standard, including adoption of engineering measures to improve climate resilience and road safety, and involvement of citizens' engagement and beneficiary feedback mechanisms;

(d) Upgrading of the Kamala-Dhalkebar-Pathlaiya road from 2-lane to 4-lane, including adoption of engineering measures to improve climate resilience and road safety, and involvement of citizens' engagement and beneficiary feedback mechanisms; and

(e) Implementation of a safe corridor demonstration program, covering a length of 250-300 km of Strategic Road Network (SRN) including the NNM and KDP roads, which program shall include support for enhanced enforcement of traffic rules and post-crash response.

The component will finance (i) capital expenditures pertaining to the construction phase of NNM and KDP roads, and associated consultancy services for design, supervision of works and safety assessment activities; and (ii) works, goods, equipment and consultancy services for implementation of SCDP.

Component 3: Institutional Strengthening

(a) Support for the National Road Safety Council through, *inter alia*:

(i) establishment of an interim secretariat with seed funding for staffing and equipment; and

(ii) Support for prioritized activities from the National Road Safety Action Plan (RSAP), including coordinating, monitoring and evaluating measures under the SCDP; monitoring the working of IT-MIS and the equipment service providers; supporting nation-wide roll-out of the web-based Road Accident Information Management System (RAIMS); and supporting training and peer-exchange programs.

(b) Capacity enhancement of DoR for improved management of SRN through:

(iii) development and mainstreaming of road asset management System;

(iv) support for training facilities and training in selected priority areas, including network-level safety assessments, quality, procurement, design of advanced structures, and management of environmental and social risks and impacts; and

(v) support for training and employment of local women for skilled employment opportunities in non-traditional transport sectors.

(c) Support for multi-year periodic maintenance program covering 5,000 lane-km of roads with high traffic within the SRN

The long list of activities under SRCTIP-trade components are briefly described below. This list will be further screened and prioritized based on selection criteria that will include environmental and social risks and impacts and land availability:

1. Border Infrastructure:

I. **Strengthening facilities at Kakarbhitta, Birgunj and Biratnagar Integrated Check Posts (ICPs)**:

All the ICPs have been constructed and are under operation process. Some basic facilities in the ICPs such as Lab building, parking yards, warehousing and others are yet to be strengthened.

II. **Construction of Container Freight Station (CFS)**:

Birgunj ICD is only one rail linked ICD of Nepal which is linked to Kolkata and Visakhapatnam port. The space is not sufficient to handle dirty/dusty bulk cargo. And therefore, CFS near to ICD Birgunj needs to be constructed to resolve the logistic and space problems. MoICS has identified the land for this purpose.

2. Strengthening warehouse, collection/processing/semi-processing centers:

I. Establishment of Warehouse with cold storage facilities at border points:

Many border Customs points do not have warehouse facilities to exportable and imported cargoes. Therefore, such warehouses with cold storage facilities need to be built mainly in Kakarbhitta, Biratnagar, BirgunjBhairawa.

II. Construction of collection/processing/facility Centers:

Nepal needs to construct collection and processing/semi-processing centers with warehouse and cold storage facilities in the major areas so that many agriculture, herbal and horticulture products can be integrated into the production and value chain development process. Some of the potential locations include Pokhara and Kathmandu/Kavre.

III. Establishment of international Exhibition and trade conference centre:
Exhibition center in Chobhar (land already allocated) is needed to promote trade and export of Nepali products.

3. Strengthening laboratory testing and certification at border points:

Nepal is facing various non- tariff- barriers in export and also it has not been able to regulate import through proper testing laboratory system. Therefore, strengthening laboratory testing and certification for SPS and TBT measures at border points are proposed.

4. Access Roads

The designs and works for 'Access Roads' will have provisions for road construction/maintenance/expansion to improve connectivity of ICDs, cold storage centers and other structures as well as better management of climate change impacts and road safety related issues and risks. Exact location of access roads needs to be explored and defined.

5. Products and value chain development of priority export potentials:

The Government of Nepal has identified some export potentials (large cardamom, ginger, tea, chyangra pashmina, carpet, MAPs, footwear, leather and leather products etc.). These products need to be developed and diversified well to harness the potential benefit. Therefore, products and value chain development of these products focusing on construction of product specific zone, common facility centers and establishing training and design centers are needed (location to be identified through further discussion).

6. Other infrastructure and supports

Nepal has huge potential of exporting Himalayan Spring water mainly due to its Himalayan range from the East to the West. However, due to infrastructure and technology gap, it has not been able to exploit the potentials. Therefore, necessary infrastructure, technology and other logistic facilities, such as processing plants, equipment, and skills (technical knowhow) among others are needed to support and facilitate entire product and value chain development of Himalayan spring water.

1.5. Project Cost and Financing

The estimated total project cost of SRCTIP-trade component is US$50 million. IDA will finance US$35m, and the balance US$ 15m will be financed by the Government of

Nepal (GoN), either directly or through deferent payment obligations towards financing from the private sector.

The components of the proposed Project represent a subset of the Government's plan to facilitate regional trade and transport. Due to IDA financing constraints and implementation capacity considerations, this project for trade and transport facilitation in SAR will not finance all of the sub-projects and activities submitted by Government to the World Bank Group. Instead, this project is being considered as an entry project for the sector, and follow-on projects can be expected following successful implementation of this project.

1.6. Need for Environment and Social Management Framework

Although the general thrust and broad project interventions under SRCTIP-Trade Component are well understood as outlined above, the specific details about the sub-components/activities under SRCTIP-Trade Component above are yet to be defined and therefore the nature and scale of their impacts, will be known only later or during implementation when the activities/subprojects are prioritized, identified and prepared. In such a situation, where sub-projects or activities under SRCTIP-Trade Component will be located in different provinces of the country with varying geographical, topographical and socio-economic conditions, a need was felt to prepare a document that will 'guide' the planning, design and construction elements of sub-projects. Such a guidance document or a framework would help in integrating and harmonizing the environment and social management standards in the various stages of project preparation and execution. In this context, an Environment and Social Management Framework (ESMF) (this document) has been prepared for the trade facilitation component of Strategic Road Connectivity and Trade Improvement Project (SRCTIP-Trade Component).

The ESMF will form part of the comprehensive environmental and social management approach that has been adopted for addressing the potential environmental and social impacts from this project, even when these are considered minor in nature.

1.7 Purpose and Objectives of the ESMF

The purpose of the ESMF is to describe a framework for the management of the environmental & social issues, impacts and risks associated with the project, SRCTIP-Trade Component.

1. The Environment and Social Management Framework seeks to: Establish clear procedures and methodologies for environmental and social assessment, planning, review and approval of sub-projects to be financed under the Project.
2. Consolidate and facilitate understanding of all essential policy and regulatory features of the Government of Nepal as well as the World Bank's environmental and social safeguard standards that are applicable to the project
3. To provide practical guidance on the implementation of the environmental and social management measures and provide plan for monitoring the implementation of environmental and social safeguards.
4. Specify institutional arrangements, including appropriate roles and responsibilities for managing, reporting and monitoring environmental and social concerns of the sub-projects and;
5. Provide guidance and strategy for stakeholder engagement for the identification and management of the environmental & social issues, impacts and risks associated with the project
6. Determine the other institutional requirements, including strategy and plan fortraining and capacity building of key stakeholders needed to successfully implement the provisions of the ESMF.

The application and implementation of the ESMF therefore, will:

1) Support the integration of environmental aspects into the decision-making process of all stages related to planning, design, execution, operation and maintenance of sub-projects, by identifying, avoiding and/or minimizing adverse environmental impacts early-on in the project cycle.
2) Minimize environmental degradation to the extent possible resulting from either individual sub-project or through indirect, induced and cumulative effects of project activities.
3) Enhance the positive/sustainable environmental and social outcomes through improved/appropriate planning, design and implementation of sub-activities/sub-components.
4) Build the capacity of the Project Coordination Office of the Ministry of Industry, Commerce and Supplies (MoICS)/Ministry of Agriculture (MoA) to take-up and coordinate responsibilities related to application and implementation of the ESMF, including the preparation of the sub-project specific Environmental Assessment and Management Plans (if required).
5) Protect human health and minimize impacts on cultural property.

6) Facilitate to engage key stakeholders and citizens across the project cycle to identify and manage environmental & social issues, impacts and risks associated with the project.

The use/implementation of the Environment and Social Management Framework will also support compliance with applicable legal/regulatory requirements of GoN as well as with the requirements set forth in the relevant Bank policies.

1.8. Application of the ESMF

The ESMF would be integrated into the preparation and implementation stages of the various project components/sub-projects. It is an essential ingredient aligned with the project/sub-project activities and is to be followed through the entire project cycle from planning, including site identification; design; implementation and operation/maintenance to attain the above outlined purpose and objectives.

The ESMF will enable potential social and environmental concerns of the proposed sub-projects to be thoroughly assessed in the planning/design phase and will allow for appropriate measures to be considered during the project implementation. The ESMF has been developed as a decision-making tool to ensure that the activities selected and implemented under project are responsive and sustainable both environmentally and socially. This framework will serve as a tool to guide the project implementers to select the optimal project intervention required to address social and environmental concerns and accordingly prepare/design mitigation plan/s for the planned sub-project/activity.

1.9 Revision/Modification of the ESMF

The Environment and Social Management Framework (ESMF) will be a 'live document' enabling revision, when and where necessary. The ESMF is updated for SRCTIP mainly to guide the environmental and social screening, ESIA/ESMP preparation and implementation of subprojects under the trade facilitation component of SRCTIP. Any unexpected situations and/or changes in the project or sub-component design would be assessed and appropriate management measures will be incorporated by updating the ESMF. Such revisions will also cover and update any changes/modifications introduced in the legal/regulatory regime of the country. Also, based on the experience of application and implementation of this framework, the provisions and procedures would be updated, as appropriate in agreement with the World Bank and the implementing agencies/ departments.

1.10Limitations of the ESMF

This Environment and Social Management Framework has been developed in line with World Bank's Environmental and Social Framework (ESF)and 10 Environmental and Social Standards (ESSs). The ESMF is based on the national and state laws and regulations, as applicable at the time of preparation of this document. Any proposed modifications in the laws, regulations or guidelines that were notified as 'draft' at the time of preparation of this document have not been considered.

1.11Key Contents of the ESMF

The Environment and Social Management Framework for SRCTIP has been structured along the lines:

- Chapter 1: Introduction
- Chapter 2: Over-view of the Project Area
- Chapter 3: Regulatory and Legal Framework
- Chapter 4: Potential Environmental and Social Impacts
- Chapter 5: Environmental and Social Management Process for the SRCTIP
- Chapter 6: Generic Environment Management Measures / Codes of Practice
- Chapter 7: Stakeholder Engagement Framework
- Chapter 8: Institutional Arrangements (including monitoring and reporting).
- Annexures

Chapter 2

OVERVIEW OF THE PROJECT AREA

Nepal is a geographically small land locked country, nestled between China and India, the two most populous and among the world's most rapidly growing economies. Nepal, occupying the central part of the Hindu-Kush Himalayan belt, covers an area of 147,181 square kilometer. The country shares border with India on east, west and south and with the China Xizang Autonomous Region in the north. It is separated from Bangladesh by the 15 kilometer strip of India's West Bengal and from Bhutan by India's Sikkim. On an average it extends about 900 km in east- west and 200 km in north-south direction. A brief over-view about environmental and social conditions of Nepal is being provided in this chapter for better appreciation of the conditions in which project activities will be planned and executed.

The proposed project (SRCTIP) will support trade facilitation to enhance trading and border infrastructure at selected locations such as improvements in cross-border structure & land customs stations, collection centers with cold storage, equipping and accreditation of selected laboratories, construction and expansion of access road, development and expansion of parking yards, and training and capacity building. The proposed project will also support strengthening of the Nepal Intermodal Transport Development Board (NITDB) and Department of Agriculture (DOA) to improve their capacity for better management of the trade assets and environmental & social risks and impacts, quality control, advanced designs and analytics that could help improve the investment planning, prioritization and allocation processes.

The border infrastructure and laboratories will be developed at existing selected ICD sites: Biratnagar and Birgunj. The collection and processing facilities along with cold storage will be constructed around Kathmandu/Kavre and Pokhara. The access roads will be expanded for the connectivity of these infrastructure, laboratories and cold store facilities to trade. Majority of the land required for cross-border infrastructure, laboratories, collection and storage centre will be a greenfield, some community forest consisting of some biodiversity and wildlife species, undulating cultivated agricultural lands, some water sources nearby or passing through settlement populated areas, buffer zone, terraces, and plain/hilly areas with some slopes and possible flood in Terai& landslides in hill/valley. There are no protected areas or national parks under the project. The settlement areas is expected to be inhabited by mixed communities, including some Dalits and Terai indigenous groups, as identified by the GoN.

2.1 Topography

The altitude ranges from below 60 m to more than 8000 m in the Himalayas. Despite its small size, Nepal has a rich diversity of landforms. Geologically and ecologically, the country can be divided into three distinct regions namely the Terai, Hill Region

(consisting of Shiwaliks and Middle Himalayas), and Greater/High Himalayas. The Terai or the plain region is about 300 m above sea level. The Hill Region is situated at 1000 mt. to 4000 mt. above sea level, encompassing the Kathmandu valley, which is the most urbanized and in terms of agriculture the most fertile land for food production. The high elevation Mountain Region has the world's highest peak at 8,848 m (Sagamartha/Mount Everest). All three regions run parallel to each other as continuous ecological belts with unique and diverse ecological zones. Broadly, the terai plain occupies about 20 percent of the total area of the country and the rest is hills and mountains.

2.2 Climate

Nepal's climate pattern varies in similar pattern to its altering altitude. In the Terai Region, the climate is tropical and sub-tropical. Based on altitude, Nepal is classified into five climatic zones.

- Tropical and sub-tropical zone (altitude below 1200 m);
- Cool, temperate zone (altitude between 1200 to 2400 m);
- Cold zone (altitude of 2400 to 3600 m);
- Sub-arctic climatic zone of altitude 3600 to 4400 m.
- Arctic zone with altitude above 4400 m.

The average annual precipitation is around 1600 mm of which almost 80 percent occurs during the period of June-September. The variation ranges from less than 300 mm in the rain shadow dry region to around 5000mm in the wet region.

2.3 Hydrology

About 6000 rivers drain Nepal. These rivers are broadly classified into three categories based on the nature of their source and discharge.
In the first category are perennial rivers that originate in the Himalayas and carry snow fed flows with significant discharge even in the dry season. This includes the Koshi, Gandak, Karnali and Mahakali river systems. In the second category are the rivers, which originate in the mid-lands of Mahabharat range of mountains and are fed by precipitation as well as ground water regeneration, including springs. Mechi, Kankai, Kamala, Bagmati, West Rapti and Babai rivers fall under this category. Although these rivers are also perennial, they are commonly characterized by wide seasonal fluctuations in discharge. The third category of river systems includes a large numbers of small rivers in the terai, which originate from the southern Siwalik range. These rivers are seasonal and are characterized by flash floods during the monsoon and little or no discharge during dry season. They drain the areas between basins covered by large and medium rivers.

2.4. Vegetation

The vegetation distribution in Nepal follows the climate spectrum. The Terai and Churia ranges are covered in moist deciduous vegetation consisting of *Khair* (Acacia catechu), *Sal* (Shorearbusta), *Sisoo* (Dalbergiasisoo). At elevations of 5000 feet to about 10,000 feet which encompasses the Maharabhata ranges, the vegetation largely consist of a mixture of Pines, Oak, Rhododendrons, Walnuts and Larch. Beyond this vegetation belt, Birch and Rhododendrons abound. In the mid-mountain region, remaining forests are largely restricted to the most inaccessible forest areas, where there are limited human habitations and livelihood activities. But in the Terai region, Sal forests have been removed for habitation, infrastructure and other human activities.

2.5. Fauna

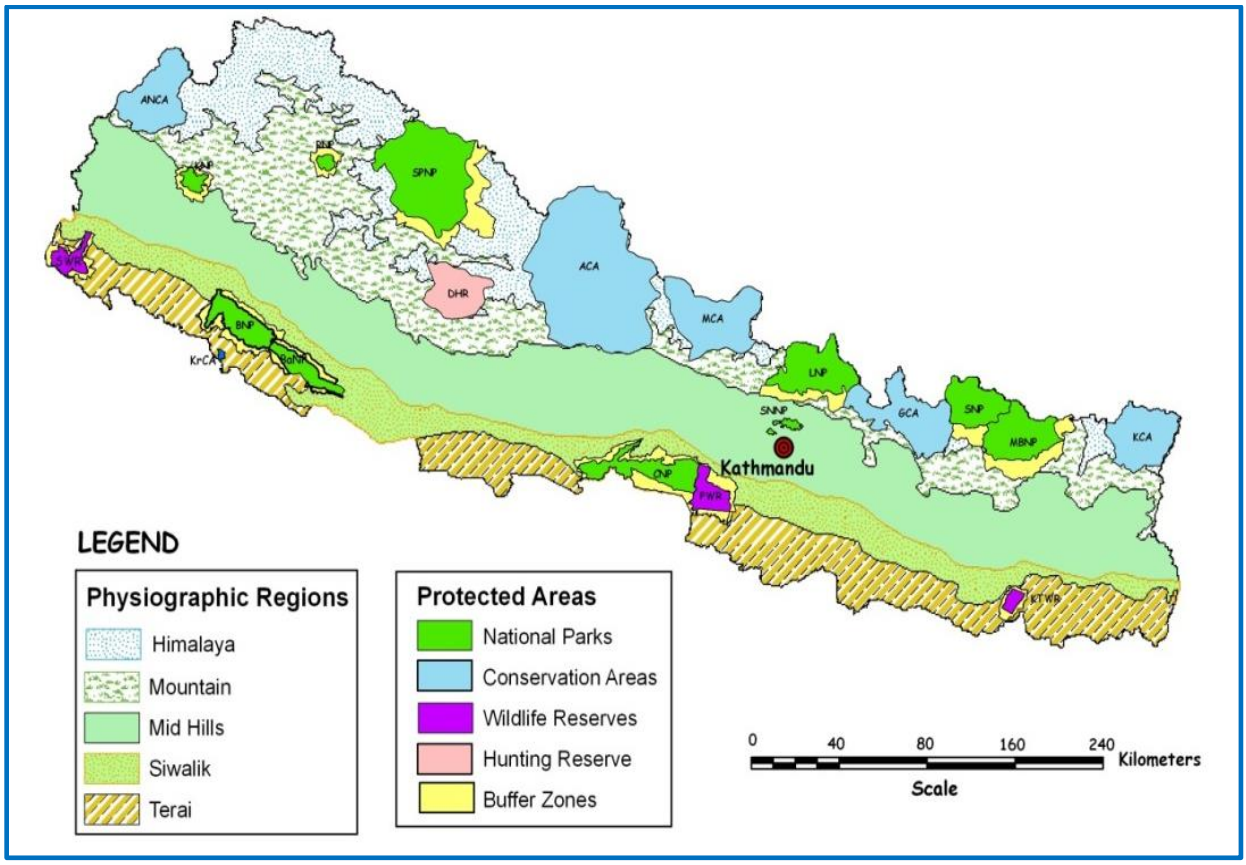
From the lowlands of the Terai to the icy heights of the Himalaya, Nepal possesses biological diversity that is truly impressive. Nepal is one of the few countries in the world where the population of several keystone species have increased following the establishment of protected areas. The country has been highly successful in establishing an impressive network of protected areas as a means of protecting biodiversity. Nepal's protected areas (PA) with coverage of over 3.4 million hectares of forest are also home to rich biodiversity and a source of environmental services[5]. To date, from just 8% in 1980s, over one-fifth of the country's surface area is now under protected area jurisdiction. Considering the growing importance of the PA system globally, Nepal has established a fairly extensive network of protected areas that cover 23.39% of its total land area which is equivalent to 34,419 sq. km[6]. The ratio of protected area to total land area of the country is one of the highest in Asia. With the introduction of the Buffer Zone concept, the area under conservation regime will increase further.

Although Nepal possesses an area of just 147,181 sq km (a mere 0.1% of the world's total landmass), it nevertheless accounts for over 2% of the world's flowering plants, about 8% of the world's bird species and over 4% of the world's mammal species. With such a vast biological repository of global significance, Nepal is undoubtedly a biological (as well as a cultural) hotspot that deserves special attention. And the fact that two of the protected areas Royal Chitwan and Sagarmatha National Parks are listed as UNESCO World Heritage Sites stands testimony to this.

[5]https://kathmandupost.com/climate-environment/2019/06/10/government-plan-to-introduce-tourism-activities-in-protected-areas-alarms-conservationists

[6]NTNC (2019). Protected Areas: For species, habitats and people. https://ntnc.org.np/thematic-area/protected-areas-and-ecosystems

Figure 2.1: Physiographic Regions and Protected Areas of Nepal



In terms of faunal distribution, the Terai arc region habours a majority of wildlife species including Tigers, Leopards, Gaur, Elephants, Wild Buffalo, Deer – Chital, Sambar, Swamp Deer. The Rapti valley located in the south central of the country has the largest population of the One-horned Rhinoceros.

Population of wild animals in the middle belt is relatively low compared to the Mountain and the Terai region largely to forest area clearing for human habitation. However, connecting corridors from the Terai to the Mountain ranges allow genetic connectivity. The Musk deer, Tahr, Goral, Wild Sheep and Snow Leopards inhabit the Mountain (alpine) ranges. The river systems and wetlands are also rich in biodiversity, which includes several aquatic species and birds.

2.6. Natural Disasters

Rugged topography, young geology and monsoon climate, all combine to produce high rate of run-off, erosion and sedimentation. At times, tremendous natural forces as earthquakes, floods and landslides are unleashed. Human activities have also resulted in pressure on bio-physical resources of the country. Such natural features associated with intense monsoon rainfall as well as human interventions render the country highly

vulnerable to water induced disasters such as floods, landslides, debris flow etc. demanding effective and sustainable countermeasures.

Fragile geology, steep topography, high intensity rainfall and drainage congestion make Nepal's eco-system quite delicate. Floods, landslides and debris flows have been a common feature and have become a matter of great concern for human security, livelihood and sustainability of infrastructure.

2.7. Trade and Transport Infrastructure

Nepal's territory is mostly mountainous and hilly and its transport infrastructure is poor, leaving many communities with limited access to local and international markets. It is largely dependent on India for transit connections and for links to marine transport from the Bay of Bengal, even for goods coming from China.

The transport sector in Nepal is dominated by road transport, which accounts for almost all domestic passenger and freight movements. Nepal does not have an operational domestic railway system, except for a short stretch at Birgunj that connects to the Indian system. Waterways and ropeways transport are also practically non-existent in Nepal. Road transport is therefore the only dominant mode of transport within the country and between the country and its neighbors. Road congestion is increasing at Nepal's borders because of higher traffic volumes and because transit is constrained by the poor condition of roads.

All of these constraints and the country's difficult terrain conspire to make Nepal's transport costs among the highest in the world and second highest in South Asia after Afghanistan.

