GOVERNMENT OF NEPAL

Ministry of Water Supply

Department of Water Supply and Sewerage Management

Panipokhari, Kathmandu

Nepal Water Governance and Infrastructure Project (NWGIP)

World Bank Assistance to Government of Nepal

Draft - Environmental and Social Management Framework (ESMF)

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List of Abbreviations

ADB	Asian Development Bank
BES	Brief Environmental Study
CDO	Chief District Officer
CSC	Construction Supervision Consultant
CSO	Civil Society Organization
CWIS	City Wide Inclusive Sanitation
DCC	District Coordination Committee
DFO	Divisional Forest Office
DHM	Department of Hydrology and Meteorology
DOE	Department of Environment
DSC	Design and Supervision Consultant
DUDBC	Department of Urban Development & Building Construction
DWSSM	Department of Water Supply and Sewerage Management
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPA	Environmental Protection Act
EPR	Environmental Protection Rules
ESCP	Environmental and Social Commitment Plan
ESF	Environment and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMF	Environment & Social Management Framework
ESS	Environment and Social Standard
ESMP	Environment and Social Management Plan
FGD	Focus Group Discussion

FSTP	Fecal Sludge Treatment Plant
FUG	Forest User Groups
GDP	Gross Domestic Product
GESI	Gender equality and social inclusion
GIS	Geographic Information System
GIIP	Good International Industry Practices
GLOF	Glacier Lake Outburst Flood
GON	Government of Nepal
GRM	Grievance Redress Mechanism
IDA	International Development Association
IEE	Initial Environmental Examination
IP	Indigenous Peoples
IPPF	Indigenous People Plan framework
IUCN	International Union for Conservation of Nature
JICA	Japan International Cooperation Agency
LACP	Land Acquisition and Compensation Plan
LRCP	Local Road Users Committee
LULC	Land Use Land Cover
MOFE	Ministry of Forests and Environment
MWS	Ministry of Water Supply
NGOS	Non-Governmental Organizations
NWGIP	Nepal Water Governance and Infrastructure Project
NTFPS	Non-timber forest products
OHS	Occupational Health and Safety
OP	Operational Policy
PAF	Project Affected Family
PAH	Project Affected Household

PAP	Project Affected People
PCO	Project Coordination Office
PA	Project Impact Area
PIU	Project Implementation Unit
PIM	Project Implementation Manual
PIR	Policies Intervention and Regulation
PPE	Personal Protective Equipment
PSC	Project Steering Committee
RAP	Resettlement Action Plan
RoW	Right of Way
RPF	Resettlement Plan/Policy Framework
RWSSFDB	Rural Water Supply and Sanitation Fund Development Board
RWSSIP	Rural Water Supply and Sanitation Improvement Project
RVWRMP	Rural Village Water Resource Management Project
SA	Social Assessment
SEA/SH	Sexual Exploitation and Abuse/Sexual Harassment
SECF	Stakeholder Engagement & Consultation Framework
SEP	Stakeholder Engagement Plan
SIA	Social Impact Assessment
SMO	Social Mobilization Officer
SMP	Social Management Plan
TOR	Terms of Reference
UNDRIP	United Nation Declaration of Right of Indigenous People
UNFCCC	United Nation Framework Convention on Climate Change
VDC	Village Development Committee
VGs	Vulnerable Groups
WB	World Bank

सारसंक्षेप

वि.सं. २०७२ मा जारी भएको नयाँ संविधानले नेपालमा संघीय शासन प्रणालीको स्थापना गऱ्यो । संघीय सरकार, सात वटा प्रदेश सरकार र ७५३ वटा स्थानीय सरकार गरी वर्तमान शासन प्रणालीमा तीन तहहरू रहेका छन् । ।खानेपानी, सरसफाइ तथा स्वच्छता क्षेत्रको सुधारका लागि धेरै खानेपानी तथा सरसफाइ सम्बन्धी कानुन, नियम/विनियम र नीतिहरू तर्जुमा र लागू गरिएका छन् । यद्यपि, यस क्षेत्रमा काम गर्दा वातावरणीय र सामाजिक दिगोपन जस्ता अन्य महत्त्वपूर्ण कुराहरूमा कम ध्यान दिनाले सुरक्षित, भरपर्दो र निरन्तर सेवा हासिल गर्ने महत्वपूर्ण चुनौतीहरू विद्यमान छन् ।