2.8 Population

Government of Nepal conducts national census in every 10 years. The latest census was conducted in 2011. The Preliminary Results of National Population Census, 2011 of the country estimates a total population of 26.7 million. Female population is estimated at 13.69 million while the male population stands at 12.92 million that is 48.56 percent males against 51.44 percent females. Nearly 1.8 million people live in mountains, 11.5 million in hills and 13.4 million in Terai. The population increased by 14.99 percent in the past decade with an average annual growth rate of 1.40 percent. Multiethnic and multilingual country with as many as 102 ethnic groups and 92 languages are noted in the country.

2.9. GenderProfile

As of 2018, Nepal's Gender Development (GDI) value (F:M) is 0.897, slightly below Sri Lanka (0.938) and above South Asian average (0.828). Life expectancy at birth is 71.9

and 69.0 for female and male respectively. Expected years of schooling for female and male are 12.7 and 11.7 years while mean years of schooling for female and male are 3.6 and 6.4 years respectively. GNI per capita (measure of command over economic resources) for female and male is 2,113 and 3,510, which is below average south Asian figures in either case. Gender Inequality Index (GII) for Nepal is 0.476 ranking 115th position in the world. Gender disparities in political participation are decreasing both in elected and administrative government. The percent of women in the parliament is 33.5. Implementation of an inclusion policy of women in the civil service shows positive trends.[7]

The labour force participation rate for female and male is 81.7 and 84.4 respectively. However, women's low status in the control of resources and political decision making remains, as does high incidence of violence against women (including early marriage and sex selective abortions).

The maternal mortality ratio (MMR) in Nepal decreased from 539 maternal deaths per 100,000 live births to 239 maternal deaths per 100,000 live births between 1996 and 2016. In 2016, roughly 12% of deaths among women of reproductive age were classified as maternal deaths. The 2016 NDHS results show that 84% of women who gave birth 23 in the 5 years preceding the survey received antenatal care (ANC) from a skilled provider at least once for their last birth. Sixty-nine percent of women had four or more ANC visits.Survey data show that in Nepal, 58% of the births in the 5 years preceding the survey were delivered by a skilled provider and 57% were delivered in a health facility.[8]

The overall under-5 mortality rate has declined from 118 deaths per 1,000 live births during the 5 years immediately preceding the 1996 NDHS to 61 deaths per 1,000 live births in the 5 years prior to the 2006 NDHS, to 39 deaths per 1,000 live births in the most recent 5-year period. Infant mortality decreased from 78 deaths per 1,000 live births, to 48 deaths per 1,000 live births, to 32 deaths per 1,000 live births over the same periods. Though the neonatal mortality stagnated at 33 deaths per 1,000 live births for nearly a decade as reported by the 2006 NDHS and 2011 NDHS, it has declined to 21 deaths per 1,000 live births in the most recent 5-year period (in 2016). The mortality rate among children under five years has been halved during the past 10 years which could be due to well-coordinated scale up of highly effective child survival interventions, such as vitamin A distribution, immunization and pneumonia treatment. Though Nepal met its Millennium Development Goal target of reducing under-5 mortality to 54 deaths per 1,000 live births by 2015, it has a long way to go to meet

[7] UNDP (2019). Briefing note for countries on the 2019 Human Development Report-Nepal. Available at http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/NPL.pdf

[8]MoH (2017). Demographic and Health Survey 2016 Key Indicators Report. https://www.healthynewbornnetwork.org/hnn-content/uploads/Nepal-DHS-2016-Key-Indicators.pdf

the SDG target for 2017, reducing under-5 mortality to 28 deaths per 1,000 live births (National Planning Commission 2015)[9].

Although the legal age of marriage is 20 for both male and female, it is hardly implemented in Nepal. According to Civil Act *(Dewani Achar Samhita)* marriage chapter, the legal age for marriage is 20 for both male and female 20 or 18 where the marriage is solemnized with the consent of guardians. As of Nepal Demographic and Health Survey (NDHS) 2016, Women in Nepal marry at an earlier age than men. The median age at first marriage for women age 25- 49 is 17.9 years, compared to 21.7 years among men age 25-49. Women with no education marry 4.6 years earlier than women with SLC and above education (16.8 years versus 21.4 years). More than half (52%) of women are married by age 18, compared to 1 in 5 men (19%)[9].

2.10. Economic Characteristics

According to the Global Human Development Report 2019, Nepal's HDI value for 2018 is 0.579— which put the country in the medium human development category—positioning it at 147 out of 189 countries and territories. Nepal's 2018 HDI of 0.579 is below the average of 0.634 for countries in the medium human development group and below the average of 0.642 for countries in South Asia. From South Asia, countries which are close to Nepal in 2018 HDI rank and to some extent in population size are Afghanistan and Sri Lanka, which have HDIs ranked 170 and 71 respectively.[10]

Nepal has the lowest GDP per capita among all South Asian countries (UNDP 2019). The GDP per capita for Nepal in 2017 was US$ 835.08 as compared to US$ 4,065.22 of Sri Lanka and US$ 1,939.61 of India. The slow pace of economic growth in Nepal is also reflected in its GDP growth rates over recent years.

Human settlement is sparse in the Himalayan region due to harsh environmental conditions - the mountain region is the traditionally populated zones of the country. The Terai region, due to its comparative advantage in transportation and agriculture resources, has led to the higher population growth than in other regions. The economy remains heavily dependent on agriculture as approximately 66 percent of the national population is engaged in agriculture. In terms of output, however, only 36 per cent of the nation's GDP is accounted for by this sector.

Nepal remains in the 2018 list of Fragile States (FCS). Nepal has demonstrated remarkable resiliency throughout these challenges to emerge as the third most improved country in the world in the 2018 Fragile States Index (FSI). The country's

[9]MoH (2017). Demographic and Health Survey 2016 Key Indicators Report. https://nepal.unfpa.org/sites/default/files/pub-pdf/NDHS%202016%20key%20findings.pdf

[10] UNDP (2019). Briefing note for countries on the 2019 Human Development Report-Nepal. Available at http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/NPL.pdf

score improved by 3.1 points from the previous year, making this Nepal's best-ever score in the FSI[11].Nepal's position is sixth of the 10 fragile recipients of remittances, accounting for 6% weightage[12]. The significant progress, including in the reintegration of the ex-combatants, is yet to result in completion of the peace process as outlined the Comprehensive Peace Agreement of 2006.

2.11. Land holdings

Nepal's economy largely depends on agriculture, which employs 73.9% of its economically active population[13] and contributes approximately 31.1% to GDP[14]. About 14.7% of land in Nepal is arable[15]. Nepal's arable land availability is 0.08 hector per person, which is very low compared to per capita rates of 0.12 in India, 0.09 in China and the world average of around 0.19[16]. In addition, there are many challenges related to land management. The problem of limited land availability is exacerbated by highly skewed distribution of land, with the top 5% of landowners owning a total of 37% of available land and 47% of landowners owning only 15% of available land[17].

Nepal's land holdings are highly fragmented with an average of more than three parcels per holding. The households with larger holdings, between five and ten hectares, had the highest average number of parcels (about 7.5 per household)[18]. Moreover, the majority of farmers are smallholders, with an average holding of 0.79 hectares in 2001. About 8% of households had more than two hectares of land, fragmented into an average of six parcels[19].

2.12Poverty

The most recent survey data that were publicly available for Nepal's Multidimensional Poverty Index (MPI) estimation refer to 2016.The MPI, which is the share of the population that is multidimensionally poor, adjusted by the intensity of the deprivations, is 0.148 for Nepal.In Nepal, 34.0 percent of the population (9,961

[11]https://fundforpeace.org/2018/05/10/nepal-enjoys-the-dividends-of-two-decades-of-difficult-decisions/
[12] OECD (2018). States of Fragility. https://www.oecd.org/dac/conflict-fragility-resilience/docs/OECD%20Highlights%20documents_web.pdf
[13] CBS. (2008). Nepal Labour Force Survey 2008 (NLFS II). Nepal Planning Commission (NPC), GoN, Kathmandu.
[14] NRB. (2010). Nepal Economic Report 2009/10. Nepal Rastra Bank, Kathmandu, Nepal
[15] World Bank (2016). Worldbank online database - Agriculture and Rural Development: Arable land. https://data.worldbank.org/indicator/AG.LND.ARBL.ZS?disp
[16]World Bank (2016). Worldbank online database- Arable land (hectares per person). https://data.worldbank.org/indicator/AG.LND.ARBL.HA.PC?disp=null
[17] Adhikari, J. (2006). Land Reform in Nepal: Problems and Prospects. Nepal Institute of Development Studies (NIDS), Kathmandu, Nepal.
[18] CSRC. (2009). Land and land tenure security in Nepal: A study report. Community Self Reliance Center (CSRC), Kathmandu, Nepal.
[19] CBS. (2011). Nepal in Figure 2011. Nepal Planning Commission, Go N, Kathmandu, Nepal.

thousand people) are multidimensionally poor while an additional 22.3 percent are classified as vulnerable to multidimensional poverty (6,543 thousand people). The breadth of deprivation (intensity) in Nepal, which is the average deprivation score experienced by people in multidimensional poverty, is 43.6 percent.[10]

2.13. Poverty Alleviation Programs

Nepal aspires to graduate from least development country status by 2022 and become a middle-income country by 2030. In Nepal, most of the plans, had poverty alleviation as the main objective but they are not as fruitful as expected by the concerned authorities. The objective of the 14th periodic plan, FY2017–FY2019 is to facilitate socioeconomic transformation and poverty reduction through high economic growth, with productive employment and equitable distribution of resources. The plan sets a target of reducing headcount poverty to 17.0% by FY2020 from the estimate of 21.6% in FY2016, and achieving annual gross domestic product growth of 7.2% per annum, of which non-agricultural growth is estimated at 8.4% per annum. The country partnership strategy for Nepal, 2013–2017 is in line with the national development goals and aims to enhance global–local connectivity to facilitate regionally balanced and inclusive growth, and prioritizes investment in the transport sector. This is to be complemented by investments in customs modernization, coordinated through the South Asia Subregional Economic Cooperation program.[20]The 15th plan (2019/20-2023/24) also aims to reduce poverty and achieve sustainable development[21]. The proposed SRCTIP-trade component is thus fully aligned to the country partnership strategy, and will contribute to poverty reduction indirectly.

[20] ADB (2019). Summary Poverty Reduction and Social Strategy. https://www.adb.org/sites/default/files/linked-documents/50254-001-ld-sprss.pdf

[21] NPC (2019). Approach Paper to 15th Plan. https://www.npc.gov.np/images/category/15th_Plan_Approach_Paper2.pdf

Chapter 3

REGULATORY AND LEGAL FRAMEWORK

All activities under the project must be consistent with the applicable laws, regulations, and notifications of the Govt. of Nepal that are relevant in the context of the proposed interventions/activities. The Project Coordination Office (PCO), Ministry of Industry, Commerce and Supplies (MoICS)/Ministry of Agriculture (MoA), the concerned line departments/agencies would ensure that the sub-projects/activities proposed and executed under SRCTIP are consistent with the regulatory and/or legal framework, whether national, state or municipal/local. Additionally, it is also to be ensured that activities are consistent with World Bank's Environmental and Social Standards (ESS) and Environmental Health and safety Guidelines. This section is not a legal opinion on the applicability of the law but serves as guidance in the application of the various laws and regulations to the current project context. It is understood that in case requirements of Nepalese laws differ from those of ESF, the more stringent requirements will apply to the project/trade component of the project.

3.1 Key Applicable National EnvironmentalLaws and Regulations

Current Country Context

Nepal has undergone major political change in recent years. With the promulgation of new Constitution in 2015, Nepal is in the process of significant political and administrative transformation – moving to federal system and consequently restructuring of the state and institutions[22]. This represents a fundamental change for Nepal with huge implications for the functions and responsibilities of government at all levels. Local, State and federal elections were recently held. It is clear that these changes will have a strong transformative influence in all sectors - although many of the details have still to be worked out. The new Constitution of Nepal 2015, responsibility for the transport sector[23] is split among the three tiers of the government as broadly described below:

1. Federal power:
   - National transportation policies, Management of railways and national highways and environment adaptation and sites for archaeological importance and ancient monuments
   - National and international environmental management, national parks, wildlife reserves and wetland, national forest policies and carbon services
2. State Power:
   - State highways; use of forest & water;& management of environment within the state.

[22]There will be three levels of governments – one federal government, 7 provincial governments, and 753 local governments/municipalities – and several central agencies are being merged and new agencies being created.
[23]This could have implications on access road-bridge construction-as the road and bridges is under the transport sector.

3. Local level power:
   - Local road, rural roads, agro road, Protection of watershed, wildlife
4. Concurrent powers of Federation and State:
   - State Boundary River, waterways, environment protection, biological diversity, Industry, mines and physical infrastructure.
5. Concurrent powers of Federation, State and Local Level:
   - Forest wild life, birds, water use, environment, ecology and biodiversity.

New structures for government and administration at all three levels are imminent. The role and responsibility of Ministries and Departments under new federal structure are yet to be worked out. States are empowered under the new constitution to develop and enact their own forest policies, laws and regulations appropriate to their own contexts. In responding to the new constitution, the present government administration will undergo considerable change. Many functions previously held centrally likely to be devolved to the states and/or local levels and there will inevitably be capacity gaps at these levels – at least during the initial years. Several existing policies, acts and regulations will also have to be amended in line with the new constitution.

This section highlights the salient features of selected laws, which may have a bearing on the design and implementation on some proposed activities/interventions under the project. A summary of such applicable rules and regulations is furnished in the table below:

Table 3.1: Applicable Environmental Policies, Acts, and Regulations

Act/Regulation	Key Requirement/s or Salient Features	Applicability
The constitution of Nepal, 2072 (2015)	According to the Constitution of Nepal (2015) every citizen has the right to live in a clean environment. The victim shall have the right to obtain compensation in accordance with law, or any injury caused from environmental pollution or degradation.	Yes, the constitution is the fundamental law of Nepal.
Local Government Operation Act, 2017	The Act, 2074 (2017) provides more autonomy to District Coordination Committees, Municipalities and Rural Municipalities. The Act provides the functions, rights and duties of the Ward Committee. Act requires the ward to help for protection of environment through plantation over the bare land, cliff and mountains. It has mentioned the functions, rights, and duties of RMs, Municipalities and DCC. Apparently, RMs has an absolute authority over the natural resources. Thus, this act empowers the local bodies for the conservation of soil, forest, and other	Yes, close coordination is required with the local government.

Act/Regulation	Key Requirement/s or Salient Features	Applicability
	natural resources and implements environmental conservation activities.	
14th Plan (2016-2019) & 15th Development Plan (2019-2024), Nepal Environmental Policy (NEP) 2076(2019) and Action Plans	The 14th Plan (2016-2019) & 15th Development Plan (2019-2024), Nepal Environmental Policy (2019) and Action Plan (1993, Amended), *inter alia*, provide a broad basis for environmental and social management in Nepal. These umbrella policies, in general, promote prevention of adverse impacts, protection and sustainable use of natural resource, equitable distribution of benefits, balancing development and environmental conservations etc.	Yes, the umbrella documents guide ES management.
The Environment Protection Act (EPA), 2019	An umbrella act is the principal regulatory frameworks to make the development programs and projects environment-friendly which are now enforced through appropriate regulatory measures. The law contains several provisions to internalize environmental assessment system and to maintain a clean and healthy environment by minimizing the adverse impacts on human beings and other life forms and physical objects. The act highlights that any development project, before its implementation has to pass through environmental assessment, which will be either brief environmental study (BES),Initial Environmental Examination (IEE),Environmental and Social Impact Assessment (ESIA) or Strategic Environmental Analysis (SEA)depending upon the location, type and size of the projects.	Yes. Depending on the location, type and size, a sub-project may require a BES, an IEE, an ESIA or a SEA.
Environmental Protection Regulations, 2054 BS (1997; Amendment, 2017)	EPR 2017 provides specific information related to the act and also obliges the proponent to inform the public on the contents of the proposal in order to ensure the participation of stakeholders.	Yes. This would apply to individual sub-project as well as the over-all operation.
Forest Act, 2049 BS (1993)	Section 68 of the Forest Act, 1993 empowers the Government in case of no alternatives, to use the Forest Area for the implementation of the project if	Yes - if a sub-project is

Act/Regulation	Key Requirement/s or Salient Features	Applicability
	it is considered as a national priority by the Government.	proposed on forest land.
	If there are no significant adverse effects on the environment while conducting such a plan, the Government may give assent to use any part of the Government Managed Forest, Community Forest, Leasehold Forest or Religious Forest for the implementation of such a plan or project.	
Forest Rules, 2051 BS (1995)	• Elaborates legal measures for the conservation of forests and wildlife. • Rule 65 of the Forest Regulation stipulates that in case the execution of any project having a national priority in any forest area causes any loss or harm to any local individual or community, the proponent of the project itself shall bear the amount of compensation to be paid.	• Yes. Applicable if the sub-project location falls within a forested area. • Yes. Applicable if sub-project location is selected within a forest area.
Forest Policy (2000)	Policy emphasizes the conservation of natural resources and biodiversity. The Forest Policy has re-emphasized the conservation of forests, species and soil, and their sustainable use. The policy calls upon enhancing people's participation in the development and management of forests, and promotes to include the communities in the decision-making process. The policy also promotes benefit sharing, which are accrued from natural resources management, particularly the forests. The policy instruments oblige the project proponent to avoid or limit damage and/or affect the environmental resources while implementing project and/or program.	Yes. Applicable if the sub-project location falls within a forested area.
National Parks and Wildlife	• Highlights prohibited activities in a protected area. Activities are not allowed in protected areas (National Park, Conservation Area, Wildlife	Yes. Applicable when a proposed sub-project is

Act/Regulation	Key Requirement/s or Salient Features	Applicability
Conservation Act, 2029 BS (1973)	Reserve, Hunting Reserve, Strict Nature Reserve and Buffer zones) without a written permission from authorized officials.	within a protected area.
	• The rule (Conservation Area Management Rule, 1996) helps in screening the sub-components of the project by assessing negative listings. • Addresses conservation of ecologically valuable areas and indigenous wildlife. The Act prohibits wildlife hunting, construction of houses and huts, damage to plants and animals etc. within the park and reserve, without the written permission of authorized agency/official-in-charge.	Yes. Yes. Applicable if a proposed sub-project location is within or close to a protected area.
National Environmental Impact Assessment Guidelines, 2050 BS (1993)	The guidelines provide guidance to project proponent on integrating environmental mitigation measures, particularly on the management of quarries, borrow pits, stockpiling of materials and spoil disposal, operation of the work camps, earthworks and slope stabilization, location of stone crushing plants, etc.	Yes. Applies to civil works related with the construction/ improvement of facilities/ infrastructure in the project.
Solid Waste Management and Resource Mobilization Act 1987 (with amendment in 1992)	The Act describes the procedures for disposing solid waste. It categorizes harmful hazardous wastes and provides information on several controlling measure. There is provision to appoint inspection officer for checking and monitoring solid waste control and management. The inspector has authority to take action against the polluter or polluting agency. Disposal of battery and electronic goods can be carried out on the basis this act but it does not provide specific guidelines for the disposal of such wastes. Auctions are the procedure usually followed to dispose such wastes. Proposed amendment of 2011 for this act is under the process of endorsement.	May apply – depends on type of waste generated during construction and operation of facilities supported by the project.

Act/Regulation	Key Requirement/s or Salient Features	Applicability
The Labor Act, 2074 BS (1992)	Regulates the working environment and deals with occupational health and safety aspects.	Yes.
The National Transport Policy, 2058 BS (2001)	The policy emphasizes construction and improvement of the road/s that provide beneficial environmental impacts (MPPW, 2001). The policy also focuses on making arrangement to dispose battery, waste oil, grease and other oily substances at designated places.	Yes. Applies to N-M Road sub-project and may apply to other sub-projects that require creation of access roads.
Climate Change Policy GoN, 2001, amended 2011 AD	The Climate Change Policy, 2011 is based on Nepal's ratification on November 1, 1993 of the United Nations Framework Convention on Climate Change (UNFCCC) negotiated at the UN Conference on Environment and Development (UNCED) or the Earth Summit held at Rio de Janeiro, Brazil in June 1992. Nepal also acceded to the Kyoto Protocol (KP) which is an international agreement linked to the UNFCCC, on 19 September 2005. Nepal also adopted a National Adaptation Program of Action (NAPA), 2010 and Local Adaptation Program of Action (LAPA), 2011 for climate change adaptation. The main goal of the Climate Change Policy, 2011 is to improve livelihoods by mitigating and adapting to the adverse impacts of climate change, adopting a low carbon emissions socioeconomic development path, and meeting the spirit of the country's national and international agreements related to climate change.	Yes. Applicable especially in the Terai region where land is susceptible to floods during peak rainy season and in hills which are prone to landslides.
Land Range Policy, 2012	The Policy defines land range as natural pasture land, grassland and shrub-land. It aims to increase productivity by improving forage/grass productivity, to protect livestock farmers' traditional rights for pasturing livestock in community rangeland and forest, and to determine stocking density to minimize competition between grazing domestic and wild animals. The Policy seeks to secure the facilities traditionally enjoyed by livestock farmers using range-lands located within community forests. The Policy identifies provisions to collect and conserve the green forage (grass) during the rainy season and winter and dry seasons in order to ensure continuous	Yes, considering the nature of land to be affected,

Act/Regulation	Key Requirement/s or Salient Features	Applicability
	supply of cattle feed round the year. The Policy seeks to determine livestock density on the basis of capacity of the rangelands for minimizing the grazing competition and pressure of both domesticated and wild animals, and imposes charges or penalties on cattle for using rangeland with the goal of limiting unproductive cattle on the rangeland.	
National Bio-safety Framework and Policy, 2006	To protect bio-diversity and human health from the unfavorable impacts of imports, production and the use of genetically modified organisms (GMOs).	Yes.
Information and Communication Policy, 2059 BS	The policy has developed long-term requirements for information and communication.	Yes.

3.2 Key Applicable National Social Laws and Regulations

There are a several laws related to addressing social issues in the country. The policies relevant to the project are briefly explained below.

Table 3.2: Applicable Social Policies, Acts, and Regulations

Act / Regulation	Salient Feature/s	Applicability
The constitution of Nepal, 2072 (2015)	According to the Constitution of Nepal (2015) every citizen has the right to health and social services. It also ensures right to Property, states that "Every citizen shall, subject to the laws in force, have the right to acquire, own, sell and otherwise dispose of the property".The State shall not, except in the public interest, requisition, acquire, or create any encumbrance on the property of any person. (This clause shall not be applicable on property acquired through illegal means). Compensation shall be provided for any property requisitioned, acquired or encumbered by the State in implementing scientific land reform program or in public interest in accordance with	Yes,the constitution is the fundamental law of Nepal. Also, yes- if a sub-project requires private land acquisition.

Act / Regulation	Salient Feature/s	Applicability
	law. The compensation and basis thereof and operation procedure shall be as prescribed by the law.	
Local Government Operation Act, 2017	The Act, 2074 (2017) provides more autonomy to District Coordination Committees, Municipalities and Rural Municipalities. The Act provides the functions, rights and duties of the local government including Ward Committee. It has mentioned the functions, rights, and duties of RMs, Municipalities and DCC. Apparently, RMs has an absolute authority over local development processes.	Yes, close coordination is required with the local government.
14th Plan (2016-2019) & 15th Development Plan and Action Plans	The 14th Plan (2016-2019) & 15th Development Plan (2019-2024), Nepal Environmental Policy (2019) and Action Plan *inter alia*, provide a broad basis for environmental and social management in Nepal. These umbrella policies, in general, promote prevention of adverse impacts, protection and sustainable use of natural resource, equitable distribution of benefits, balancing development and socio-culturalaspects etc.	Yes, the umbrella documents guide ES management.
Labour Act, BS 2074 (2017), Laour Regulations (2019)	The Act and regulations have many mandatory provisions related to employment, labor management, right of employers and employees.It provides for the mode of appointment, working hours, control of child labor, equal remuneration and other labor requirements.	Yes. The act is mandatory and directly relevant to implementation of the proposed project activities.
Land Acquisition, Resettlement and Rehabilitation Policy, 2015	Government of Nepal has enacted Land Acquisition, Resettlement, and Rehabilitation Policy, 2015. The policy emphasizes scientific standards for land valuation and extension of compensation equivalent to minimum market value of land. A provision in the policy allows the government to take action against those	Yes, also related to WB ESS 5.

Act / Regulation	Salient Feature/s	Applicability
	who try to disrupt land acquisition process or create hurdles for the project. In this regard, the policy has stressed on the need to first assessment of socio-economic impacts of a project. All expenses related to land acquisition, compensation and implementation of resettlement and rehabilitation plans should be considered as a project cost. It has four approaches for land acquisition: Voluntary donation, Direct negotiation, Land development program, and Expropriation.	
Land Acquisition Act, 2034 (1977 AD) with amendment in 2018 (2075 BS); and Land Acquisition Rules, 2026 BS (1969 AD)	The Land Acquisition Act (LAA), 2034 BS (1977 AD), first promulgated in 1961 AD (amended as Land Acquisition Act, 2018 AD) is the core legal document to guide tasks related to land acquisition and resettlement activities in Nepal. Government can acquire land at any place in any quantity by giving compensation to the land owner pursuant to the Act for any public purposes or for operation of any development project initiated by government institutions.	Yes – if a sub-project requires private land acquisition.
National Land Use Policy, 2012 AD	The Policy aims to encourage optimal use of land for agriculture by classifying the country's land territory into seven land use categories—agricultural, forest, residential, commercial, public, industrial, and others. Land in the agriculture category is for agricultural cultivation, livestock farming, and tree plantation. The Policy also aims to increase agricultural productivity by systematizing land fragmentation and by adopting a land pooling system. The goal is to encourage commercial, cooperative and contractual farming.	Yes, mainly in case of acquisition.
Child-Related Act 1993 (2048 BS) and Child Labour Act 2001 (2056)	Government policy and child act define child labor below 16 years in risk-prone sectors and below 14 years in non-risk prone sectors and are not allowed to work. A strong vigilance is required to restrict child labor in construction and associated works.	Yes.

Act / Regulation	Salient Feature/s	Applicability
National Foundation for Development of Indigenous Nationalities Act, 2058 BS (2002 AD)	National Foundation for Upliftment of Adivasi/Janjati Act, 2058 (2002) defines those ethnic groups and communities who have their own mother language and traditional rites and customs, distinct cultural identity, distinct social structure and written or unwritten history. The act has recognized 59 indigenous communities in Nepal. These indigenous communities are known as Adivasi/Janjati in Nepali and Indigenous Nationalities in English as per the act. These groups as whole are generally considered to be the marginalized segment of the population who engage in economic activities ranging from hunting/gathering and shifting agriculture in or near forests to wage laborers or even small-scale market oriented activities. It has given significant emphasis on delivering basic services and special attention to the disadvantaged and indigenous people, scheduled occupational castes, and other vulnerable groups.	Yes, special attention requires in line with WB ESS 7.
Land Reform Act (LRA) 2021 (1964).	This Act establishes the tiller's right on the land, which he is tilling. The LRA additionally specifies the compensation entitlements of registered tenants on land sold by the owner or acquired for the development purposes.	Yes – if a sub-project requires private land acquisition.
The Forest Act, 1993	Clause 68 (1) of the Forest Act 2049 (1993) states that the government may permit the use of any part of government-managed forest, leasehold forest or community forest, if there is no alternative for the implementation of a plan or project of national priority without significantly affecting the environment. According to the clause 68 (2), if any loss to persons or community is involved while permitting use of such land, it is required to compensate the loss.	Yes – if a sub-project requires acquisition of forest land.

Act / Regulation	Salient Feature/s	Applicability
Guthi Corporation Act, 2033 (1976)	Land acquisition must also comply with the provisions of this Act. Section 42 of this Act states that Guthi (religious trust land) acquired for a development must be replaced with other land, rather than compensated in cash.	Yes – if a sub-project requires acquisition of Guthi land.

3.3 International Conventions

Nepal is signatory to many international conventions, which deal with the protection of environment and safeguard social interest. A few key that may apply to the project include the following:

Table 3.3: Applicable International Norms

Convention	Salient Feature/s	Applicability
Convention on Biological Diversity (CBD), 1992	The Convention on Biological Diversity was signed by Nepal at Rio de Janeiro on June 12, 1992. The convention and particularly Article 14 provides a broad framework on the need for carrying out ESIA to minimize adverse impacts of the projects and programs on biodiversity.	Yes. Applies if a sub-project requiresEA or may impact bio-diversity/ protected species/ areas.
ILO Convention on Indigenous and Tribal Peoples, 1989 (No.169)	In 2007, the UN Declaration on the Rights of Indigenous Peoples was adopted by the General Assembly. Nepal ratified ILO Convention No. 169 on September 14, 2007 (BS 2064/05/28). Article 1 of the convention provides a definition of tribal and indigenous peoples. Article 6 requires consultation with the peoples concerned through appropriate procedures and, in particular, through their representative institutions, whenever consideration is being given to legislative or administrative measures which may affect them directly. In Article 15, it states that indigenous and tribal peoples shall, wherever possible, participate in the benefits of natural resource utilization activities and shall receive fair	Yes. If there is presence of indigenous people in the sub- project area, the convention requirements are applicable to the proposed project.

Convention	Salient Feature/s	Applicability
	compensation for any damages which they may sustain as a result of such activities. Article 16(2) clearly mentions that where the relocation of these peoples is considered necessary, such exceptional measures and such relocation shall take place only with their free and informed consent. Where their consent cannot be obtained, such relocation shall take place only following appropriate procedures established by national laws and regulations, including public inquiries where appropriate, which provide the opportunity for effective representation of the peoples concerned. Article 16(3) mentions that, whenever possible, these peoples shall have the right to return to their traditional land as soon as the grounds for relocation cease to exist. Article 16(5) specifies the persons thus relocated shall be fully compensated for any resulting loss or injury.	
Ramsar Convention on Wetlands	On the basis of this convention, The Nepal Environmental Policy and Action Plan (NEPAP) 1993 gives high priority to identification and protection of marshes, wetlands and water bodies, which are significantly rich in biodiversity. This plan has also recommended a study to assess the biological diversity of endemic plants and animals, both terrestrial and aquatic that occurs outside protected areas on farmlands, pastures, rangelands, forests, rivers, lakes and ponds. NEPAP is an effective initiative for the protection of wetlands and has provided a good policy foundation for developing the National Biodiversity Action Plan.	Yes. Applies if the sub-project area falls within or near wetlands, marshes or major water bodies.
Basel Convention, 1989	Basel Convention on the control of trans-boundary movements of Hazardous Waste and	No.

Convention	Salient Feature/s	Applicability
	their disposal was adopted in 1989. The convention came into force in 1992 and 170 parties have been in this convention in 2008.The objectives of this convention are: - to minimize quantity and hazard of wastes generated. - to endure environmentally sound management and adequate disposal facilities to dispose of wastes as close as possible to their point of generation. - to reduce trans-boundary movements. - to prohibit exports from developed to developing countries. - to provide support to Member States.	The Basel Convention may not apply since project activities would not involve trans-boundary movement of hazardous materials.
Agenda 21	It is a non-binding international statement of goals and principles. It encourages countries to promote activities that are well supported in Nepal, such as alleviation of poverty, improved land use, conservation of biodiversity, public participation, empowerment of women, respect of indigenous cultures, working with NGOs, development of human resources etc.	Yes.
Other International Legal Instruments	• Plant Protection Agreement for the South East Asia and the Pacific (as amended), 1956. • Convention on International Trade in Endangered Species of Wild Fauna and Flora, (CITES), 1973 both deal with the protection of the environment	Yes. To ensure that traded products are not listed on CITES.

3.4 Applicable World Bank ESS

The main mission of the World Bank is to remove extreme poverty and promoting shared prosperity. The World Bank's Environmental and Social Framework (ESF-2018) is sets out the World Bank's commitment to sustainable development and mandatory requirement for the bank finance projects. The Bank's environmental and social framework is to assess and manage the environmental and social risks and impacts of the projects. To this end, the Bank has defined 10 specific Environmental and Social Standards (ESSs) which are designed to avoid, minimize, or reduce and mitigate the

adverse environmental and social risks and impacts.

The following 9 out of 10 (except 9th) Environmental and Social Standards (ESS)of the World Bank are relevant in context of this Project from social and environmental viewpoint:

Environmental and Social Standard (ESS) 1: Assessment and Management of Environmental and Social Risks and Impacts

ESS1 sets out the Borrower's responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing, in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs). Which includes: the environment and social assessment, environment and social commitment plan and management the contractors. The main objective of this standard is to identify, evaluate and manage the environment and social risks and impacts of the project in a manner consistent with the ESSs and to adopt a mitigation hierarchy approach to avoid, minimize, mitigate and compensate the environmental and social risks.

Risk Category

Environmental and social risk classification takes into account relevant potential risks and impacts, such as:

a. the type, location, sensitivity and scale of the Project including the physical considerations of the Project; type of infrastructure (e.g., dams and reservoirs, power plants, airports, major roads); volume of hazardous waste management and disposal;
b. the nature and magnitude of the potential ES risks and impacts, including impacts on greenfield sites; impacts on brownfield sites including (e.g., rehabilitation, maintenance or upgrading activities); the nature of the potential risks and impacts (e.g. whether they are irreversible, unprecedented or complex); resettlement activities; presence of Indigenous Peoples; and possible mitigation measures considering the mitigation hierarchy;
c. the capacity and commitment of the Borrower to manage such risks and impacts in a manner consistent with the ESSs, including the country's policy, legal and institutional framework; laws, regulations, rules and procedures applicable to the Project sector, including regional and local requirements; the technical and institutional capacity of the Borrower; the Borrower's track record of past Project implementation; and the financial and human resources available for management of the Project;
d. other areas of risk that may be relevant to the delivery of ES mitigation measures and outcomes, depending on the specific Project and the context in which it is being developed, including the nature of the mitigation and technology being proposed, considerations relating to domestic and/or regional stability, conflict or security.

A Project is classified as ***High Risk*** after considering, in an integrated manner, the risks andimpacts of the Project, taking into account the following, as applicable.

a. The Project is likely to generate a wide range of significant adverse risks and impacts on human populations or the environment. This could be because of the complex nature of the Project, the scale (large to very large) or the sensitivity of the location(s) of the Project. This would take into account whether the potential risks and impacts associated with the Project have the majority or all of the following characteristics:
   (i) long term, permanent and/or irreversible (e.g., loss of major natural habitat or conversion of wetland), and impossible to avoid entirely due to the nature of the Project;
   (ii) high in magnitude and/or in spatial extent (the geographical area or size of the population likely to be affected is large to very large);
   (iii) significant adverse cumulative impacts;
   (iv) significant adverse transboundary impacts; and
   (v) a high probability of serious adverse effects to human health and/or the environment (e.g., due to accidents, toxic waste disposal, etc.);
b. The area likely to be affected is of high value and sensitivity, for example sensitive and valuable ecosystems and habitats (legally protected and internationally recognized areas of high biodiversity value), lands or rights of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities and other vulnerable minorities, intensive or complex involuntary resettlement or land acquisition, impacts on cultural heritage or densely populated urban areas.
c. Some of the significant adverse ES risk and impacts of the Project cannot be mitigated or specific mitigation measures require complex and/or unproven mitigation, compensatory measures or technology, or sophisticated social analysis and implementation.
d. There are significant concerns that the adverse social impacts of the Project, and the associated mitigation measures, may give rise to significant social conflict or harm or significant risks to human security.
e. There is a history of unrest in the area of the Project or the sector, and there maybe significant concerns regarding the activities of security forces.
f. The Project is being developed in a legal or regulatory environment where there is significant uncertainty or conflict as to jurisdiction of competing agencies, or where the legislation or regulations do not adequately address the risks and impacts of complex Projects, or changes to applicable legislation are being made, or enforcement is weak.
g. The past experience of the Borrower and the implementing agencies in developing complex Projects is limited, their track record regarding ES issues would present significant challenges or concerns given the nature of the Project's potential risks and impacts.
h. There are significant concerns related to the capacity and commitment for, and track record of relevant Project parties, in relation to stakeholder engagement.
i. There are a number of factors outside the control of the Project that could have a significant impact on the ES performance and outcomes of the Project.

A Project is classified as ***Substantial Risk*** after considering, in an integrated manner, the risksand impacts of the Project, taking into account the following, as applicable.

a. the Project may not be as complex as *High Risk* Projects, its ES scale and impact may be smaller (large to medium) and the location may not be in such a highly sensitive area, and some risks and impacts may be significant. This would take into account whether the potential risks and impacts have the majority or all of the following characteristics:
   (i) they are mostly temporary, predictable and/or reversible, and the nature of the Project does not preclude the possibility of avoiding or reversing them (although substantial investment and time may be required);

(ii) there are concerns that the adverse social impacts of the Project, and the associated mitigation measures, may give rise to a limited degree of social conflict, harm or risks to human security;
(iii) they are medium in magnitude and/or in spatial extent (the geographical area and size of the population likely to be affected are medium to large);
(iv) the potential for cumulative and/or transboundary impacts may exist, but they are less severe and more readily avoided or mitigated than for *High Risk* Projects; and
(v) there is medium to low probability of serious adverse effects to human health and/or the environment (e.g., due to accidents, toxic waste disposal, etc.), and there are known and reliable mechanisms available to prevent or minimize such incidents;

b. The effects of the Project on areas of high value or sensitivity are expected to be lower than *High Risk* Projects.
c. Mitigatory and/or compensatory measures may be designed more readily and be more reliable than those of *High Risk* Projects.
d. The Project is being developed in a legal or regulatory environment where there is uncertainty or conflict as to jurisdiction of competing agencies, or where the legislation or regulations do not adequately address the risks and impacts of complex Projects, or changes to applicable legislation are being made, or enforcement is weak.
e. The past experience of the Borrower and the implementing agencies in developing complex Projects is limited in some respects, and their track record regarding E&S issues suggests some concerns which can be readily addressed through implementation support.
f. There are some concerns over capacity and experience in managing stakeholder engagement but these could be readily addressed through implementation support.

A project is classified *as* ***Moderate Risk*** after considering, in an integrated manner, the risks and impacts of the Project, taking into account the following, as applicable:

a. The potential adverse risks and impacts on human populations and/or the environment are not likely to be significant. This is because the Project is not complex and/or large, does not involve activities that have a high potential for harming people or the environment, and is located away from environmentally or socially sensitive areas. As such, the potential risks and impacts and issues are likely to have the following characteristics:
(i) predictable and expected to be temporary and/or reversible;
(ii) low in magnitude;
(iii) site-specific, without likelihood of impacts beyond the actual footprint of the Project; and
(iv) low probability of serious adverse effects to human health and/or the environment (e.g., do not involve use or disposal of toxic materials, routine safety precautions are expected to be sufficient to prevent accidents, etc.).
b. The Project's risks and impacts can be easily mitigated in a predictable manner.

A project is classified as ***Low Risk*** if its potential adverse risks to and impacts on human populations and/or the environment are likely to be minimal or negligible. These Projects, with few or no adverse risks and impacts and issues, do not require further ES assessment following the initial screening.

Environmental and Social Standard (ESS) 2: Labor and Working Conditions

ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote

sound worker management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions. Which includes working conditions and management of worker relationships through setting the terms and conditions of employment, non-discrimination and equal opportunity and OHS. It also includes the protecting the work force by setting the provision of contracted workers, grievance redress mechanism and worker's organization. The main objective of this standard is to promote safety and health at work, to promote the fair treatment, non-discrimination and equal opportunity of project workers and to protect project workers, including vulnerable workers such as women, persons with disabilities, children (of working age, in accordance with this ESS) and migrant workers, contracted workers and primary supply workers, as appropriate and to prevent the use of all forms of forced labor and child labor.

Environmental and Social Standard (ESS) 3: Resource Efficiency and Pollution Prevention and Management

ESS3 recognizes that economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels. The current and projected atmospheric concentration of greenhouse gases (GHG) threatens the welfare of current and future generations. At the same time, more efficient and effective resource use, pollution prevention and GHG emission avoidance, and mitigation technologies and practices have become more accessible and achievable. Which includes, managements of air pollution, management of hazardous and nonhazardous wastes, management of chemicals and hazardous along with pesticides. The main objective of this standard is to avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities, to avoid or minimize project-related emissions of short and long-lived climate pollutants.3, to avoid or minimize generation of hazardous and non-hazardous waste to minimize and manage the risks and impacts associated with pesticide use.

Environmental and Social Standard (ESS)4: Community Health and Safety

ESS4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to project activities. Which addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts with particular attention to people who, because of their particular circumstances, may be vulnerable. The main objectives of this standard is to anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and non-routine circumstance, to promote quality and safety, and

considerations relating to climate change, in the design and construction of infrastructure ,including dams, to avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials, to have in place effective measures to address emergency events, to ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.

Environmental and Social Standard (ESS) 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

ESS-5 recognizes that project-related land acquisition and restrictions on land use canhave adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both. The term "involuntary resettlement refers to these impacts. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement, which includes, eligibility classifications, compensation resettlement rehabilitation and displacement community engagement and grievance redress mechanism. The main objective of this standard is to avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives, to avoid forced eviction, to mitigate unavoidable adverse social and economic impacts from land acquisition or restrictions on land use by: (a) providing timely compensation for loss of assets at replacement.

Environmental and Social Standard (ESS) 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

ESS6 recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development. Biodiversity is defined as the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part this includes diversity within species, between species, and of ecosystems. Biodiversity often underpins ecosystem services valued by humans. Impacts on biodiversity can therefore often adversely affect the delivery of ecosystem services. Which includes conservation of Bio-diversity and habitat and sustainable management of living natural resources. The main objective of this standard is to protect and conserve biodiversity and habitats, to apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity, to promote the sustainable management of living natural resources, to support livelihoods of local communities, including Indigenous Peoples, and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities.

Environmental and Social Standard (ESS) 7: Indigenous Peoples/ Historically Underserved Traditional Local Communities:

This ESS applies to a distinct social and cultural group identified in accordance with paragraphs 8 and 9 of this ESS. The terminology used for such groups varies from country to country, and often reflects national considerations. ESS7 uses the term "*Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional LocalCommunities,"*1 recognizing that groups identified under paragraphs 8 and 9 may be referred to in different countries by different terms. Such terms include "Sub-Saharan African historically underserved traditional local communities," "indigenous ethnic minorities," "aboriginals," "hill tribes," "vulnerable and marginalized groups," "minority nationalities," "scheduled tribes," "first nations" or "tribal groups." ESS7 applies to all such groups, providing they meet the criteria set out in paragraphs 8 and 9. For the purposes of this ESS, the term "Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities" includes all such alternative

Terminologies which includes, Free Prior and Informed Consent (FPIC). The main objective of this standard is to ensure that the development process fosters full respect for the human rights, dignity, aspirations, identity, culture, and natural resource based livelihoods of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities and to avoid adverse impacts of projects on Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, or when avoidance is not possible, to minimize, mitigate and/or compensate for such impacts.

Environmental and Social Standard (ESS) 8: Cultural Heritage:

ESS-8 recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. People identify with cultural heritage as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. Cultural heritage, inits many manifestations, is important as a source of valuable scientific and historical information, as an economic and social asset for development, and as an integral part of people's cultural identity and practice. It also sets out measures designed to protect cultural heritage throughout the project life cycle. Which includes general provisions on risks and impacts to legally protected, specific and commercial use of cultural heritage from project activities. The main objective of this standard is to protect cultural heritage from the adverse impacts of project activities and support its preservation, to address cultural heritage as an integral aspect of sustainable development, to promote meaningful engagement with stakeholders regarding cultural heritage, to promote the equitable sharing of benefits from the use of cultural heritage.

Environmental and Social Standard (ESS) 9: Financial Intermediaries

Not Applicable

Environmental and Social Standard 10: Stakeholder Engagement and Information Disclosure

This ESS recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. Which include, stakeholder identification and analysis, stakeholder engagement plan, meaningful engagement, information disclosure and grievance mechanism, The main objective of this standard is to establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties, to assess the level of stakeholder interest and support for the project and to enable stakeholders views to be taken into account in project design and environmental and social performance, to promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle on issues that could potentially affect them and to ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and forma.

Gaps between GoN and ESF

A gap analysis between the GoN requirements vis-à-vis ESF was conducted. The analysis indicated that each World Bank ESS has counterpart country legislations except that some of these legislations are not formally covered in the EIA scope and process. The main gap is that the relevant provisions of these laws are not yet integrated into the EIA process, both in terms of formal regulations or guidelines and in practice. Naturally, the agencies that are mandated to implement these laws are also not involved in the EIA process, even as oversight during project implementation. See Table 1 below for details.

In terms of the specific requirements of the ESS, the few critical gaps include the following:

VI. Although each ESS has a counterpart law, the current Screening protocol under the country EIA system does not examine relevant risks and impacts with respect to these laws (such as health & safety) and hence also not cover all standards;
VII. Natural habitats are not specifically required to be assessed in the EIA nor require Biodiversity Management Plan even where biodiversity impact is found significant in the EIA
VIII. Resettlement Action Plan (RAP) is not required. The eminent domain land acquisition procedure is already fixed by law hence it does not afford for the consideration of participatory planning or for compensation options with the affected people;
IX. Although the government recognizes Indigenous People and respect their rights, the current system does not require preparation of an IP plan and free, prior and informed consent, where situation dictates that these should be required; and,
X. Partly as a result of non-involvement of the agencies mandated to implement them, occupational health and safety standards and community health and safety are weakly enforced, with impacts and risks to community health and safety often also poorly assessed.

These gaps are addressed in this ESMF to meet the requirements of the ESF, including the preparation, adoption and implementation by MoICS and MoA of the stand-alone

RPF, VCDF, IPF, Stakeholder Engagement Plan, Labor Management Procedures and the Environmental and Social Commitment Plan.