खानेपानी सुशासन तथा पूर्वाधार आयोजना (NWGIP) नेपालको खानेपानी मञ्च (Nepal Water Platform) अन्तर्गत विश्व बैंक र खानेपानी मन्त्रालय बीचको दुई वर्षभन्दा लामो समयको वार्तालापको परिणति हो । यस मञ्चले आयोजनाको तयारी र कार्यान्वयनका क्रममा विश्व बैंक, अन्य विकास साझेदारहरू र खानेपानी क्षेत्रका सरोकारवालाहरूसँग अन्तर-क्षेत्रीय समन्वय र अन्य विश्वव्यापी अभ्यासहरूसँग समन्वयका लागि एक संयोजकको हैसियत प्रदान गर्नुका साथै संघीयता र शासन सुधारहरूमा मुख्य विश्लेषणका लागि सहयोग प्रदान गर्नेछ । प्रस्तावित आयोजनामा वातावरण तथा सामाजिक सवालहरू, क्षेत्रगत सुशासन र देशव्यापी संस्थागत क्षमता सुधार गर्न तर्जुमा गरिएको हो ।

आयोजनाका कम्पोनेन्टहरू

खानेपानी सुशासन तथा पूर्वाधार आयोजनाका आयोजना विकास उद्देश्यहरू (PDO) खानेपानी र सरसफाइमा पहुँच बढाउनु, विपद् प्रतिरोधात्मक क्षमता निर्माण गर्नु र संघीय प्रणाली अन्तर्गत सहभागी स्थानीय सरकारहरूमा खानेपानी आपूर्ति सुविधा वितरणका लागि क्षेत्रीय संस्थागत क्षमतालाई बलियो बनाउनु हो । यस आयोजनाका देहाय बमोजिमका मुख्य तीन वटा कम्पोनेन्ट (अङ्ग) हरू छन्:

कम्पोनेन्ट १: खानेपानी तथा सरसफाइ क्षेत्रको सुशासन र संस्थागत क्षमता सुधार, आयोजना व्यवस्थापन।

कम्पोनेन्ट २: सुधारिएको र सुरक्षित खानेपानी आपूर्ति, सरसफाइ र स्वच्छतामा पहुँच: यस अन्तर्गतका गतिविधिहरूलाई थप तीन उप कम्पोनेन्टहरूमा वर्गीकरण गरिएको छ:

क) शहरी र शहरोन्मुख क्षेत्रहरूमा खानेपानी आपूर्ति र शहरव्यापी समावेशी सरसफाइ (CWIS);

ख) ग्रामीण खानेपानी आपूर्ति र सरसफाइ;

ग) खानेपानी गुणस्तर अनुगमन र व्यवस्थापन।

यस आयोजनाका अधिकांश पूर्वाधार निर्माण सम्बन्धी गतिविधिहरू कम्पोनेन्ट २ अन्तर्गत रहेका छन् । आयोजनाले लगानी गर्न सक्ने पूर्वाधारका प्रकारहरूमध्ये सुर्खेतमा खानेपानी आपूर्ति बढाउन नदीमा साइड इन्टेक

र पम्पिङ प्रणाली (छलफलमा रहेको सम्भावित विकल्प भेरी नदीबाट पानी पम्प गर्ने हो); विभिन्न स्थानहरूमा रिजर्भभ्वायर ट्याङ्कीहरू; खानेपानी प्रशोधन केन्द्रहरू, खानेपानी प्रसारण लाइनहरू (प्रणाली)/खानेपानी वितरणका लागि वितरण पाइप लाइनहरू; खानेपानी वितरण लाइनहरूको पुनर्स्थापना, स्तरोन्नति वा स्थापना; ग्राभिटी प्रणालीमा आधारित ग्रामीण सामुदायिक खानेपानी आयोजनाहरू, सतहमा रहेको पानीका स्रोतहरू प्रयोग गरेर (यस्तो योजना अन्तर्गत मूल वा खोलामा स-साना मुहानहरू, पाइपलाइन, रिजर्भभ्वायर ट्याङ्की, ब्रेक-प्रेसर ट्याङ्की, वितरण पाइपलाइन र पानीको धारा; ट्युबवेल वा डिप ट्युबवेल, ओभरहेड ट्याङ्की, वितरण पाइपलाइनहरू समावेश हुन्छन्) ढल, र फोहोर/खेर गएको पानी व्यवस्थापनका लागि नयाँ ढलहरू र पानी प्रशोधन जस्ता सुविधाहरू समावेश हुनेछन् ।

कम्पोनेन्ट ३: एकीकृत जलाधार व्यवस्थापन मार्फत अनुकुल निर्माण गर्ने। यस कम्पोनेन्टले माथिल्लो भेग/तल्लो भेगमा पानीको गुणस्तर र वातावरणीय वहावमा सुधार गर्न शहरी/ग्रामीण जलाधार व्यवस्थापन र प्रकृतिमा आधारित उपायहरु अवलम्बन गर्न जोड दिनुका साथै खडेरी, बाढी र वर्षाबाट उत्पन्न हुन सक्ने पहिरो लगायत जलवायुसँग सम्बन्धित प्रकोपहरू बाट बच्न वन तथा वातावरण निर्देशनालय, उद्योग, पर्यटन, वन तथा वातावरण मन्त्रालय, कर्णाली प्रदेश (MITFE-K, 2020) द्वारा तर्जुमा गरिएको सुर्खेत उपत्यका उत्तरी जलाधार व्यवस्थापन योजना अनुरूप ।अनुकुलन र न्युनीकरण उपायहरू अवलम्बन गर्नेछ।