Table 3.4. Gaps between World Bank ESS and Relevant Country Legislations

World Bank ESS	Relevant Nepal Laws, Regulations and Policy Issuances	Gaps vis-à-vis WB ESS
1. Assessment and Management of Environmental and Social Risks and Impacts	National Environmental Impact Assessment Guidelines (1993) Environment Protection Act (EPA) (1997) Environment Protection Regulation (EPR) (1997)	• No provision for associated projects/activities; large projects can be split into smaller projects to avoid full EIA study. • 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

Table 3.4. Gaps between World Bank ESS and Relevant Country Legislations		
2. Labor and Working Conditions	Labor Act (2017) Child Labor Act (2001)	• Current OHS legislation is not adequate (No separate legislation on OHS. Current OHS mandate is provided only in Chapter 12 of the Labor Act) • Lack of industry-specific standards (DoLOS has so far issued only one directive: OHS Directive for Brick Workers)
3. Resource Efficiency and Pollution Prevention and Management	EPA (1997) Section 7. EPR (1997) National Ambient Air Quality Standards (2003) Water Resources Act (1992) Water Resources Rules (1993) Drinking Water Regulation (1998) Drinking Water Quality Standards Water Quality Guidelines for the Protection of Aquatic Ecosystem	• Lack of legislations on resource use efficiency in projects
4. Community Health and Safety	The EPA/EPR identifies the direct and indirect human health impact as one of the components in assessing the effect of development projects. 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.	• There is limited coverage as scope of ESIAs do not necessarily include community safety issues. • Public health legislations do not specifically impose requirements for development and infrastructure projects.
5. Land Acquisition, Restriction on Land Uses and Involuntary Resettlement	Public Road Act (1974) Land Acquisition Act (1977) Guthi Corporation Act (1976) Land Acquisition Guidelines (1989) Land Reform Act (1964) Land Revenue Act (1977)	• Does not require preparation of RAP • Does not allow for PAP consultation in the compensation options • Does not allow non-cash compensation options such as land-for-land and replacement homes, only "arrangements for rehabilitation" and "priority in employment". • Valuation of lost assets considers depreciation and hence not at replacement cost • Leasing of land is not allowed for temporary easements. Compensation for any temporary use of land is limited to damage compensation.

Table 3.4. Gaps between World Bank ESS and Relevant Country Legislations		
6. Biodiversity Conservation and Sustainable Management of Living Natural Resources	The Aquatic Animal Protection Act (1960) National Park and Wildlife Conservation Act (1973) Forest Act (1993) and Forest Regulation (1995)	• Natural habitats are not specifically required to be assessed in the EIA • Does not specifically require Biodiversity Management Plan even where biodiversity impact is found significant in the EIA
7. Indigenous Peoples	National Foundation for the Development of Indigenous Nationalities Act (2002) Local Self-Governance Act (1999) ILO Convention 169 (2007) Forest Act (1993) and Forest Regulation (1995)	• Does not require "Free and Prior Informed Consent" for projects in IP territories • Does not require focus social assessment on IP population • Does not require preparation of IP Plan
8. Cultural Heritage	EPA (1997) Section 9-10 EPR (1997) Chapter 5 Ancient Monument Act (1956)	• 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 • Does not provide for adoption of chance find procedures
9. Financial Intermediaries	Not applicable. Projects undertaken through financial intermediaries are subject to the same processes and procedures as any other projects.	
10. Stakeholder Engagement and Information Disclosure	The EPR as amended requires consultations during scoping and a public hearing is required in all projects that require EIA but not for projects that require IEE..	• Does not require stakeholder analysis and preparation of stakeholder engagement plan. • Does not provide for continuous stakeholder engagement/consultations beyond EIA process during construction and operation phase

Chapter 4

POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

The proposed project will support trade facilitation to enhance trading and border infrastructure at selected locations such as improvements in cross-border structure & land customs stations, collection centers with cold storage, equipping and accreditation of selected laboratories, construction and expansion of access road, development and expansion of parking yards, and training and capacity building. The proposed project will also support strengthening of the MOICS/Nepal Intermodal Transport Development Board (NITDB) and Department of Agriculture (DOA) to improve their capacity for better management of the trade assets and environmental & social risks and impacts, quality control, advanced designs and analytics that could help improve the investment planning, prioritization and allocation processes.

The border infrastructure and laboratories will be developed at existing selected ICD sites: Kakarbhita, Biratnagar and Birgunj. The collection and processing facilities along with cold storage will be constructed around Kathmandu/Kavre and Pokhara. The access roads will be expanded for the connectivity of these infrastructure, laboratories and cold store facilities to trade.

4.1 Potential Environmental Impacts

The proposed project will contribute to positive economic growth both locally in the project area and at the regional level between Nepal and India by removing barriers to trade and transportation created due to poor condition of hard and soft infrastructure. The main beneficiaries from the Project will be traders and businesses in Nepal and India who will benefit from reduced time and cost of exporting and importing goods. Consumers will also benefit from lower prices on imported goods.

Environmental Risk Rating:

Considering the proposed works to be supported under this component, which are largely rehabilitation and improvements of existing infrastructure and ranging from small to medium scale infrastructure, the environment risk for this component (trade facilitation) is assessed to be Substantial. However, the overall E&S risk of the project is High because of the road improvement and upgrading component, which will be carried out by DoR and covered separate instruments and assessments. The potential environmental risks and impacts for the trade facilitation component include impacts on biodiversity, flood and landslide-prone areas and unstable slopes and health &safety. The Cross-border infrastructure & custom offices, laboratories, parking yards, access road will require grassland, buffer zone and community forest. The trade

exhibition centre in Kathmandu and collection and processing centre with coldstore facilities in Kathmandu/Kavre and Pokhara and the corresponding access road will require forest, landslide areas and unstable slopes affecting the biodiversity. The improvements and widening of the access roads could potentially affect biodiversity and transboundary wildlife migration if no passages are constructed while works at access road could trigger landslides in unstable slopes. During construction of all of aforementioned infrastructures, health & safety issues and potential increase in road or traffic-related accidents especially along the access road may increase. In the greenfield, there may be significant number of trees to be cut, to the extent that they cannot be avoided. In Terai, the probability of flood and its consequences at time of construction is the key issue. Also in land for collection & processing centers and that for access road at hilly areas, demand for stone and aggregates could induce increased quarrying leading to landslide and erosion risks. Several settlements will be exposed to noise, flood, dust, mud, air pollution and safety risks. During operation, it is expected that impacts will mainly be positive on the economy with increased regional trade between Nepal and India. Traffic-related safety is also expected to improve with the safety features of the improved and/or widened roads. NITDB is a long-time client and partner of the World Bank and is quite familiar with Bank safeguard policies. It has good experience and a modestly satisfactory track record in implementing the ESMP under NIRTTP. The proposed project is the first project for NITDB that applies the new 10 ESS under ESF. Their E&S consultants have good experience of working with ESMP and labour management under NIRTTP and other projects. They have already completed the ESF training and have been engaged in developing this draft ESF. Additional capacity building on relevant topics will be conducted as required.

The activities under SRCTIP-trade component are not yet prioritized and unknown at this stage. In this light, the framework has identified the key potential adverse environmental and social impacts that may arise on account of the proposed inetervenions so that measures to address them can be taken early-on in the project planning and implmentation cycle.

Table 4.1: Potential Adverse Environmental Impacts

Sub-component	Activities	Probable Adverse Impacts
Distribution/Warehousing/Logistics centre or ICD in Kathmandu	• Construction of building	• Improper site selection • Potential clearing of forest patches

Sub-component	Activities	Probable Adverse Impacts
Improve the infrastructure at Birgunj ICD	• Extension of the warehouse shed • Removal of unused rail tracks	• Potential destruction of niche habitat • Temporary Noise and air pollution during construction/demolition • Potential noise pollution during operation of wareshouse/ infrastructure • Accidental pollution of air, soil and/or water from imported and exported products that are contaminated • Improper disposal of chemical re-agents used in laboratory analysis and other solid waste from the laboratory affecting surface/ground water • Potential increase in local flooding and/or water logging from hard built surfaces with reduced percolation of floodwater • Loss of common property resources • Occupational Health and Safety Issues during construction and operation of trade facilities/infrastructure • Improper disposal of construction wastes affecting land and/or water resources • Change in land use from initial uses as agricultural or other subsistence activities.
Develop Multi-Functional Joint Analysis Laboratories	• Refurbishment or construction of Laboratories • Provision of equipment, IT systems and connectivity • Technical assistance, staffing and human resources capacity development to develop new multi-functional, multi-agency, joint analysis laboratories at the Central Laboratory in Kathmandu and at select border posts • Support the international accreditation of the laboratories with Indian expertise and technical assistance.	

The impacts identified at this stage are generic in nature. The ESMF requires higher level of specificity in terms of ascertaining the exact nature, scale, duration and severity of impacts during the planning and implementation stages of specific sub-components and activities. The specific impacts from sub-project activities will depend on location, design, construction and operation. Proper application and implementation

of the ESMF would ensure that the project design and implementation of the proposed sub projects or activities are socially and environmentally responsive and sustainable.

4.2 Potential Social Impacts

The expected positive social outcomes of this SRCTIP-trade component include improved connectivity and trade between Nepal and India and also between the terai districts and Kathmandu enhancing access to market and economic opportunities, administrative centres, health services, higher education facilities and savings in travel time and transportation costs for the local population using the road. Beneficiaries will also include users of interventions under trade component as well as households and shopkeepers near the access roads, who will benefit from safer road conditions.

The settlement areas under the proposed project SRCTIP-trade component are expected to be inhabited by mixed communities, including some Dalits and Terai indigenous groups, as identified by the GoN.

Social Risk Rating:

While the overall E&S risk classification of the project is High due to the road improvement and upgrading component to be implemented by DoR and covered by separate assessments and plans, the social risk rating for the trade facilitation component is Substantial as scale of infrastructure would range in size from small to medium scale and largely involve rehabilitation and improvement of existing infrastructure. Thus, land acquisition is not expected to be large-scale. Other social risks and impacts include community health and safety and potential expectations of community people that may arise across the project cycle during community engagement process. Also, while only those activities/subprojects located on lands owned already by the Government or within existing infrastructure will be prioritized, some land may need to be acquired although acquisition would not be large scale In a few cases, there might be indigenous communities in some of the prioritized subprojects. The exact number of households to be affected and to be resettled, and plots for deed transfer will be identified after the Baseline Assessment and will be addressed through the project's Resettlement Action Plan (RAP). In some areas a process of Free, Prior and Informed Consent (FPIC) may be required if indigenous communities are adversely affected, e.g., if require relocation of IPs/ taking of land or impacts on their cultural heritage. The access road expansion and construction works are also likely to affect a significant number of households involved in petty businesses that include tea shops, fruit and vegetables stalls, and small grocery markets. During construction, there will be potential issues of labor influx, health and safety impacts and gender-based violence (GBV) in relation to all trade related construction works including cross-border infrastructure, laboratories, parking yards, access roads, collection and storage facilities, etc.; security and safety risk will also be high.

However, if the project is able to manage these risks to a satisfactory level, it is expected that it will produce a number of positive impacts on the local, regional and national economy with increased regional trade between Nepal and India. NITDB is a long-time client and partner of the World Bank and is quite familiar with Bank safeguard policies. It has good experience and

a modestly satisfactory track record in implementing the ESMP under NIRTTP. The proposed project is the first project for NITDB that applies the new 10 ESS under the ESF. Their E&S consultants have good experience of working with ESMP and labor management under NIRTTP and other projects. They have already completed the ESF training and have been engaged in developing this draft ESF. Additional capacity building on relevant topics will be conducted as required. However, there are certain infrastructure under component 3 where the geographical locations are not known at this stage.

The proposed project will ential employment of a significant number of labour especially during construction phaze. Potential risks engaged includes hiring of child labor and force labor, poor labor camp management, accidental hazards risk, etc. If hiring large number of labor from outside, labor influx impacts on local communities may be caused. These impacts includes gender based violence and others. A separate Labour Management Procedure has been prepared to minimize the risk associated to labor.

Vulnerable and Disadvantaged Groups

The project may also cause impacts on groups that maybe more vulnerable than others. Other vulnerable and disadvantaged groups including Dalits, Women (women-headed households), people with disability and poor. The project will ensure all affected vulnerable and disadvantaged groups are identified in the ESIA/ESMP, fully consulted with and can benefit from the project development and that negative impacts will be addressed. Detailed measures will be included in the ESIA/ESMP prepared for the subrojects.

It is understood that some of IP communities in Nepal are also vulnerable, A Indigenous People's Development Framework has been developed seperately to address impacts associated.

Dalits

Dalits are defined as those castes of people of Nepal who were categorized as 'untouchables' in the Old Civil Code of 1853 that prevailed until the promulgation of the New Civil Code of 1962. In the context of Nepal, however, the word *Dalit* has generally come to mean a 'community or a person who suffers from the illness of caste discrimination and belongs to the bottom of the caste hierarchy'. *Dalits*, who have been placed at the very bottom of Hindu caste hierarchy by the discriminatory caste based system, comprise 13 percent of the total population of the Nepal (CBS, 2001). They do not have any geographical centre or 'traditional homeland' where they are numerically predominant, but are instead, scattered throughout Nepal. The *Dalit* community in Nepal is not homogenous. *Dalits* can be divided in three broad regional groups: i) *Dalits* in the hill areas; ii) *Dalits* in the *Newari* community; and iii) *Dalits* in the *Terai* areas. The practice of untouchability is more severe amongst the *Madhesi* community in the *Terai* and in the hills of the Mid-Western and Far-Western Development Regions of

Nepal. National Dalit Commission (2003) has identified 27 *Dalit* castes in Nepal (Table 4.2)

Table4.2 : Scheduled Castes of Dalit Community in Nepal

Region	Scheduled Dalit Castes
Hill Dalit	1. Gandharba (Gaine) 2. Pariyar (Damai, Dargee, Suchikar, Nagarchee, Dholee, Hudke) 3. Badi 4. Bishwokarma (Kami, Lohar, Sunar, Od, Chunanra, Parki, Tamata) 5. Sarki (Mijar, Charmakar, Bhool) 6.Pode (Deula,Pujari,Jalari) 7.Chyame (Kuchikar,Chyamk
Terai Dalit	8. Kalar 9. Kakaihiya 10. Kori 11. Khatik 12. Khatwe (Mandal, Khang) 13. Chamar (Ram, Mochi, Harijan, Ravidas) 14. Chidimar 15. Dom (Marik) 16. Tatma (Tanti, Das) 17. Dushadh (Paswan, Hajara) 18. Dhobi (Rajak) Hindu 19. Pattharkatta 20. Pasi 21. Bantar 22. Mushar 23. Mestar (Halkhor) 24. Sarbhang (Sarbariya) 25. Natuwa 26. Dhandi 27. Dharikar/ Dhanka

Source: National Dalit Commission, 2003

As the *Dalit* communities remain marginalized from the State's economic and social services and political opportunities, the living conditions and human development indicators of *Dalits* are far below the national average. Poverty is rampant among *Dalits* and are far more vulnerable to the prevailing economic, social, political and educational conditions in comparison to other excluded communities. The poverty index for *dalits* is 47% compared to the national average of 31%. In total, 44 percent of *Dalits* in the *Terai* are landless (Table 9.3) and 44.6 percent of the *Dalits* of the hills are marginalized farmers (owning 0.18 to 0.40 ha. of land). On most socio-economic indicators, the *Tarai Dalits* fare worse than the hill *Dalits*. Altogether, *Dalits* own just one percent of Nepal's arable land, while only three percent of *Dalits* own more than a hectare of land (TIYP, 2008).

Table 4.3 : Situation of Dalit in Comparison to National Average

Indicators	National Average	Dalit
Below five years child mortality rate	1000/104	1000/171.2
Infant mortality rate	1000/75.2	1000/116.5
Fertility rate	4.0	4.07

Literacy rate	54	33
Average years of schooling	3.62	2.1
High school graduate and above (%)	17.6	3.8
Graduates and above	34	0.4
Poverty	31	47
Landless	-	44% Tarai Dalit 15% Hill Dalit

Source: Three Year Interim Plan (2008/09 to 2010/11), NPC, GoN

Women and Others as Vulnerable Group

Though women comprise half of the total population, gender discrimination still prevails in the society. Status of women in Nepal with regards to their access to knowledge, economic resources, political power, and personal autonomy in decision making is quite low. Daughters lose rights over parental property after marriage. Despite the high average work burden of women, which at 16 hours a day is much higher than the global average (Nepal Human Development Report, 2004), women still lack access to and control over productive resources. Only 10 percent of women have land ownership while a meager 5.5 percent own a house of their own (CBS, 2004). Women in all social groups and regions have been proven as more disadvantaged than their male counterpart and even among women widows, separated, divorced and women headed households are particularly vulnerable. Similarly, women in all groups due to their limited access to economic resources and livelihood options can equally be classified as vulnerable who are at permanent risk for facing severe poverty in Nepal. Elderly people, children and the individuals less able to care themselves within the communities are also persons who are any time prone to vulnerability.

The possible adverse social impacts due to the implementation of sub projects are listed below:

Table 4.4: Potential Adverse Social Impacts

Sub-component	Activities	Probable Impacts
Distribution/ Warehousing or ICD in Kathmandu	• Construction of building	• Involuntary land taking • Displacemnt of households (residential, commercial, residential cum commercial) • Loss of private immovable assets • Loss of livelihood • Loss of source of livelihood • Loss of common property resources • potential increase in labor influx • health and safety impacts • potential increase in gender-based violence (GBV) in relation to all trade related construction works including cross-border infrastructure, laboratories,
Improve the infrastructure at Birgunj ICD	• Extension of the warehouse shed • Removal of unused rail tracks	
Develop Multi-Functional Joint Analysis Laboratories	• Refurbishment/construction of Laboratories • Provision of equipment, IT systems and connectivity, • Technical assistance, staffing and human resources capacity development to develop new multi-functional, multi-agency, joint analysis laboratories at the Central Laboratory in Kathmandu and at select border posts; • Support the international accreditation of the laboratories with Indian expertise and technical assistance.	

Sub-component	Activities	Probable Impacts
		parking yards, access roads, collection and storage facilities, etc. • security and safety risk • Potential impacts on IP communities; • Construction induced impacts to nearby structures

Chapter5
ENVIRONMENTAL AND SOCIAL MANAGEMENTPROCESS

The chapter lays out the steps for the environmental and social management process to be followed in the SRCTIP-trade component.

5.1 Over-all Process for Managing Environmental Impacts/Issues

Two specific instruments have been developed for the project for effectively addressing the various identified environment and social issues:

1. Preparation of an Environment and Social Management Framework dealing with avoidance and minimization of the likely adverse impacts for the project as a whole and;
2. Environmental assessment and preparation of specific management plan for different sub-components of SRCTIP-trade component after identification of details including locations.

Both these instruments include measures to minimize and mitigate environment and social impacts through all stages of the project. Proper integration of findings from the safeguard studies and public consultation process into the planning/decision-making process and engineering outputs (design and bidding documents) would help in avoiding/reducing the environmental and social issues that may arise due to the project.

To ensure that sub-projects under SRCTIP-trade component (other than access roads) do not cause any significant adverse impacts, the identified propositions will undergo an environment screening process. In case significant impacts are likely to occur, the sub-project/s in question will require environmental assessment and preparation of mitigation/management plans. The key steps for managing any potential adverse environmental impacts are outlined in the table below:

Table 5.1 : Key Steps for Managing Environmental Issues

Stages in Sub-Project Cycle	Steps in the Assessment Process
Sub-Project Identification & Pre-	1. Environmental Screening to determine key issues and appropriate selection of site. 2. Field verification to determine whether exclusion criteria

Stages in Sub-Project Cycle	Steps in the Assessment Process
Feasibility Studies	have been adhered to.
Project Design (for sub-projects that do not require detailed assessment)	1. Consultation with key stakeholders 2. Preparation of Environment and SociaManagement Plan for sub-projects not requiring detailed assessment 3. Integration of the ESMP into the Bidding Documents
Project Design (for sub-projects that require detailed assessment)	1. Initial Environmental Examination (IEE): Assessment of environmental impacts to determine level and scope of EA
	2. Scoping and TOR: Identification of key potential impacts and propose terms of reference for the ESIA accordingly.
	3. Baseline Data Collection: Identification of environmental and socio-economic conditions.
	4. Environmental and Social Impact Prediction/Assessment: Assessment of impacts in terms of characteristics such as magnitude, extent, duration and significance in quantitative terms as far as possible; describe all reasonable alternatives, including preferred and 'no project' options.
	5. Mitigation Measures Design: Design to avoid, reduce and minimize adverse environmental impacts and enhance beneficial impacts
	9. Public/Stakeholder Engagement: At various stages in the assessment process to ensure quality, comprehensiveness and effectiveness of the stakeholders' participation and to adequately reflect/address their concerns.
	10.Preparation of Environmental and Social Management Plan (ESMP): Determination of specific actions to taken during engineering design and construction stages to minimize or mitigate negative impacts and enhance the positive impacts.

Stages in Sub-Project Cycle	Steps in the Assessment Process
	11. Report Preparation: Summary of all information obtained, analyzed and interpreted in a report form; also include a non-technical summary including methods used, results, interpretations and conclusions made. GoN's EPA and EPR do not demand for ESIA report. Rather IEE/ESIA is sufficient for EA process but it should incorporate physical, chemical, biological, social, economic and cultural aspects/environment as these are considered to be the inseparable parameters of the existing environment as a whole.
Sub-Project Approval	1. Review and Approval of Technical and Safeguard Report/s: Review of report/s 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 totally abandoned. 2. Integrate ESMP into engineering design and bidding documents
Implementation	1. Orient / train the Contractor and other field staff on ESMP requirements. 2. Supervise, Monitor and Regularly Report on ESMP compliance 3. Determine clean-up and site rehabilitation before Completion and Final Bill Payment 4. Take corrective actions, as and if necessary
Post-Construction	1. Maintenance and Operation to include ESMP compliance of post-operation stage

IEEs, EIAs/ESIAs/ESMPs and other ESF instruments will be prepared by consultants to be engaged by MoICS and MoA during the preparation of the subprojects under the trade facilitation component (see Chapter on Institutional Arrangements for details).

Keeping the over-all impacts of the project in mind and in particular the issues associated with the civil works of some potentially new access roads (e.g. for new cold

stores in Kaski &/or Kavre), SRCTIP-trade componenthas been identified as a **"substantial" risk**. Out of 10 ESS of new ESF of WB,9 ESS (except 9th) are triggered to ensure that all major (like access roads) and minor (other trade-related infrastructure) investments are planned and designed to be environmentally sound by integrating appropriate ESS into the overall decision making process

Exclusion Criteria

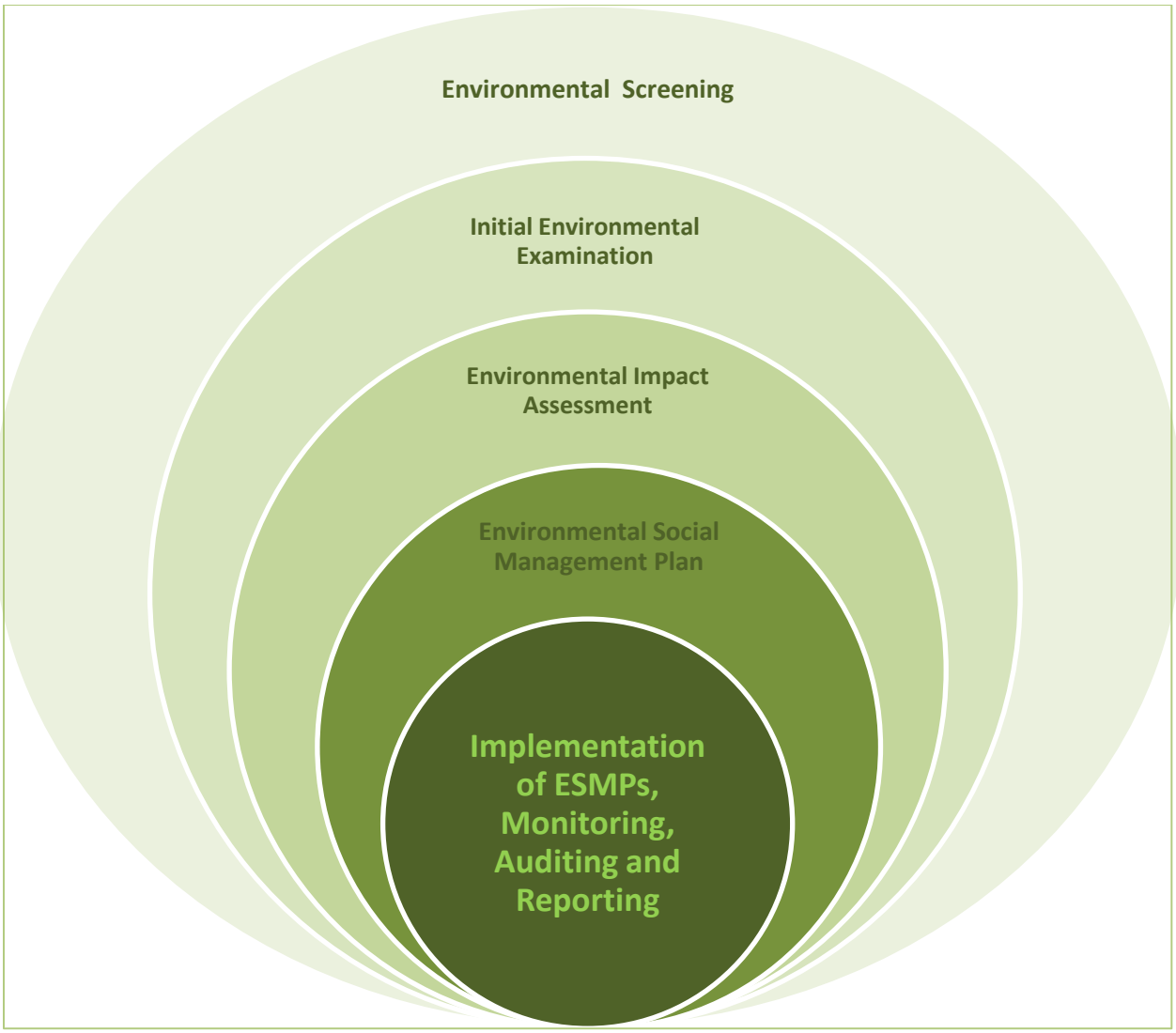
The following lists the sub-project activities that cannot be supported under the trade facilitation component of SRCTIP:

- Any sub-project activity inside the core zone of a protected area.
- Any construction/rehabilitation of sub-project inside a critical natural habitat without assessing other alternatives, without applying the mitigation hierarchy and without meeting the requirements of per ESS6.
- Any sub-project activity that involves use of explosives and blasting..
- Any sub-project activity that involves the procurement and/or use of pesticides categorized as Class Ia, Ib and II as per WHO classification.
- Any sub-project activity that involves the procurement and/or use of pesticides that has not been authorized in accordance with the Pesticides Act of the Government of Nepal.
- Any sub-project activity that may adversely impact a cultural resource, including construction within 50 m distance of any physical cultural resource.
- Any sub-project activity that requires relocation of more than 200 individuals.
- Any sub-project activity that will adversely impact on indigenous communities and vulnerable and disadvantaged groups.

Environmental Screening

Every sub-project proposal to be funded under the SRCTIP is subject to environmental screening process before it is selected for inclusion in the project. The screening process establishes the level of environmental assessment required and application of exclusion criteria given above. The screening process intends to:

Figure 5.1: Flow/Sequence Environmental Management Tools



1. Determine potential impacts of selected sub-components as to whether they are likely to cause negative environmental and social impacts
2. Determine the scope or focus of detailed assessment
3. Helps in making appropriate decision about inclusion or exclusion of the site/location under consideration.

Purpose/Objectives of Environment and Social Screening

Primarily, the environmental and screening exercise will be undertaken to determine the key environmental and social issues/concerns and the nature and magnitude of the potential environmental impacts that are likely to arise on account of proposed project/sub-project interventions. The major or key environmental and social issues to

be identified will be determined by the type, location, sensitivity and scale of the project/sub-project. The results/findings from this exercise are/will be used to determine:

- the need for detailed assessment
- extent and type of Environmental and Social (Impact) Assessment requirement

The screening result will also be an important input for analyzing the 'feasibility' of the project/sub-project along with engineering/economics and social criteria.

Sub-project screening will be done against the prevailing legal to determine whether the sub-projects are subject to GoN's IEE, ESIA or No-EA (or for that matter to determine the need for conducting SIA or RAP for social issues) process or whether the sub-project should not be included at all for funding under SRCTIPif they are found to fall under the 'negative' list or 'exclusion' criteria set forth in this ESMF.

Initial Environmental Examination (IEE)

After identifying issues, the applicability of the Bank's environment and social safeguard policies will be established. Based on these, boundaries and scoping/focus areas for further assessment (IEE/EA) along with the use of specific instruments would be determined.

After the screening exercise is accomplished and the findings point out to the requirement of a detailed assessment, an IEE or EA will be conducted in accordance with the prevailing legislations/criteria and the requirements set forth in the ESMF. In this process, PCO, MoICS/MoA will facilitate the approval, initiation and co-ordination for such a study.

Table 5.2: Criteria for Conducting IEE and ESIA

S.No.	Threshold Criteria for IEE	Threshold Criteria for ESIA/EA
1	Clear felling or rehabilitation of national forests with an area of not more than 5 hectares.	Clear felling or rehabilitation of forests with an area more than 5 hectares.
2	Relocation of 25 to 100 people due to project activities	Relocation of over 100 people due to the project activities
3	-	Sub-project location in Sensitive Area/s such as: • Historical, cultural, and archeological sites.

S.No.	Threshold Criteria for IEE	Threshold Criteria for ESIA/EA
		• Wetlands. • National Parks, Wildlife Sanctuaries, and Conservation Areas. • Semi-Arid, Mountainous, and Himalayan regions. • Flood prone and other dangerous areas. • Residential, school, and hospital areas. • Areas with main sources of public water supply

Source: Environment Protection Rules 1997 (revised 2017)

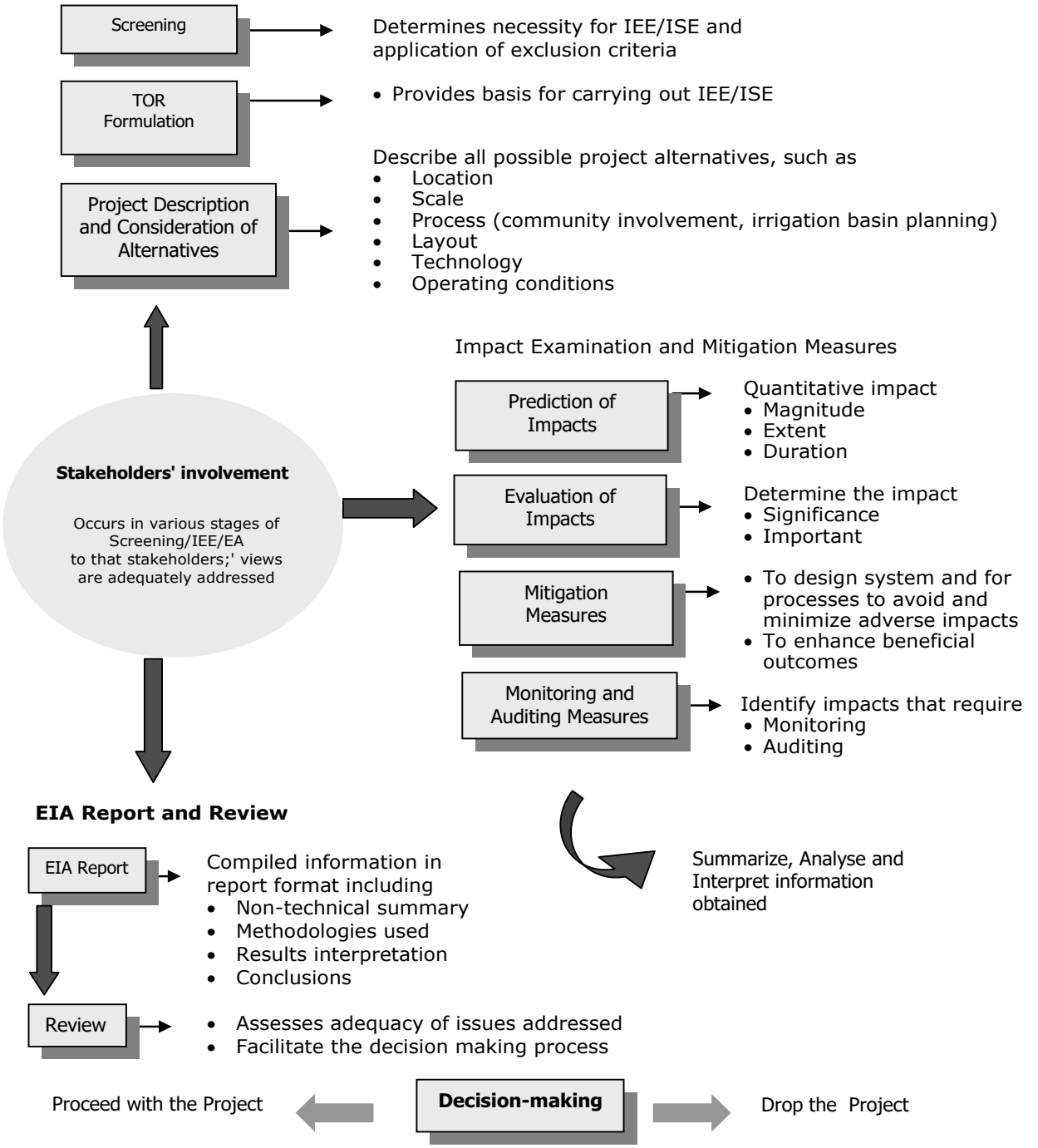
Environmental and Social Impact Assessment (ESIA/EA)

An EA/ESIA consists of a comprehensive study that involves thorough documentation of existing conditions, and identification of impacts with a comparison of alternative project design options, including without the project option. EA/ESIA has three objectives: assist decision makers in getting a clear picture of the potential impact on the overall environmental quality; provision of impact prevention and enhancement of benefits and minimization of impacts in the long term; and provide a forum that allows direct input from stakeholders in the managements of the project.

Ideally, an EA/ESIA will have:

- ✓ General information on the sub-project and a gist of the sub-project activities
- ✓ Location for the proposed interventions (including map and topographical sheets)
- ✓ Potential benefits and need for the project
- ✓ Characterize the relevant features of the current ("baseline") state of the environment - biological, physical and socio-economic description of the sub-project area
- ✓ Requisite environmental clearance process
- ✓ Description of design options, implementation schedule and the projected costs for the project
- ✓

Figure 5.2: Key Steps in the EA/ESIA process



- ✓ Description of the potential interactions between the intervention and the baseline environment – assessment of impacts building on findings from the screening/scoping exercise
- ✓ Assess the risks and implications of improper operation, failures, disasters and other (lower probability) events

- ✓ Identify key environmental issues and assess range and potential impacts on the existing environment (adverse and beneficial; direct and indirect; long and short term; temporary and permanent)
- ✓ Establish an effective stakeholder participation program and consult key stakeholders
- ✓ Any additional /specific studies to supplement EA
- ✓ Analysis of alternatives with particular reference to selected location for sub-project and the applicable engineering options and technologies - consider the implication of sub-project alternatives with and without the interventions with respect to both location and technologies.
- ✓ Summarize significant concerns and recommend needed actions to address each concern - management measures to avoid, mitigate and compensate any potentially significant adverse impacts
- ✓ Assess the residual impacts remaining after implementation of ESMP measures
- ✓ Conclusion.

As per the Government of Nepal EPR rules, an ESIA would be conducted for any sub-project for which an ESIA is recommended by the IEE report. The EPA and EPR recommends that for the ESIA, only one unified report should be prepared. This unified report would incorporate both environmental and social assessment covering physical, chemical, biological, social, cultural and economic impacts from the sub-project's development.

Suggested Structure of theReport

The following is the recommended table of contents of ESIA:

- Executive Summary
- Introduction / Project Background
- Project description
- Policy, Legal and Regulatory Framework
- Status of the Environment and Social (baseline data/information/vulnerability)
- Potential Environmental and social Impacts
- Project Benefits
- Analysis of Alternatives
-

- Stakeholder Engagement and Grievance Addressing Mechanism

- Environmental and social Management Plan

-Institutional Arrangements for ESMP

- Summary and Recommendations

- Annexes

The model outline does not explicitly provide section/sub-section headings for many of ESIA activities. Therefore, the consultants will create their own customized outline from this model that provides the key heads/topics.

Analysis of Alternatives

For all project interventions other than the road sub-component, the requirement for analyzing alternatives has been detailed out in the ESMF. The ESMF prepared for effective safeguards management in the project, especially for selecting sites for the trade related facilities, requires analysis of various alternatives as part of the environment and social screening process. The screening results and analysis of alternatives, as needed on a case-to-case basis, will be reviewed and cleared by the Bank prior to approving the sub-project/s for implementation.

Environment and Social Management Plan (ESMP)

The preparation of an ESMP is the next step and a main step in the ESIA process after identifying potential impacts. It involves the identification and development of measures aimed at avoiding, mitigating, off-setting and/or reducing impacts to levels that are environmentally acceptable during planning, implementation and operation of asub-project/project in question.

Certain activities/interventions will have an impact on the natural environment, the scale of which would depend on the existing baseline conditions in the sub-project area and thus would require a specific plan to institute and monitor mitigation measures and take desired actions in a timely manner.

For sub-projects that require a detailed assessment, ESMPs will be derived from the impacts predicted and suggested mitigation measures.

For all other sub-projects, an ESMP will be prepared using the environment codes of practice provided in the ESMF. These include guidance on: (a) site selection; (b) construction stage impact management (including health and safety aspects, disposal of wastes, Labor and working condition camp site management, pollution abatement, appropriate sourcing of materials, site clean-up and rehabilitation), (c) consultations; and (d) monitoring and reporting.

An ESMP would be sub-project specific, with the extent, magnitude and temporal scale of the sub-project activities determining the contents/coverage of the plan. Depending on extent of issues that are to be avoided, minimized and/or mitigated, the ESMP will have concrete/specific mitigation actions, timelines and responsible persons.

For developing an ESMP, the project will consider findings from the stakeholder/ public consultation process, including suggestions from domain experts and Project Affected People (PAPs).

Below are the proposed elements of an ESMP:

- *Identified Impacts and Description of Mitigation Measures*: Under this sub-heading, the ESMP will describe the identified impacts that may result from the project interventions. With reference to each impact, it will describe feasible and cost effective measures to minimize impacts to acceptable levels. More specifically, it will include:
  - Mitigation, enhancement, protection and compensation measures for each phase - design, pre-construction, construction and operation
  - Disaster management contingency plan where applicable especially in areas with potential flooding, earthquake zones
  - Establishment of Grievance Addressing Mechanism
- *Enhancement Plans:* Positive impacts or opportunities arising out of the project will be identified during the EA process. Some of these opportunities can be further developed to draw environmental benefits to local communities within the project area/sub-project area. The ESMP will try to identify such opportunities and develop a plan to systematically harness any such possible benefit.
- *Monitoring Plan*: In order to ensure that the proposed mitigation measures have the intended results and comply with GoN and World Bank requirements, an environmental performance monitoring program will be included in the ESMP with the following suggested details:
  - Monitoring indicators to be measured for evaluating the performance of mitigation measure/s. Indicators should include principles in line with applicable GoN engineering and civil works standards.
  - Monitoring mechanisms and methodologies
  - Monitoring frequency
  - Monitoring locations
  - Expected cost of monitoring
  - Responsibility

- *Institutional Arrangements for implementation, monitoring and reporting:* Institutions/agencies responsible for implementing mitigation measures and for monitoring their performances will be clearly identified along with instruments that define their obligations. Where necessary, mechanisms for institutional co-ordination will be identified as often monitoring tends to involve more than one institution, which may be applicable in the case of the proposed sub-projects for the SRCTIP.
- *Implementation Schedules:* Timing, frequency and duration of mitigation measures with links to over-all implementation schedule of the project will be specified.
- *Reporting Procedures:* Feedback mechanisms to inform the relevant parties on the progress and effectiveness of the mitigation measures and monitoring itself will be specified. Guidelines on the type of information wanted and the presentation of feedback information will also be highlighted.

✓ *Cost Estimates:* Implementation of mitigation measures mentioned in the ESMP will involve an initial investment cost as well as recurrent costs. The ESMP should include costs estimates for each suggested measure and also identify sources of funding.

✓ Standard construction environmental safeguards clauses for engineering and civil works

For SRCTIP, ESMP prepared for each sub-project activity would be integrated in the design and bidding documents.

Sub-Project Approval

In the event that a sub-project may involve forest land diversion or requires tree cutting or requires detailed assessment (IEE/ESIA), the project shall:

a) not go ahead with Bidding and/or Construction until a satisfactory EA and ESMP has been prepared and shared with the affected community/stakeholders; and

b) not allow works to start until the regulatory permissions/consents are obtained in accordance with the framework.

The entire process and outputs, including its proper and timely application will be managed/ facilitated by the Project Co-ordination Office for SRCTIP at the MoICS/MoA with the help of E&S consultants to be hired by the project. All outputs (such as screening reports, IEE, EA, ESMPs) would be shared with Bank for review and clearance during the preparation stage of sub-projects itself. Sub-projects need to have safeguards clearance prior to initiation of the bidding process for construction.

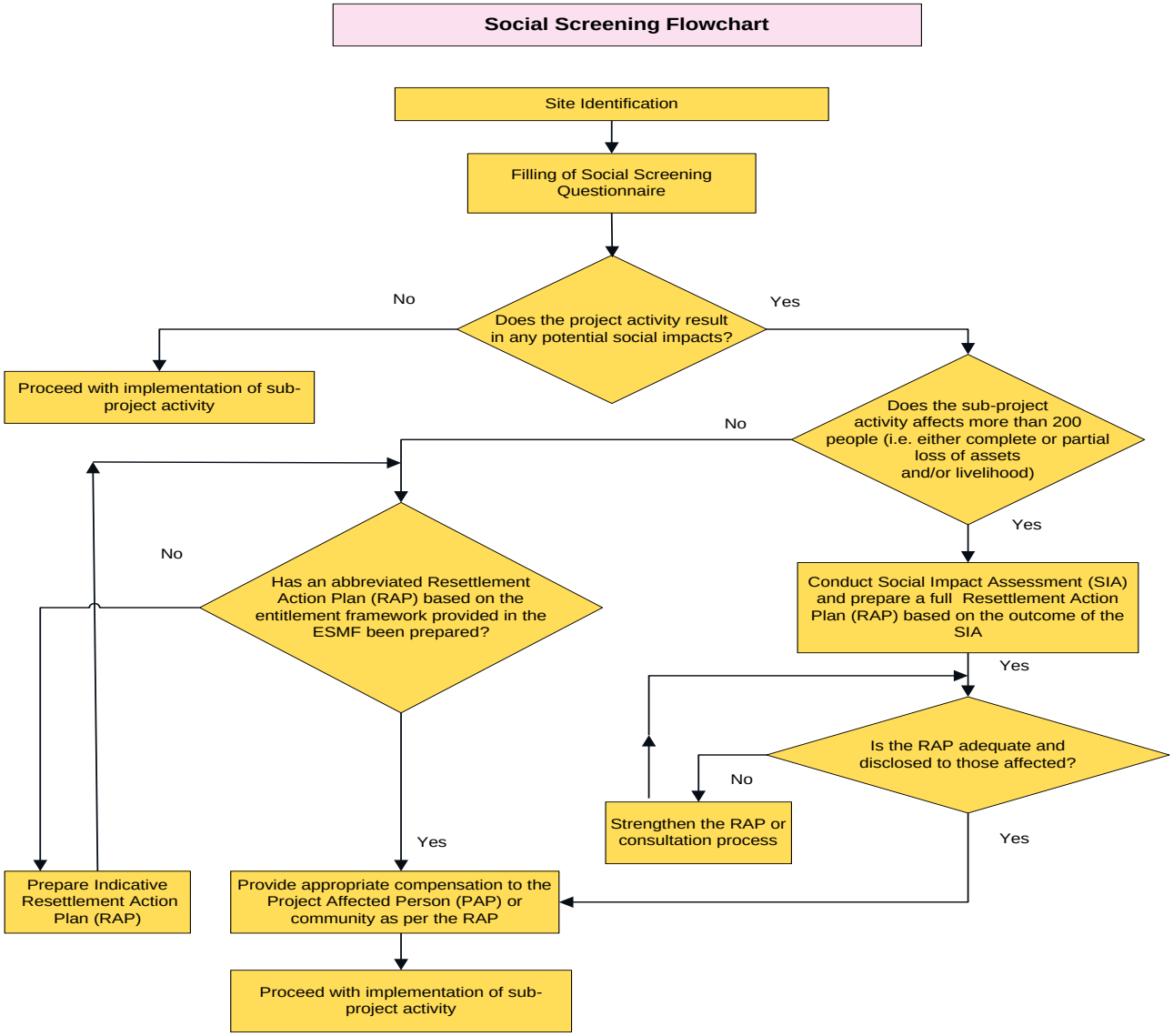
5.2 Process for Managing Over-all Social Impacts/Issues

The key steps are essentially the same as for dealing with the environmental issues – screening, assessment and preparation of mitigation plan. All of these steps and outputs will be managed/ facilitated by the Project Co-ordination Office for SRCTIP at the MoICS/MoA.

Social Screening

Every sub-project proposal to be funded under the SRCTIP is subject to social screening process before it is selected for inclusion in the project.

Figure 5.3: Social Screening - Flow Chart showing Key Steps



The screening process establishes the level of social assessment required and application of exclusion criteria given in the environment section of this chapter.

The screening process intends to:

a) Determine potential impacts of selected sub-components as to whether they are likely to cause negative social impacts

b) Determine the scope and focus of detailed social assessment

c) Helps in making appropriate decision about inclusion or exclusion of the site/location under consideration.

A flow chart below explains how the screening process is to be applied in SRCTIP.

Social Impact survey

The project will undertake a survey for identification of the persons and their families likely to be affected by the project. Every survey shall contain the following municipality or ward / village-wise information of, the project affected families:

1. Members of families who are residing, practicing any trade, occupation or vocation in the project affected area;
2. Project affected families who are likely to lose their house, commercial establishment, agricultural land, employment or are alienated wholly or substantially from the main source of their trade occupation or vocation or losing any other immovable property.
3. Agricultural labourers and non-agriculture labourers.
4. Losing access to private property or common property resources.
5. Potential impacts on IP communities.
6. Construction induced impacts to nearby structures
7. Community Safety and Health risk (including GBV risk)
8. Labor Influx Risk
9. Vulnerable populations in the project area

The project on completion of the survey will disseminate the survey results among the affected community.

Other Social Action Plans

Based on the social impact assessment survey, project will prepare a Resettlement Action Plan to mitigate or minimize the adverse impacts as identified during the survey. The project may also need to prepare an Indigenous People Development Plan (IPDP) to address impacts to IP communities. The requirements of RAP/IPDP/ preparation and approval are described in the stand-alone Resettlement Policy Framework and Indigenous Peoples Framework.

5.3 Framework for Developing Gender Action Plan

The GDP framework outlines the specific issues linking with corresponding strategies and activities which will be given due consideration in the project. This will ensure women's participation in the value-chain in order to benefit from project activities. The

major tools are used to identify and deal with gender issues in the project cycle: gender analysis, project design, and policy dialogue.

Gender analysis should be an integral part of the initial social assessment at the screening stage itself. The issues identified can be scaled up during the feasibility and detailed analysis can be carried out during the DPR stage.

The project designs should be gender responsive based on the gender analysis, and should be included in the DPR The findings and recommendations from the gender analysis during project planning and feedback from beneficiaries during implementation must be discussed thoroughly to determine the need for further action. Listed below are the key action points:

General Checklist

- ✓ Identify key gender and women's participation issues.
- ✓ Identify the role of gender in the project objectives.
- ✓ Prepare terms of reference (TOR) for the gender specialist or social development specialist of the client
- ✓ Conduct gender analysis as part of overall Social Assessment.
- ✓ Draw up a socioeconomic profile of key stakeholder groups in the target population and disaggregate data by gender.
- ✓ Examine gender differences in knowledge, attitudes, practices, roles, status, wellbeing, constraints, needs, and priorities, and the factors that affect those differences.
- ✓ Assess men's and women's capacity to participate and the factors affecting that capacity.
- ✓ Assess the potential gender-differentiated impact of the project and options to maximize benefits and minimize adverse effects.
- ✓ Identify government agencies and nongovernmental organizations (NGOs), community-based organizations (CBOs), and women's groups that can be used during project implementation. Assess their capacity.
- ✓ Review the gender related policies and laws, as necessary.
- ✓ Identify information gaps related to the above issues.
- ✓ Involve men and women in project design.
- ✓ Incorporate gender findings in the project design.

- ✓ Ensure that gender concerns are addressed in the relevant sections (including project objectives, scope, poverty and social measures, cost estimates, institutional arrangements, social appendix, and consultant's TOR for implementation and M & E support).
- ✓ List out major gender actions.
- ✓ Develop gender-disaggregated indicators and monitoring plan.

Specific Checklists to be covered during various stages of project cycle

Methodology

Desk review

- ✓ Review available information (e.g., statistics, gender analysis, documents of previous projects) in the project area and the socioeconomic profile of the target population.
- ✓ Review the relevant legal (e.g., inheritance law), policy (e.g., R&R policy), and institutional framework (e.g., current administrative system for land acquisition, compensation disbursement) and their gender implications.

Household surveys

- ✓ Draw up gender-disaggregated socioeconomic and cultural profiles and identify the constraints, and needs of the target population.
- ✓ Collect quantitative information.

Participatory methodologies (e.g., participatory rapid appraisal, focus group discussions, random interviews, walking tours)

- ✓ Collect qualitative information which cannot be collected through surveys.
- ✓ Define ways in which men and women beneficiaries and other stakeholders, especially poor women can participate in the project.
- ✓ Map out the target areas. Which are the most disadvantaged areas in terms of access to services and poverty level?
- ✓ Identify major stakeholder groups and their stake.

Staffing

- ✓ Ensure adequate gender balance in field teams.
- ✓ Select field team members with gender awareness, local knowledge, cultural understanding, and willingness to listen.

Primary Data to Be Collected

Macro institutional framework

- ✓ Gender impact of sector policy; legal and institutional framework.
- ✓ Executing agency's capacity and commitment to participatory approaches and gender focus.

Socioeconomic profile

Demographic

- ✓ Composition by gender, ethnicity/caste, age, etc.
- ✓ In and out migration trend (male and female)
- ✓ Percentage of households headed by females
- ✓ Household size
- ✓ Age at marriage, by gender

Economic

- ✓ Income level and sources, by gender
- ✓ Expenditure patterns and decision making, by gender
- ✓ Land tenure and use, by gender

Health

- ✓ Population growth rate
- ✓ Infant and maternal mortality rates
- ✓ Service availability
- ✓ Fertility level and decision making
- ✓ Food allocation and nutrition level within households, by gender
- ✓ Incidence of domestic violence

Education

- ✓ Literacy and school enrollment ratios, by gender
- ✓ School dropout ratio, by gender
- ✓ Child labor, by gender

Status of women

- ✓ Political representation and awareness
- ✓ Socio - cultural perceptions and practices of men and women
- ✓ Gender-discriminatory policies and laws

- ✓ Gender roles and responsibilities
- ✓ Broad gender division of labor in productive (e.g., agriculture, income-generating activities) and reproductive (e.g., household chores, child care) responsibilities, and time allocation for each responsibility

Fuel, Fodder and Sanitation

- ✓ Availability, quantity, and quality of fuel and fodder
- ✓ Time spent on collection of these resources
- ✓ Are there seasonal differences in availability, quantity, or quality?
- ✓ Is there sanitation service available
- ✓ Are the services available 24 hours a day?
- ✓ Is there a fee for water or sanitation services?
- ✓ Who pays to whom (e.g., user committee, local government, private company)?
- ✓ How much is the fee?

Water

Drinking water

- ✓ What sources (e.g., public streams, rivers, tanks, lakes, communal wells or tanks, ponds, privately owned wells or tanks, water pipes) are used?
- ✓ How far away are the water sources?
- ✓ Water collection and storage
- ✓ Who collects and stores water? How?
- ✓ How much time is spent in water collection and storage?
- ✓ Who carries water and how?
- ✓ How much time is spent transporting water?
- ✓ Are there any health hazards resulting from the transport of water?
- ✓ How is the collected water used differently by men and women (e.g., for cooking, sanitation, home gardens, livestock)?
- ✓ Who decides the allocation?
- ✓ Is water available in the dry season?
- ✓ How is water use managed during the water-scarce season? By whom?

Roles in agricultural water

- ✓ Who collects, transports, and manages water for agricultural use and how?
- ✓ Is there any conflict between agricultural and domestic water allocation? How can these needs be prioritized?
- ✓ Are there conflicts in water distribution in general, based on gender, income level, ethnicity/castes, etc.? How can these be solved?
- ✓ Who is responsible for the upkeep of the community water infrastructure?
- ✓ Who could be key informants?
- ✓ Are there significant differences in responsibilities based on gender, income level, or ethnicity/caste?

Access, control, constraints

- ✓ How do men and women differ in their access to and control of land, agricultural inputs, extension, markets, employment opportunities, and credit?
- ✓ Is external assistance provided to improve access/control? By whom?

Participation

- ✓ What factors affect the level of men's and women's participation?
- ✓ What are the incentives and constraints?
- ✓ During which season is the demand for labor highest?
- ✓ Which modes of participation do men and women favor (e.g., decision making in planning, cash contribution, labor contribution for construction, training, financial management, organizational management)?

Project impact

- ✓ Do men and women perceive positive and negative impacts of the project differently?
- ✓ Are the benefits likely to be distributed equitably?
- ✓ How can negative effects be mitigated?
- ✓ Are there any disadvantaged or vulnerable groups?
- ✓ Who are they? Where do they live? What are their socioeconomic characteristics?
- ✓ How will the project affect these groups?
- ✓ Land acquisition/Resettlement: Extent of land to be acquired
- ✓ What are the gender-specific implications?

Organization

- ✓ What is the current level of women's representation in other community decision- making bodies?
- ✓ Are there local organizations (e.g., local governments, national NGOs, CBOs, mass organizations) that address women's constraints and needs? How can the project link up with them?
- ✓ What mechanisms can be used to ensure women's active participation in project activities?
- ✓ What organizations can be used to mobilize and train women in the project activities and livelihood options?
- ✓ Incorporate the preferences of community men and women on issues such as: number and location of assets and sharing vs. individual arrangement of assets;
- ✓ Highlight women's strengths in mobilizing savings and resources.
- ✓ Incorporate the preferences of men and women in the community on:
  - o financing arrangement
  - o possible preferential treatment for very poor, female-headed and other disadvantaged families
  - o credit or community-based revolving funds for women SHGs

Community participation mechanism

- ✓ Develop a participation strategy for men and women during project implementation and M & E.
- ✓ Avoid overly high expectation of women's participation and develop a practical schedule, as women often have time and financial constraints. The strategy should incorporate the following:
- ✓ Planning: Conduct women specific consultation to take their views and suggestions on the design. Any mechanism established during the project design such as grievance mechanisms should have adequate representation from women.
- ✓ Construction: Ensure work conditions that are conducive to women's participation (e.g., gender-equal wage rates, construction season, toilet and child-care facilities).

Monitoring and evaluation (M & E): Develop a feedback mechanism in which both male and female have a voice. Identify organizations that could facilitate women's participation during implementation and M & E.

Training Options

- ✓ Identify ways to link up with income-generation, literacy, and other activities to support an integrated approach to poverty reduction and women empowerment
- ✓ Support a decentralized structure to allow linkages between the village and local government.
- ✓ Include financial and technical capacity building for relevant local government bodies to enable them to effectively support women SHGs.

Staffing, Scheduling, Procurement and Budgeting

- ✓ Hire female project staff.
- ✓ Consider seasonal labor demand in scheduling civil works.
- ✓ If appropriate, set a minimum percentage of female laborers and prohibit the use of child laborers in the civil works contract.
- ✓ Ensure adequate and flexible budgeting to allow a "learning" approach (e.g., training budget, consulting service budget for women's organizations).

Monitoring and Evaluation

- ✓ Develop M & E arrangements: (i) internal M & E by project staff; (ii) external M & E by NGOs or consultants, as necessary; and (iii) participatory monitoring by beneficiary men and women.
- ✓ Disaggregate all relevant indicators by gender such as number of women gaining access to credit, increase in women's income, and career prospects for project trained women.

Documentation

Document the gender-responsive design features in the DPR and include covenants in the loan agreement to ensure gender-sensitive project design mechanisms to be complied by the executing agency

Suggested Gender Development Plan

The suggested Gender Development Plan for the project is presented below:

Table 5.3 Gender Development Plan

Issues	Strategy	Proposed Activities
Lack of awareness	• Awareness campaign about the project for the community focusing on the vulnerable group including women.	• Formation of women groups around specific project areas. • Share information about the project benefits in Nepali language.
Low Level of literacy	• Support functional literacy campaign and develop extension programmes to take the benefits from the project as per the needs of illiterates.	• Undertake literacy programs as built-in activities coordinated with literacy programmes. • Develop the implementing strategies to communicate real time information specifically for EWS. • Develop audio-visual aids and documentary for training programs about the project for illiterate women groups.
Excluded from Opportunities and because of social boundaries as a result low level of participation in decision making process	• Rapport building with Women Development Office at District or local level involving them in Programmes • Gender sensitization to all stakeholders including project entities. • Ensure Women's participation during meetings, project	• Carry out meetings and interaction programme with and orientation to women in the community. • Conduct leadership training for women members of commodity groups. • Provide opportunities of exposure or study visit to women's group to develop their leadership capacity

Issues	Strategy	Proposed Activities
	implementation And monitoring .	
Lack of knowledge on and access to technical knowhow	• Promote need based technical awareness and support services.	• Organize training on newly lunched technologies (metrological/hydrological)
Disparity in Wages	• Accord Priority Employment to women in project generated construction activities. • Promote equal wages for equal work	• Inform women groups regarding proposed construction works. Identify women interested to work; assess their skills and involve them as per their capabilities. • Monitor women wage rate and do the needful to ensure wage equality for similar type of construction works. • Inclusion of the above elements in the contractors' document.

Chapter 6

ENVIRONMENT AND SOCIAL MANAGEMENT FRAMEWORK

(including Generic ESMP/Codes of Practice)

This chapter of the ESMF serves as a comprehensive and a systematic guide covering policies, procedures and provisions, which are being/will be integrated with the over-all project cycle to ensure that the environmental aspects are systematically identified and addressed at the sub-project level. The use and integration of provisions/requirements given here into the project's operational cycle will help in avoiding and mitigating adverse environmental impacts. It will also help in enhancing positive impacts and facilitate in achieving compliance with the Bank's Safeguard Policies and regulatory requirements of Govt. of Nepal.

The Generic Environmental and Social Management Plan (ESMP)/Codes of Practice provided in this chapter will apply mainly to the:

a) Distribution/warehousing/logistics center or Inland Clearance Depot (ICD)
b) the rehabilitation of the infrastructure at Birgunj ICD which will include extension warehouse shed and removal of unused rail tracks
c) Multi-Functional Joint Analysis Laboratories

The Generic ESMP/codes are provided as a set of recommendations and do not replace the guidelines specified in the Nepal Environmental Policies and Regulations applicable to the project, Nepal Construction Code, Nepal Planning Commission and other applicable rules. The World Bank Group Environmental Health and Safety Guidelines, which was used as one of the bases to develop the ECoPs, will be also followed and complied with when developing the measures to manage environmental and social risks and impacts.

6.1 Environmental Codes of Practice (ECoPs)

The ECoPs provides technically specified solutions illustrating the general principles of environmentally sound and sustainable planning, design and construction of infrastructure/facilities. Appropriate guidance has been developed to enhance positive impacts and to avoid, minimize and mitigate adverse impacts through 'environmental codes of practice'. These activity-specific codes address planning/design, construction and operation-stage issues associated with: (a) site preparation; (b) construction camps and plant sites; (c) borrow and quarry areas; (d) water management; (e) slope stability and erosion control (including introduction of bio-engineering practices); (f) waste management; (g) drainage; (h) public and worker's health and safety; (i) cultural properties (including handling of 'chance-find'); and (j) tree plantation. In

addition, specific codes are being developed to provide guidance on environmental audit (covering pre-construction, construction and operation stages).

6.2 Generic ESMP for Planning, Designing, Managing & Supervising Impacts

This section details the factors to be considered during sub-project preparation and implementation to address environmental risks and impacts

Table 6.1: Environmental and Social Management Plan

Aspect	Enhancement/ Mitigation Measures	Responsibility
ESIA/IEE studies/implement -tation of measures	Conducting ESIA/IEE Studies/Screening Implementation of recommendations in project planning (location selection).	PCO -E&S Specialists and Engineers
	Inclusion of mitigation measures in project cost and bidding documents Implementation of ESMP/measures Monitoring, Supervision and Reporting	PCO – E&S Specialists and Engineers Contractors CSC, PCO – E&S Specialists
Participation of beneficiary groups in project process	• Maximize the effectiveness of communication methods. • Maximize the participation of local communities in project location selection. • Disseminate information timely and adequately. • Create awareness about the sub- project and related activities.	PCO – E&S SpecialistsMoICS/MoA
Acquisition/ Impact on Land and Natural Resources	• Avoid or minimize the area of acquisition. • Avoid sites close to wetlands, wildlife areas and forests • Avoid filling-up of water bodies.	PCO – E&S Specialists

Key environmental concerns to be kept in mind…
• Land, including loss of productive topsoil • Drainage • Land use and livelihood • Vegetation, cutting of trees • Forests, wild life, fisheries and aquatic habitat • Water bodies and water quality • Slope stability • Wetlands • Common property resources • Disposal of excess material from cut sections

Environmental Considerations for the Engineering Design

(such as the Warehouse and Laboratories)

The building and related infrastructure engineering designs should take into consideration the following:

(i) the connection of the building or infrastructure to the potable water system and the capacity of the existing water distribution network or the need to establish a water supply system for the building. This is very critical for the laboratories (well, storage tank, pumping station, etc.).

(ii) The connection to the domestic sewerage network and the need for capacity expansion for receiving collectors.

(iii) On-site wastewater treatment system (septic tank, infiltration ditch)

(iv) Treatment of sewerage before being discharged to the sewerage networks or the wastewater treatment system

(iv) Adequate management of runoff and the facilities for its recollection and evacuation, having in mind the existing downstream systems

(v) Separation of domestic sewerage systems from that generated from chemical analysis in the laboratories

(vi) Systems of recollection, storage and transportation of solid and/or hazardous waste generated from the laboratory facility, incorporating the structures for separation and recycling

(viii) Appropriate and safe handling of contaminated/hazardous products on site, easy access to and transportation arrangements for disposing off contaminated/hazardous wastes to the sanitary landfills and/or incinerators

(ix) Integrate building design with architectonic characteristics of the surrounding neighborhood

(x) Provision of onsite remedial measures in case of occurrence of emergencies as spillages of chemicals, oil, or other laboratory testing reagents; and

(xi) Avoiding the use of materials such as wood from tropical forests, lead-based paints, asbestos, for exam.

Environmental Enhancement

The architectural design of sub-projects could bring many opportunities to incorporate and reinforce the criteria of environmentally friendly buildings. The feasibility of incorporating these aspects into the design should be analyzed during the conceptualization phase of the architectural designs and during the engineering designs. This analysis could include:

(i) Solar panels to satisfy totally or partially the electricity needs especially when reliable access to energy for lighting, heating and cooling is not guaranteed from the national grid

(ii) Rain water storage for the irrigation of gardens and green zones

(iii) Recycling of wastewater for irrigation

(iv)Separation of the potable water systems from irrigation systems

(v) Maximizing natural light in order to minimize artificial light needs

(vi) Planting of native species in gardens and green areas; (vii) using windmills for groundwater exploitation for irrigation water; (viii) natural ventilation systems, minimizing the necessities of air conditioning; and (ix) the stabilization of slopes using vegetative measures.

6.3 Generic ESMP for Managing Construction Impacts

The following information is intended solely as broad guidance to be used in conjunction with local and national regulations.

Prohibitions

The following activities are prohibited on or near the project site:

1. Cutting of trees for any reason outside the approved construction area
2. Hunting, fishing, wildlife capture, or plant collection
3. Use of unapproved toxic materials, including lead-based paints, asbestos, etc

4. Disturbance to anything with architectural or historical value
5. Building of fires
6. Use of firearms (except authorized security guards)
7. Use of alcohol by workers.

Pre-construction / Works Planning Stage

Before initiation of construction activities, the Contractor shall present to the Project Engineer and CSC with a Construction Plan which explicitly states how he plans to abide by these specifications. Only after approval of such a plan by the Project Engineer/CSC and PCO E&S Specialists, construction activities can proceed.

Construction

The Contractor and his employees shall adhere to the mitigation measures set down in these specifications to prevent harm and nuisances on local communities, and to minimize the impacts in construction and operation on the environment.

Transport

- The Contractor shall use selected routes to the project site, as agreed with the Project Engineer, and appropriately sized vehicles suitable to the class of roads in the area, and shall restrict loads to prevent damage to local roads and bridges used for transportation purposes. The Contractor shall be held responsible for any damage caused to local roads and bridges due to the transportation of excessive loads, and shall be required to repair such damage to the satisfaction of the Project Engineer, CSC and PCO E&S Specialists.
- The Contractor shall not use any vehicles, either on or off road with grossly excessive, exhaust or noise emissions. In any built up areas, noise mufflers shall be installed and maintained in good condition on all motorized equipment under the control of the Contractor.
- Adequate traffic control measures shall be maintained by the Contractor throughout the duration of the Contract and such measures shall be subject to prior approval of the Project Engineer, CSC and PCO E&S Specialists.

Workforce and LabourCamps Management

- The contractor shall strictly follow the provisions stated under Labour Act 2074 BS (2017 AD) & Labour Rules/Regulations 2075 BS (2018 AD)

- The Contractor should whenever possible locally recruit the majority of the workforce and shall provide appropriate training as necessary.
- The Contractor shall provide adequate lavatory facilities (toilets and washing areas) should be provided for the number of people expected to work in the work site. Toilet facilities should also be provided with adequate supplies of hot and cold running water, soap, and hand drying devices.
- The Contractor shall install and maintain a temporary septic tank system for any residential labor camp and without causing pollution of nearby watercourses.
- The Contractor shall establish a method and system for storing and disposing of all solid wastes generated by the labor camp and/or base camp.
- The Contractor shall not allow the use of fuel wood for cooking or heating in any labor camp or base camp and provide alternate facilities using other fuels.
- The Contractor shall ensure that site offices, depots, asphalt plants and workshops are located in appropriate areas as approved by the Project Engineer, CSC and PCO E&S Specialists and not within 500 meters of existing residential settlements and not within 1,000 meters for asphalt plants.
- The Contractor shall ensure that site offices, depots and particularly storage areas for diesel fuel and bitumen and asphalt plants are not located within 500 meters of watercourses, and are operated so that no pollutants enter watercourses, either overland or through groundwater seepage, especially during periods of rain. This will require lubricants to be recycled and a ditch to be constructed around the area with an approved settling pond/oil trap at the outlet.
- The contractor shall not use fuel wood as a means of heating during the processing or preparation of any materials forming part of the Works.

Erosion Control

- Disturb as little ground area as possible, stabilize that area as quickly as possible, control drainage through the area, and trap sediment onsite. Erect erosion control barriers around perimeter of cuts, disposal pits, and roadways
- Conserve topsoil with its leaf litter and organic matter, and reapply this material to local disturbed areas to promote the growth of local native vegetation.
- Apply local, native grass seed and mulch to barren erosive soil areas or closed construction surfaces.
- Apply erosion control measures before the rainy season begins preferably immediately following construction. Install erosion control measures as each construction site is completed.

- In all construction sites, install sediment control structures where needed to slow or redirect runoff and trap sediment until vegetation is established. Sediment control structures include windrows of logging slash, rock berms, sediment catchment basins, straw bales, brush fences, and silt
- Control water flow through construction sites or disturbed areas with ditches, berms, check structures, live grass barriers, and rock
- Maintain and reapply erosion control measures until vegetation is successfully established.
- Spray water on dirt roads, cuts, fill material and stockpiled soil to reduce wind-induced erosion, as needed

Earthworks, Cut and Fill Slopes

- All earthworks shall be properly controlled, especially during the rainy season.
- The Contractor shall maintain stable cut and fill slopes at all times and cause the least possible disturbance to areas outside the prescribed limits of the works.
- The Contractor shall complete cut and fill operations to final cross-sections at any one location as soon as possible and preferably in one continuous operation to avoid partially completed earthworks, especially during the rainy season.
- In order to protect any cut or fill slopes from erosion, in accordance with the drawings, cut off drains and toe-drains shall be provided at the top and bottom of slopes and be planted with grass or other plant cover. Cut off drains should be provided above high cuts to minimize water runoff and slope erosion.
- Any excavated cut or unsuitable material shall be disposed of in designated disposal areas as agreed to by the Project Engineer, CSC and PCO E&S Specialists.
- Disposal sites should not be located where they can cause future slides, interfere with agricultural land or any other properties, or cause soil from the dump to be washed into any watercourse. Drains may need to be dug within and around the tips, as directed by the Engineer.

Stockpiles and Borrow Pits

- Operation of a new borrowing area, on land, in a river, or in an existing area, shall be subject to prior approval of the Project Engineer and environmental assessment and permitting requirements by the Ministry of Environment. Borrow pits shall be prohibited where they might interfere with the natural or designed drainage patterns. River locations shall be prohibited if they might undermine or damage the river banks, or carry too much fine material downstream or would have adverse impacts on aquatic ecology and biodiversity.

- The Contractor shall ensure that all borrow pits used are left in a trim and tidy condition with stable side slopes, and are drained ensuring that no stagnant water bodies are created which could breed mosquitoes.
- Rock or gravel taken from a river shall be far enough removed to limit the depth of material removed to one-tenth of the width of the river at any one location, and not to disrupt the river flow, or damage or undermine the river banks.
- The location of crushing plants shall be subject to the approval of the Engineer, CSC and PCO E&S Specialists and not be close to environmentally sensitive areas or to existing residential settlements, and shall be operated with approved fitted dust control devices.
- In any borrow pit and disposal site, the Contractor shall:

    1. Identify and demarcate locations for stockpiles and borrow pits, ensuring that they are at least 50 meters away from critical areas such as steep slopes, erosion-prone soils, and areas that drain directly into sensitive water bodies
    2. Limit extraction of material to approved and demarcated borrow pits.
    3. Stockpile topsoil when first opening the borrow pit. After all usable borrow has been removed, the previously stockpiled topsoil should be spread back over the borrow area and graded to a smooth, uniform surface, sloped to drain. On steep slopes, benches or terraces may have to be specified to help control erosion.
    4. Excess overburden should be stabilized and re-vegetated. Where appropriate, organic debris and overburden should be spread over the disturbed site to promote re-vegetation. Natural re-vegetation is preferred to the extent practicable.
    5. Existing drainage channels in areas affected by the operation should be kept free of overburden.
    6. Once the job is completed, all construction -generated debris should be removed from the site.

Safety during Construction(OHS/OCHS)

- The Contractor's responsibilities include the protection of every person and nearby property from construction accidents. The Contractor shall be responsible for complying with all national and local safety requirements and any other measures necessary to avoid accidents, including the following:

    1. Carefully and clearly mark pedestrian-safe access routes
    2. If school children are in the vicinity, include traffic safety personnel to direct traffic during school hours
    3. Maintain supply of supplies for traffic signs (including paint, easel, sign material, etc.), road marking, and guard rails to maintain pedestrian safety during construction
    4. Conduct safety training for construction workers prior to beginning work
    5. Provide personal protective equipment and clothing (goggles, gloves, respirators, dust masks, hard hats, steel-toed and –shanked boots, etc.) for construction workers and enforce their use
    6. Post Material Safety Data Sheets for each chemical present on the worksite
    7. Require that all workers read, or are read, all Material Safety Data Sheets. Clearly explain the risks to them and their partners, especially when pregnant or planning to start a family. Encourage workers to share the information with their physicians, when relevant
    8. Ensure that the removal of asbestos-containing materials or other toxic substances be performed and disposed of by specially trained workers
    9. During heavy rains or emergencies of any kind, suspend all work
    10. Brace electrical and mechanical equipment to withstand seismic events during the construction period

Nuisance and Dust Control

- To control nuisance and dust the Contractor should:

    1. Maintain all construction-related traffic at or below 15 mph on streets within 200 m of the site
    2. Maintain all on-site vehicle speeds at or below 10 mph.
    3. To the extent possible, maintain noise levels associated with all machinery and equipment at or below 90 db.

4. In sensitive areas (including residential neighborhoods, hospitals, rest homes, etc.) more strict measures may need to be implemented to prevent undesirable noise levels.
5. Minimize production of dust and particulate materials at all times, to avoid impacts on surrounding families and businesses, and especially to vulnerable people (children, elders).
6. Phase removal of vegetation to prevent large areas from becoming exposed to wind.
7. Place dust screens around construction areas, paying particular attention to areas close to housing, commercial areas, and recreational areas.
8. Spray water as needed on dirt roads, cut areas and soil stockpiles or fill material.
9. Apply proper measures to minimize disruptions from vibration or noise coming from construction activities.

Demolition of Existing Infrastructure

- The Contractor shall implement adequate measures during demolition of existing infrastructure to protect workers and public from falling debris and flying objects. Among these measures, the Contractor shall:
  - Set aside a designated and restricted waste drop or discharge zones, and/or a chute for safe movement of wastes from upper to lower levels
  - Conduct sawing, cutting, grinding, sanding, chipping or
  - chiseling with proper guards and anchoring as applicable
  - Maintain clear traffic ways to avoid driving of heavy equipment over loose scrap
  - Use of temporary fall protection measures in scaffolds and out edges of elevated work surfaces, such as hand rails and toe boards to prevent materials from being dislodged
  - Where blasting is required, evacuate all work areas during blasting operations, and use blast mats or other means of deflection to minimize fly rock or ejection of demolition debris if work is conducted in proximity to people or structures
  - Provide all workers with safety glasses with side shields, face shields, hard hats, and safety shoes

- The construction waste would require appropriate environmental handling. The identification of suitable sites for waste disposal, the environmental management necessary (compacting, re-soiling and re-vegetation, drainage control), and the associated transportation costs should be included in project design and cost estimates.
- The engineering design will then consider: (i) the preparation of environmental specifications that the contractor should follow during the construction; and (ii) the constructive design and activity programming having in mind the minimization of impacts and nuisances to the population

Disposal of Construction Waste

- The Contractor shall establish and enforce daily site clean-up procedures, including maintenance of adequate disposal facilities for construction debris
- Debris generated due to the dismantling of the existing structures shall be suitably reused, to the extent feasible, in the proposed construction (e.g. as fill materials for embankments). The disposal of remaining debris shall be carried out only at sites identified and approved by the Project Engineer, CSC and PCO E&S Specialists. The contractor should ensure that these sites (a) are not located within designated forest areas; (b) do not impact natural drainage courses; and (c) do not impact endangered/rare flora. Under no circumstances shall the contractor dispose of any material in environmentally sensitive areas.
- In the event any debris or silt from the sites is deposited on adjacent land, the Contractor shall immediately remove such, debris or silt and restore the affected area to its original state to the satisfaction of the Project Engineer, CSC and PCO E&S Specialists.
- All arrangements for transportation during construction including provision, maintenance, dismantling and clearing debris, where necessary, will be considered incidental to the work and should be planned and implemented by the contractor as approved and directed by the Engineer, CSC and PCO E&S Specialists.

Hazardous Materials

- If the construction site is expected to have or suspected of having hazardous materials (asbestos containing materials in debris from demolished buildings, or chemicals stored on site for track maintenance; or pest control) the Contractor will be required to prepare a Hazardous Waste Management Plan (HWMP) to be approved by the Project. The plan should be made available to all persons involved in operations and transport activities. Removal and disposal of existing hazardous

wastes in project sites should only be performed by specially trained personnel following national or provincial requirements, or internationally recognized procedures.

Waste Management (includingHazardous/Lab Waste)

- Solid, sanitation, and, hazardous wastes must be properly controlled, through the implementation of the following measures:

1. Follow GoN's Health Care Waste Management (HCWM) and Infection Prevention (IP) guidelines in case of lab related wastes.
2. Minimize the production of waste that must be treated or eliminated.
3. Identify and classify the type of waste generated. If hazardous wastes are generated, proper procedures must be taken regarding their storage, collection, transportation and disposal.
4. Identify and demarcate disposal areas clearly indicating the specific materials that can be deposited in each.
5. Control placement of all construction waste (including earth cuts) to approved disposal sites (>300 m from rivers, streams, lakes, or wetlands).Dispose in authorized areas all of garbage, metals, used oils, and excess material generated during construction, incorporating recycling systems and the separation of materials.

Community Relations

- To enhance adequate community relations the Contractor shall:

1. Inform the population about construction and work schedules, interruption of services, traffic detour routes and provisional bus routes, blasting and demolition, as appropriate.
2. Limit construction activities at night. When necessary ensure that night work is carefully scheduled and the community is properly informed so they can take necessary measures.
3. At least five days in advance of any service interruption (including water, electricity, telephone, bus routes) the community must be advised through postings at the project site, at bus stops, and in affected homes/businesses.

Maintenance

- Identify and demarcate equipment maintenance areas (>300m from rivers, streams, lakes or wetlands). Fuel storage shall be located in proper areas and approved by the Project Engineer.
- Ensure that all equipment maintenance activities, including oil changes, are conducted within demarcated maintenance areas; never dispose spent oils on the ground, in water courses, drainage canals or in sewer systems.
- All spills and collected petroleum products shall be disposed of in accordance with standard environmental procedures/guidelines. Fuel storage and refilling areas shall be located at least 300m from all cross drainage structures and important water bodies or as directed by the Engineer.
- Some sub-projects may generate substantial amounts of construction waste that requires appropriate environmental handling. The identification of suitable sites for waste disposal, the environmental management necessary (compacting, re-soiling and re-vegetation, drainage control), and the associated transportation costs should be included in project design and cost estimates.

Physical Cultural Property Chance-finds Procedures

- If the Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:

  (a) Stop the construction activities in the area of the chance find;

  (b) Delineate the discovered site or area;

  (c) Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the National Culture Administration take over;

  (d) Notify the supervisory Engineer who in turn will notify the responsible local authorities and the National Culture Administration immediately (within 24 hours or less);

  (e) Responsible local authorities and the National Culture Administration would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archeologists of National Culture Administration. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural

heritage; those include the aesthetic, historic, scientific or research, social and economic values;

(f) Decisions on how to handle the finding shall be taken by the responsible authorities and National Culture Administration. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage;

(g) Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities; and

(h) Construction work could resume only after permission is given from the responsible local authorities or National Culture Administration concerning safeguard of the heritage.

First-Aid and Emergency Response

- The Contractor shall provide basic first aid services to the workers as well as emergency facilities for emergencies for work related accidents including as medical equipment suitable for the personnel, type of operation, and the degree of treatment likely to be required prior to transportation to hospital.

Gender Based Violence action plan

The GBV Mitigation action plan has been developed as part of the ESMF requirement. The Action plan includes requirement for awareness on the issue; Code of Conduct (CoC) signed by contractors, clients, and consultants; zero-tolerance signs inside worksites; survivor centric referral mechanisms for GBV response, GBV GRM considering survivors confidentiality, and budget allocation to respond to GBV cases.

Nepal is signatory to several GBV/SEA related international treaties and safeguard instruments like the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW), Beijing Platform for Action, the Convention for Suppression of Traffic In Persons and of the Exploitation of the Prostitution of Others, UN Declaration on the Elimination of Violence Against Women, International Covenant on Economic, Social and Cultural Rights, 1966, the International Covenant on Civil and Political Rights, 1966, the Second Optional Protocol to the International Covenant on Civil and Political Rights, 1989, and the Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, 1984. By ratifying these conventions, the Government of Nepal has committed to preventing and mitigating GBV/SEA in the country.

The existing high incidence of various forms of GBV in both project areas; insufficient response and coordination mechanism and potential SEA/SH risks associated with labor influx has triggered a substantial SEA/SH risk. The project will

take the following specific measures to respond to and mitigate SEA/SH related cases and issues.

Table 6.2 Project Specific Mitigation Measures

E&S Documents	• SEA/SH risk mitigation measures will be included in the overall project design including in the identification phase of ESF process, in the concept stage of ESA, ESCP and in the appraisal phase of ESIA, ESMF/Ps and C-ESMP with CoCs attached.
Sensitization and Awareness	• Mass awareness and consultation on SEA and HIV/AIDS prevention measures to communities and stakeholders. • Use of community radios, flyers and brochures on GBV and HIV/AIDS messaging in both pictorial and local languages. • Information about road safety and kilometers will be placed along the highways. • Awareness and information dissemination about existing actors working on SEA/HIV prevention and response to the communities and even among the services providers for comprehensive coordination. • Utilize existing state mechanism such as FCHVs to disseminate and bridge the gap in information. • SEA/SH zero-tolerance signs inside the campsite and in the worksite along the highway.
Human Resource	• The client will hire GBV specialist to implement, advise, report on and monitor GBV action plan during project implementation. • The client will appoint a Gender/ GBV focal person from within the institution as a contact point and overall supervision of all GBV/SEA mitigation activities. • A local GBV/SEA service provider will be hired to provide response services to the survivors. • Local employment in construction (skilled-based trainings), with special consideration for women, Dalits, Indigenous Peoples and people with disability.
Budget Allocation	• Budget will be separated and allocated to GBV /SEA service provider to carry out prevention and response services. • Budget will be allocated to all activities mentioned in the SEA/SH mitigation action plan including establishment of SEA/SH GRM and GRM committee.
Technical	• Installation of CCTV and surveillance, speed cameras around accident-prone areas when identified

	• Maintenance of inner roads (within 1.5km) of highway will ease access to markets, help in rural livelihood generation etc. especially on indigenous and dalit communities
Codes of Conduct	• Contractors and Supervision Consultant are required to submit, in the bidding, SEA/SH mitigation plan and CoCs with specific social sanctions in case of breach of CoCs. • Code of conducts (CoC) each for the Client, the Contractors and individual labor will be developed. Supervision Consultant will facilitate in reading, understanding and signing of the CoCs by each labor/worker. • Maintain proper documentation of each labor/worker. • Proper arrangement and establishment of 24 hours well-lit project site and campsites including WASH, child care facilities, sleeping area, monitoring of drugs and alcohol situations. • Organograms with categories of people working in construction should be prepared. • Orientation and training on GBV/SEA, HIV and CoCs will be provided to contractors, subcontractors labors, workers, supervisors.
Response Mechanism	• Develop GBV Mitigation Action Plan of Client and contractors with accountability framework. • Awareness about and coordination with the 24-hour, toll-free GBV Helpline "Khabar Garau 1145" which is being supported by the World Bank and implemented by NWC.[24] • A well-equipped separate mechanism will be established for reporting cases of GBV- local based GBV-GRM with GBV skilled committee members to respond to such cases. • Complaint/suggestion box inside camps and worksites and in surrounding communities should be installed. • Arrangement of vehicle for laborers to travel from camp to worksite • SEA/SH Mitigation Action Plan will be developed to identify the issues, stakeholders, possible service providers and assess their capacity and all other essential activities throughout the project cycle to mitigate SEA/SH incidences.

[24] https://www.nwchelpline.gov.np/

HIV/AIDS Education

- The Contractor shall be responsible for implementing a program for the detection screening of sexually transmitted diseases, especially with regard to HIV/AIDS, amongst laborers is actually carried out.
- The Contractor shall include in his proposal the outline of a Health Plan. The Project Engineer will issue a certificate of compliance to the Contractor prior to the initiation of Construction.

6.4 Requirements for Managing Operational Impacts

- Remedial actions which cannot be effectively carried out during construction should be carried out on completion of the works and before issuance of the 'completion of works' certificate. No final bills or invoices should be cleared or approved without site verification and written certification of the PCO E&S Specialists on issues pertaining to site clean-up and rehabilitation:

  (a) All affected areas should be rehabilitated/landscaped and any necessary remedial works should be undertaken without delay, including grassing and reforestation;

  (b) Water courses should be cleared of debris and drains and culverts checked for clear flow paths

  (c) All sites should be cleaned of debris and all excess materials properly disposed

  (d) Borrow pits and all other material sources should be fully restored.

  (e) Any remaining waste should be disposed at pre-identified/approved locations.

6.5 Supervision to Over-see ESMF/ESMP Compliance

The PCO Environmental and Social Specialists, the Project Engineer and CSC will supervise compliance with these specifications. Major non-compliance by the Contractor will be cause for suspension of works and other penalties until the non-compliance has been resolved to the satisfaction of the Project Engineer, CSC and PCO E&S Specialists. Contractors are also required to comply with national and municipal regulations governing the environment, public health and safety.

Chapter 7

STAKEHOLDER ENGAGEMENTPLAN

Stakeholder engagement form a very crucial part of all development projects, including infrastructure and are usually carried out as a continuous process through the project cycle. Public and stakeholder consultations and workshops during the design and project planning stages provide the medium for sharing information about the project objectives and scope, alternative design options, and stakeholder perceptions regarding proposed investment plans. Ensuring an open and transparent information exchange about the project at this stage, lays a good foundation for an inclusive and participatory implementation process. This stakeholder engagement and information dissemination framework will apply to management of both environmental and social aspects for SRCTIP.

7.1 Engagement Framework

To facilitate effective consultative process, a community engagement methodology needs to be designed which may include an opinion survey and an engagement program encompassing broad and specific areas of influence of the sub-projects. The methodology could include specifically designed questionnaires and strategies for (i) public and community organizations; and (ii) the community in general.

The public and community organizations to be consulted include (i) local professional associations (including engineering and architectural associations); (ii) local chambers of commerce and industries; (iii) community organizations (neighborhood organizations) and local NGOs. The public and community in general could further be divided into two groups (i) public at large in the area of influence; and (ii) affected community in the immediate area of the proposed sub-project works. The consultation program may involve both formal and informal presentations and meetings with the target groups, information dissemination campaigns through fliers, posters, and radio announcements; and an opinion survey.

Public consultations would be conducted prior to and during project implementation in compliance with Nepali laws on NGOs and Media and World Bank Policy on Disclosure of Information.

According to Environmental Protection Regulation 1997, consultations with the affected persons, project's beneficiaries including local population and NGOs must be conducted ensuring their participation at all stages of project implementation. These consultations are important particularly when sub-project activities start directly affecting these communities. Changes in social environment must be made conditional to the prior

consent of the affected communities. Representatives of local communities affected by the project and NGOs should be involved in consultations.

The project's information such as sites, scale of impacts- adverse and beneficial social benefits, sustainability, monitoring system and the outcome of the project need to be compiled. Table below presents potential stakeholders for engagement, mode of consultation and ways of dissemination at various stages of engagement. The Project Coordination Office will have the responsibility to organize, facilitate and document the engagement.

Table 7.1 : Key Elements – Engagement Framework

Stage/s	Strategic Works	Mode of Consultations	Ways of Disclosure
Screening	Site visits (if necessary) and desk work	Public Meetings, Interaction, FGDs and transect walk together with the local residents	Provide information about project's activities using local language/Nepali language
Project Formulation	Identification of interest parties, development of engagementmethodology & Schedule, consultation with interest parties, and Consideration of necessary changes	Workshop, Meetings	Orientation in local language/Nepali language
Impact Assessment	Scoping, assessment and management process, alternative option, mitigation measures	Workshop, meetings, FGDs, site surveys	Orientation using local language/Nepali language
Implementation and monitoring	Engagementand collaboration on the basis of project activities	Workshop, meetings, group formation	Orientation using local language/Nepali language

Consultations with Project Affected Persons and their profiling are mandatory as per the requirements of SIA and preparation of RAP. This needs to be done as socio-economic and census surveys as part of the detailed designs. Consultations with respect to and cultural aspects are to be carried out as part of the Social and Environmental Impact Assessments for all alternatives and the selected alternative sub-project option.

7.2 Stakeholders Consultation during the Preparation and Implementation of ESMF

This ESMF was based on the ESMF of the ongoing Bank-supported Nepal India Regional Trade and Transport Project (NIRTTP), which has been subjected to many consultations during the preparation of NIRTTP and during implementation. This ESMF is a live document which can be updated as per the need. As trade component is of SRCTIP is at its very inception phase, this ESMF mainly works as a guiding document for the preparation of other Environment and Social Documents and well as engaging stakeholders for SRCTIP. The Present ESMF is prepared based NIRTTP ESMF, available literature, consultation with the experts and lessons from the previous similar projects. Related to the preparation of this ESMF, consultations with ministries in Kathmandu were conducted such as with MoPIT, DoR, MoE, MoICS and MoA during the period August to October of 2019. In addition, one site visit and consultation was held in Birjunj on last week of December 2019.

The ES team of trade component of SRCTIP is currently working on the finalization of ESMF and will continue the rounds of consultations prior to appraisal of the project and during implementation of the project as per the Stakeholder Engagement Plan, which is prepared separately.

7.3 Disclosure of Information

The following information needs to be displayed / disseminated, wherever applicable.

a) This ESMF in the websites of MoICS, MoA, DoR

b) Project specific information need to be made available at each contract site through public information kiosk

c) Project Information brochures shall be made available at all the construction sites as well as the office of implementation agency and the office of Engineer in charge.

d) Reports and publications, as deemed fit, shall be expressly prepared for public dissemination e.g., English versions of the ESIA/SIA and ESMP/RAP along with Executive Summary of ESIA/SIA and ESMP/RAP in local language.

e) Wherever civil work will be carried out a board will be put up for public information which will disclose all desired information to the public, for greater social accountability.

f) All information will be translated into local language and will be disclosed to the public

The Table below presents the requirement for document disclosure under SRCTIP with regard to environment and social safeguard aspects:

Table 7.2: Disclosure Requirements

Documents to be disclosed	Frequency	Where
Environment Management Aspects		
Environment and Social Management Framework	Once in the entire project cycle. But to remain on the websites and other disclosure locations throughout the project period.	On the website of project proponent (MoICS, MoA) and DoR) The client would make the ESMF available at a place accessible to affected persons and local NGOs, in a form, manner, and language that can be easily understood. World Bank Intranet Website
Environmental Assessment Reports	Once in the entire project cycle. But to remain on the website and other disclosure locations throughout the project period.	On the website of project proponent The client would make the EA available at a place accessible to affected persons and local NGOs, in a form, manner, and language that can be easily understood.
Environmental Management Plan/s	Once in the entire project cycle. But to remain on the website and other disclosure locations throughout the project period.	On the website of project proponent The client would make the ESMP available at a place accessible to affected persons and local NGOs, in a form, manner, and language that can be easily understood.

Documents to be disclosed	Frequency	Where
ESMP - Monthly Progress Report.	10th day of every month	Website of project proponent; Electronically circulated to Bank and other concerned officials.
ESMP – Independent Review/Audit	At midterm and end of the ESMF/ESMP implementation	Project proponent's website.
Minutes of Formal Public Consultation Meetings	Within two weeks of meeting	On the web site of the project proponent.

Disclosure of ESMF:

The complete ESMF[25] as well as the executive summary[26] has been disclosed on the website of Ministry of Industry, Commerce and Supplies (MoICS)/Ministry of Agriculture (MoA), DoR, Government of Nepal. The document has also been disclosed in Bank's intranet website**.**

[25]http://www.moics.gov.np/uploads/Publication/SRCTIP%20-%20ESMF.pdf

[26] : http://www.moics.gov.np/uploads/Publication/SRCTIP%20-%20ESMF%20-%20Executive%20Summary.pdf

Chapter 8

INSTITUTIONAL ARRANGEMENTS

8.1 Over-all Project Management and Coordination

The Ministry of Industry, Commerce and Supplies MoICS)/Ministry of Agriculture (MoA) will be the coordinating ministry for this Project. As such, a Project Coordination Office (PCO) will be established within MoICS/MoA to serve as the coordinating implementation agency. The PCO, will be responsible for the day-to-day implementation of the Project and for coordinating the relevant implementing ministries/agencies. It is envisaged that Government will make the following appointments to staff the PCO: Project Director, a full-time Project Coordinator, and Finance Specialist. The PCO will also recruit Specialists/Consultants for procurement, environmental and social specialists and engineers.

In addition, the sub-projects will need to be assigned their own Project Coordinator. Project Coordinators need to be appointed for the respective implementation of all agreed components/sub-components of the project.

It is expected that staff from the Trade and Export Promotion Center (TEPC, within MoICS) will be deputized to be the Project Coordinator for the Trade Component. Successful implementation of the Project will require strengthening of the implementation capacity of the PCO. The Project will therefore provide technical support to strengthen the core functions of the PCO, including but not limited to financial management, procurement, environmental and social safeguards, and technical areas of sub-projects. The M&E capacity of MoICS/NITDB and MoA which will work closely with the PCO will also be strengthened.

Key multi-agency technical committees have also been established to oversee the implementation of the different sub-components of the trade component of the project.

8.2 Responsibility for Implementing and Monitoring the ESMF

The Project Coordination Office (PCO)will be established within the Ministry of Industry, Commerce and Supplies (MoICS)/Ministry of Agriculture (MoA) to serve as the coordinating implementing agency. The PCO will have oversight and monitoring responsibilities over the line agencies that will be implementing the respective project components and sub-components. The PCO will have responsibility for overseeing application and implementation of the ESM F in an appropriate and timely manner by the other ministries and departments mentioned above.

The most significant issues with regard to safeguards are associated with Road Component of the proposed project, namely expansion and upgrade of the access road section.

For the SRCTIP-tradecomponents/activities, MoICS/NITDB will be responsible for project co-ordination, including the required safeguards management. MoICS/NITDB has some experience of managing environmental and social safeguard issues related to the Bank funded projects. MoICS/NITDBhas hired Environment Safeguard Consultant and Social Safeguard Consultant from the market to assist the safeguards management and implementation of the Environmental and Social Management Framework (ESMF). Both the Consultants have been intensely engaged in development of ESMF for the trade component of SRCTIP. The PCO will also get required capacity support for enhancing environmental and social management skills to implement the ESMF of the project and will also hire consultants to prepare the IEEs, EIAs/ESIAs and ESMPs.

MoICS and MoA will also hire Construction Supervision Consultant to oversee and supervise the implementation of works and help the PCO.

8.3 Capacity Building for NITDB/MoICS/MOA

MOICS/NITDB is a longtime client and partner of the World Bank and is quite familiar with Bank safeguard policies and Bank processes. It currently implements Nepal-India Regional Trade and Transport Project (NIRTTP) and other projects. It has a good experience, performance and acceptable track record in implementing the ESMP for ICDs, Laboratories, Access & Alignment Roads, and other infrastructures, including implementing action plan to ESMP, occupational and community health and safety, labor influx, gender-based violence, stakeholder engagement and grievance management.

MoAhas also implemented some Bank-funded projects, including SPS Lab-Pulchowkand is also very familiar with WB's safeguard policies. As NITDB has deployed dedicated consultants for environmental and social safeguard of ICD-Chovar including realignment road, and the consultants also work for SPS Lab-Pulchowk, being operated under MoA, there has already been a good collaboration between MoICS and MoA to implement ESMF. Further, this collaboration is going to be fruitful for SRCTIP-trade component as this project is the joint venture between MoICS and MoA, for which the consultants have been drafting the environment and social framework.

An E&S capacity building program for MoICS and MoA will be developed and will be supported and financed by this proposed project. The capacity building program will also extend to the various sub-components under trade facilitation component implementing agency despite the relatively moderate to substantial risk involved in othersub-components given the small scale nature of the interventions in those sub-

components, other than access roads in which the risk is expected to be substantial to high as discussed earlier.

8.4Social Accountability and Grievance Redressal Mechanism (Project level GRM and Central GRM)

The social accountability mechanisms will be established for all sub-projects. The key approaches that would be adopted for ensuring social accountability would be any or a combination of participatory processes guiding social audit, citizen score card and report card to acquire feedback on performance of the sub projects and record citizens' recommendations for improvement. The social accountability mandate will be further strengthened through a strong grievance redress mechanism**.**

In order to address the incoming grievances two level grievance redresses committee will be formed; one at the project level and next at the Central Level.

All grievances relating to the project including land purchase and compensation or entitlement will be referred to the Project Level Grievances Redress Mechanism (GRM). The projects Level GRM consist of a Project Level Grievance Redress Committee (GRC). The project level GRC will record all the grievances at project site and analyzed the grievances. The project level GRC will tries settling the incoming grievance at site level. If the grievance fails settle at project level GRC then the project Level GRM forward the grievance to central level GRM with recommendation for further action to Central Level Grievances Redress Committee (GRC. The central level GRC will take a decision and inform the complaining party regarding the decision it has made through appropriate channel. If the complaining party doesn't satisfy with the decision from central level GRC they can go to the court of appeal.

The functions of the GRC will include: (i) to redress grievances of project affected persons (PAPs) in all respects; (ii) rehabilitation and resettlement assistance and related activities; (iii) GRC will only deal/hear the issues related to R&R and individual grievances; (iv) GRC will give its decision/verdict within 15 days after hearing the aggrieved PAPs; (v) final verdict of the GRC will be given by the Chairman/Head of GRC in consultation with other members of the GRC and will be binding to all other members.

8.4 Impact Monitoring and Evaluation

Impacts of the proposed sub projects will be monitored on the basis of a scheduled plan. Frequency of monitoring will depend on size, location and magnitude of the project parameters. The PCO under MoICS/MoAwill beresponsible to adhere with monitoring parameters, locations, schedule and responsibilities. Impact monitoring will be carried out through internal monitoring system. External evaluation will be carried

out twice in the life cycle of the project implementation – once at the midterm of implementation and again at the end of implementation. PCPO will be responsible for both the evaluations.

ANNEXURES

Annexure 1

Key Data to be Collected and Assessed in an EA

The key data to be collected and analyzed would include but not limited to:

Aspect	Details
Geology and Geo-morphology	Geological zones, bed rock formation, geo-morphological features, stability, landslide, flood damages etc.
Topography	General and specific topography of sub-project area
Climate	Temperature, Rainfall, Wind, Humidity, Wind Direction
Soil	Soil mapping, type, salinity, soil properties, soil moisture
Ground water resources	Depth, nature of water bearing formation, extraction and recharge rate, sustainable safe yield, water quality
Water resources and Water bodies	Drainage basin and sub-basin, major and minor water bodies/water courses, classification of water bodies, current water use, water rights, water quality
Air	Air quality
Noise	Noise and Vibration Levels, Sensitive Receptors
Energy	Energy sources (electricity, diesel, fire wood, etc); Power availability
Flora and Fauna	Birds, mammals, fish, aquatic and terrestrial vegetation, protected areas, national parks, rare and endangered species, medicinal and non-timber forest products etc.

Aspect	Details
Demography	Population trend, trend of population growth,ethnicity, literacylevel, caste and gender break-up, cultural norms/ values/traits etc.
Economic base	Employment level, occupation, labor market, pre-dominant economic activities (agriculture, industry, services etc).
Natural Disasters	Extreme Weather Events
Agriculture System	Cropping and live-stocks
Level of Services	Supply and demand of services, health, education, waste collection and other basic services
Community Infrastructure	Water supply, school, health, road, irrigation, access to energy for heating, lighting, cooking
Indigenous and Vulnerable Community	Population of indigenous and disadvantaged/vulnerable communities, including gender break-up and their socio-economic status
Historical and Cultural Heritage	Conservation area, built heritage, historic and archeological sites, cultural fairs/festivals etc.

Annexure 2

Structure of the Environment Screening Report

The suggested table of contents/presentation structure of the Environment Screening Report has been mentioned below:

- **Executive Summary**

Chapter 1: Introduction

- Project Description
- Project Proponent
- Description of the sub-project (including its location, proposed start and end points, regional setting, scale and size)
- Over-view of major key sub-project activities
- Need for the sub-project
- Expected benefits from the sub-project
- Various studies/reports being prepared for the project and how the environment screening study relates to/feeds into the over-all project preparation

Chapter 2: Methodology Adopted for Environment Screening Exercise

- Purpose/Objectives of the Environment Screening Exercise
- Methodology (step-by-step process) adopted for Environment Screening Exercise
  - Project Influence Area (mention the direct and indirect spatial zone considered for the environment screening study)
  - Types and sources of data collection
  - Data gaps/constraints, if any
- Structure of the Environment Screening Report

Chapter 3: Baseline Environmental Conditions

  - Natural Environment

- Biological Environment
- Physical and Socio-economic Environment

Chapter 4: Stakeholder engagement

- Definition of stakeholder
- Types/categories of stakeholders consulted for the Feasibility/Screening studies
- Details about the engagementcarried out
  - Provide summary in the chapter and supporting details in the annex.
  - In the summary, kindly mention when, where, how many people attended, key topics discussed and information shared.
  - Clearly list out findings including areas/issues that are of concern to the stakeholders and need attention.

Chapter 5: Regulatory and Institutional Regime

- Environmental policies and their implications/application in the sub-project context
- Environmental acts and their implications/application in the sub-project context
  - Environmental categorization
- Inter-national/national conventions and their implications/application in the sub-project context
- Environmental permits/approvals that will be required for the sub-project (include specific local requirements, if any)
- Existing institutional arrangements/set-up (both in terms of environmental regulatory agencies and project proponent set-up)

Chapter 6: Assessment of Key Environmental Impacts

- Link-up existing environmental conditions with proposed project intervention/s and identify/assess the potential environmental issues/impacts on natural, biological and physical environmental attributes that may result in this process.
- Look at the key issues that may result purely on account of proposed project intervention/s (such as safety issues; drainage alterations)
- Analyze/propose alternative options that can avoid and/or reduce the identified potential impacts

Chapter 7: Findings and Recommendations

- Summary of results (weightage) from the environment screening exercise
- Key issues/concerns identified
- Summary of key benefits from the sub-project/project intervention
- Key recommendations from the stakeholder engagementexercise
- Summary - opportunities and constraints at the sub-project level
- Scoping (focus) of the EA

  (mention specific areas/aspects that need to be studied in detail)
- Recommendation(s)/conclusion

Annexure/s

- Names and contact details of key staff involved in the Feasibility (including Environment and Social Screening exercise)
- Stakeholder engagementdetails
- Details of the data collected

Annexure 3

Multi-functional Analysis Laboratories

Criteria for Setting Sanitary Land Fills and Incinerators for the Multifunctional Analysis Laboratories under the Strategic Road Connectivity and Trade Improvement Project (SRCTIP)

Nepal's exports have been increasing steadily over the last 10 years since 2001 and in June 2012, Nepali exports hit an all-time high. Nepal mainly exports iron and steel, knotted carpets, textiles, plastics, hollow tubes, beverages and fresh farm produce such as vegetables. In turn it imports fresh and processed agro-produce – grains, livestock, vegetables, fruits, meat; pharmaceuticals and cosmetics; building materials including cement; and fuel. The multifunctional joint laboratories will be constructed to carry out analysis to determine both for imports and exports

- toxic and harmful substances such as pesticide residues, formaldehyde, sodium formaldehyde, sulfoxylate, sulfur dioxide, nitrites, etc
- biotic and abiotic contaminants
- pest infestation in fresh or processed food.

To cater to safe disposal of contaminated and hazardous components import and export products, the multifunctional laboratories to be constructed would have to be equipped with sanitary landfills and incinerators. The following considerations are key to citing the sanitary land fill and incinerators:

- Adequate land area and volume to provide sanitary landfill capacity to meet projected needs for at least 10 years, so that costly investments in access roads, drainage, fencing, and weighing stations are justifiable.
- A gently sloped topography, preferably amenable to development of sanitary landfill by the Cell method, with slopes which minimize the need for earthmoving to obtain the correct leachate drainage slope of about 2%.
- Groundwater's seasonally high table level (i.e., 10 year high) is at least 1.5 meters below the proposed base of any excavation or site preparation to enable landfill cell development. A minimum depth of 1 meter of relatively impermeable soils above the groundwater's seasonable high level exists (preferably, less than 10-9 meters/second permeability when undisturbed). If these criteria is not met, use of impermeable clay and/or plastic liners may be required to protect groundwater quality.
- Availability on-site of suitable soil cover material to meet the needs for intermediate (minimum of 30 cm depth) and final cover (minimum of 60 cm

depth). Preferably, the site would have adequate soil to also meet daily cover needs (usually a minimum of 15 cm depth of soil).

- None of the areas within the landfill boundaries are part of the 10-year groundwater recharge area for existing or pending water supply development.
- No private or public drinking, irrigation, or livestock water supply wells within 500 meters down gradient of the landfill boundaries, unless alternative water supply sources are readily and economically available and the owner(s) gives written consent to the potential risk of well abandonment.
- No environmentally significant wetlands of important biodiversity or reproductive value are present within the potential area of the landfill cell development.
- No known environmentally rare or endangered species breeding areas or protected living areas are present within the site boundaries. If this criteria is not met, alternative habitats of comparable quality for relocation of the species would need to be available.
- No significant protected forests are within 500 meters of the landfill cell development area.
- No open areas of high winds, otherwise windblown litter will not be readily manageable.
- No major lines of electrical transmission or other infrastructure (i.e., gas, sewer, water lines) are crossing the landfill development area, unless the landfill operation would clearly cause no concern or rerouting is economically feasible.
- No underlying limestone, carbonate, fissured or other porous rock formations which would be incompetent as barriers to leachate and gas migration, where the formations are more than 1.5 meter in thickness and present as the uppermost geologic unit above sensitive ground water.
- No underlying underground mines which could be adversely affected by surface activities of land filling, or minable resources which could be rendered less accessible by land filling, unless the owner(s) gives explicit consent.
- No residential development **within 250 meters** from the perimeter of the proposed landfill cell development.
- No visibility of the proposed landfill cell development area from residential neighborhoods within 1 km. If residents live within 1 km of the site, landscaping and protective berms would need to be incorporated into the design to minimize visibility of operations. Curving of the access road is recommended to avoid visibility of the active portions of the landfill from the main road.

- No perennial stream within 300 meters down gradient of the proposed landfill cell development, unless diversion, culverting or channeling is economically and environmentally feasible to protect the stream from potential contamination.

Guidelines for Installing an Incinerator

An incineration facility will typically be comprised of the following units and processes which are briefly described below.

- **Waste Registration and Control**: Facility should be equipped with system for declaring waste, weighing and registration after entry of incinerator site premises for monitoring and control purposes
- **Size reduction, sorting and inspection of waste (optional):** This will include reduction of size of bulky waste, sorting and inspection of the waste.
- **Waste unloading and storage system:** Waste is unloaded into bunker or hopper system from where it is fed into the furnace. The size of the hopper system should be adequate to allow for variations in waste quantities.
- **Feeding system**: The prepared waste is fed from the hopper into the furnace. Appropriate system of doing this in a safe and efficient manner should be employed.
- **Furnace:** The waste is burnt in a series of combustion zones. Flue gases are completely burned out in a post-combustion chamber.
- **Energy recovery system:** The flue gases carrying the energy released in the furnace must be cooled before entering the air pollution control system. Depending on the intentions of the facility owners and local energy market, energy is recovered as power, heat, or steam or a combination thereof.
- **Ash and clinker removal system:** This includes a system of conveying the ash to collect it for final disposal.
- **Air Pollution Control (APC) system**: Depending on the desired level of cleaning the APC may consist of devices for physical removal of particulate matter; additional flue gas scrubbing systems; and additional NO_x or dioxin removal.
- **Stack**: The treated flue gas is finally emitted via the stack. The stack height depends on local topography and prevailing site conditions.

The key issues for consideration of environmental impacts of incinerator facilities are described below and form the basis for the checklist that follows. **This checklist is intended for guidance only and is not exhaustive.**

Siting

- The facility should be located far from human dwellings or centers of human activity to protect against air pollution or odor nuisances, and noise from fans/ventilators used in cooling systems.
- The stack of the incinerator should be located at most remote area from area of human activity, and downstream of sites of human activity in the prevalent wind direction
  The facility should be sited.

Access

- The area where the facility is located should be fenced off/separated from areas of general use by a lockable physical barrier.
- Access to the area should be strictly controlled and limited to essential personnel e.g persons operating the facility, persons responsible for maintenance or repair activities.

Signage

- A sign stating the use of the site should be placed at a visible/conspicuous location e.g entry to the site and written in clear, legible letters. The information on the signboard should indicate the purpose of the facility, state access limitations, provide a contact details e.g phone number or contact name in case of emergencies or enquiries.
- At important locations throughout the site, signs should be adequately placed accordingly, such as 'danger', 'hazardous material', 'no entry', 'authorized personnel only' etc, consistent with the high level of caution that is required in such facilities.

Technical

Waste Identification and Segregation

- Wastes to be incinerated should be contained in easily identifiable, coded containers; ensuring appropriate procedures for pharmaceutical, cytotoxic, chemical and radioactive wastes.

Combustion

- The facility should be operated under conditions to achieve complete combustion or over 99.9% destruction to avoid generation of pollutants, especially NOx, and persistent organics such as dioxins; by ensuring adequate retention time and temperatures, use of a mixing and agitation mechanism, optimal supply of combustion air etc.
- The facility should possess adequate system to maintain the required temperatures in the primary and secondary combustion chambers to avoid post-combustion

recombination. Temperature and duration of retention should comply with available international standards for combustion of medical waste.

Energy Recovery

- The energy recovery system must be capable of cooling the flue gases from the furnace before flue gas treatment in the APC.
- Available international/national standards for operation of energy recovery systems should apply.

Air Pollution Control

- Monitoring system for flue gas quality (before entering the APC from the furnace) provided and monitoring should be mandatory.
- The facility should be adequately equipped with appropriate air pollution control devices including gas cooling and acid gas cleaning systems; and should be capable of controlling air pollution by precipitating, adsorbing, absorbing or transforming (or a combination of these) pollutants.
- The Air Pollution Control device should be capable of achieving national/international requirements for emission limits or standards.
- The height of the stack should comply with national/international standards for air pollution reduction.

Residues from the incineration process

There are two sources of residues from the incineration process, namely the APC system and the incineration furnace. In both cases, adequate provision should be made for storage of the ash to prevent generation of dust before final disposal e.g by spraying with water, and transportation in covered containers.

Residues from the APC system

- The APC system produces residues either directly or by the subsequent treatment of spent scrubbing liquids, depending on the method used to clean the flue gases.
- Appropriate methods should be in place for handling any solid or liquid waste streams from the APC process in an environmentally safe and sound manner and should comply with national standards e.g. discharge of liquid streams should comply with national wastewater standards; discharge of solid residues by a proven technology such as controlled landfill.

Residues from the incineration furnace

- A process for characterization of the ash from the furnace should be in place using international standard methods for ash characterization.
- Ash should be disposed by a proven technology such as controlled landfill.

Plant Operation and Maintenance

Staffing and Training

- The facility should be adequately staffed with suitably trained and skilled personnel to ensure effective/optimal operation and maintenance of the facility.
- Plant operators should be trained before startup of the facility and refresher courses given during operational life of facility.

Codes of Practice and Occupational Safety

- Codes of practice or documented work procedures should be prepared for all key activities in plant operation and maintenance to instruct staff how to operate the equipment.
- Contingency plans be developed in case of accidents or equipment failure
- The Equipment supplier should be required to submit work procedures as part of the contract.
- Staff be provided with appropriate safety and protective gear.

Incinerator Checklist

Parameter	Options
Institutional	
▪ Regulations	▪ Effective regulations exist with regard to collection and disposal of medical wastes and in particular to incineration
▪ Organization of waste treatment	▪ Incineration preceded by reduction at source, and adequate segregation procedures
▪ Incineration organizational position	▪ The medical waste incinerator is part of an integrated system of hospital waste management
▪ Incinerator ownership	▪ Owned by hospital/ Ministry of Health?
▪ Medical waste incinerator rights	▪ Incinerator is granted the right to receive combustible medical waste and obliged to ensure the necessary capacity

Parameter	Options
Siting	
▪ Air quality impact	▪ Facility located far from and downstream of dwellings or centers of human activity, in direction of prevalent wind
▪ Zoning of facility locality	▪ Incinerator stack located at most remote area, downstream of human activity, in direction of prevalent wind
▪ Distance to residential areas/zones	▪ Facility should be located in an area that is fenced off/separated from areas of general use by a lockable physical barrier
▪ Access to site of facility	▪ The site should be adequately posted with signs consistent with the high level of caution that is required in such facilities
Incineration Technology	
▪ Flue gas burnout	▪ Flue gas is completely burnt out resulting in emissions compliant with national/international emission standards or targets.
▪ Energy Recovery system	▪ Capable of achieving adequate temperature to allow for energy recovery and gas cleaning
Incineration Residues	
▪ Characterization	▪ System for characterization of residues according to international standard methods in place
▪ Storage	▪ Stored in covered containers, prevent dust by moistening
▪ Final disposal	▪ Solid residues disposed of in controlled landfill or similar proven technology. ▪ Liquid residues must be treated to comply with national/international standards for discharge of wastewater
Operation and Maintenance	

Parameter	Options
▪ Staff	▪ Adequate number of suitably qualified staff with provision for backup
▪ Operation and Maintenance Manuals, Training of staff, Plant monitoring	▪ Supplier should provide instruction manual for facility ▪ Staff training undertaken before operation of facility and provision of refresher training during operational life of facility
Environmental Issues	
▪ Environmental standards	▪ Emission standards for medical waste incineration exist and are available
▪ Environmental administration	▪ Responsibility person/entity for necessary environmental permits, supervision and enforcement clearly identified
▪ Flue gas treatment	▪ Flue gas treatment meets national emission standards/targets
▪ Flue gas emission	▪ Stack is sufficiently high to avoid exceeding national air ambient standards
▪ Odor emission	▪ The facility is constructed and operated so that odor nuisance does not arise
▪ Wastewater discharge	▪ Wastewater discharge meets national standards
▪ Noise emissions	▪ Noise emission is adequately mitigated to avoid nuisance
▪ Monitoring	▪ Monitoring system for all relevant environmental parameters is established
Occupational Health Issues	

Parameter	Options
▪ Site layout	▪ Separation between permanently staffed spaces/offices and operational areas ▪ Showers and changing rooms for staff ▪ Adequate emergency access/exits ▪ Adequate ventilation of work and non-work stations
▪ Manual of Operation and Safety	▪ Well-articulated manual developed and made available to operators, including procedures for operation and maintenance, contingency plans, plans for accidents and equipment failure
▪ Worker Safety	▪ All operators of facility provided with adequate safety and protective gear