खानेपानी सुशासन तथा पूर्वाधार आयोजनाले स्थानीय तहमा संघीयताको मर्म अनुरुप एकीकृत शहरी र ग्रामीण खानेपानी व्यवस्थापन प्रवर्द्धन गर्दै सहभागी नगरपालिका/गाउँपालिकाहरूमा खानेपानी र सरसफाइ सेवामा सुधार गर्न विशेष ध्यान केन्द्रित गर्नेछ । यो आयोजना कर्णाली र सुदूरपश्चिम गरी दुईवटा प्रदेशमा लागू हुनेछ । कर्णाली र सुदूरपश्चिम प्रदेशमा आधारभूत खानेपानी सुविधाको उपलब्धता सबैभन्दा कम अर्थात् करिब ८४ प्रतिशत रहेको छ । कर्णाली प्रदेशमा प्रदेश राजधानी, सुर्खेत जिल्लाको वीरेन्द्रनगर नगरपालिका र सल्यान जिल्लाको शारदा नगरपालिकालाई खानेपानी आपूर्तिमा सहयोग गरिनेछ। सुदूरपश्चिम प्रदेशमा डोटी जिल्लाको दिपायल-सिलगढी नगरपालिका, कैलाली जिल्लाका जानकी गाउँपालिका, जोशीपुर गाउँपालिका, बर्दगोरिया गाउँपालिकामा यो कार्यक्रम लागू हुनेछ ।

वातावरणीय र सामाजिक व्यवस्थापन ढाँचा

आयोजना तयारीका क्रममा नेपाल खानेपानी सुशासन तथा पूर्वाधार आयोजनाका उप-आयोजनाहरू लागू गरिने वृहत् भौगोलिक स्थानहरू/सीमाहरू पहिचान गरिएको छ । जसमा कर्णाली र सुदूरपश्चिम प्रदेशका चुनिएका नगरपालिका र गाउँपालिकाहरु रहेका छन् । यद्यपि, उप-आयोजनाहरू सञ्चालन हुने वास्तविक स्थानहरू/साइटहरूको अहिलेसम्म पहिचान हुन सकेको छैन । उपयोजना तर्जुमा, डिजाइन, निर्माण र सञ्चालन चरणहरूमा उप-आयोजनाहरूको स्थान र दायरा जस्ता विशेष विवरणहरूको पहिचान अझै भइनसकेको हुनाले यो वातावरणीय र सामाजिक व्यवस्थापन ढाँचा उप-आयोजनाको छनौट र तयारीको वातावरणीय र सामाजिक जोखिम र प्रभावहरूको लेखाजोखा/छनोट, पहिचान, मूल्याङ्कन र व्यवस्थापनमा सहयोग गर्न तयार गरिएको हो । वातावरणीय र सामाजिक व्यवस्थापन ढाँचा नेपाल सरकार र विश्व बैंकको वातावरणीय र सामाजिक

व्यवस्थापनका विषयहरुलाई समेट्ने गरी तयार पारिएको दस्तावेज हो। निर्माण स्थलको चयन, योजना र उप-आयोजनाको डिजाइन, र वास्तविक साइट र गतिविधिहरूको टुङ्गो लागेपछि विशेष उप-आयोजनाहरूको वातावरणीय र सामाजिक प्रभावहरूको साइट-विशिष्ट मूल्याङ्कन गर्दा वातावरणीय र सामाजिक मार्गदर्शन प्रदान गर्न यो ढाँचा तयार गरिएको हो। यस ढाँचाले उप-आयोजनाहरूको विवरण (जस्तै, स्थान, क्षमता र कम्पोनेन्टहरू) निश्चित हुँदा उप-आयोजना प्रस्तावकले पहिचान गरिएका वातावरणीय तथा सामाजिक जोखिमहरू र प्रभावहरूलाई कसरी व्यवस्थापन गर्नेछ भन्ने प्रक्रियाहरू उल्लेख गर्दछ । उप-आयोजना विशेष र उपयुक्त वातावरणीय र सामाजिक उपकरणहरू जस्तै, संक्षिप्त वातावरणीय अध्ययन (BES), प्रारम्भिक वातावरणीय परिक्षण IEE/ वातावरणीय तथा सामाजिक प्रभाव मुल्याङकन (ESIA) / वातावरणीय प्रभाव मुल्याङकन (EIA), र वातावरणीय तथा सामाजिक व्यवस्थापन योजना (ESMPs) हरू तयार गरिनेछ जब यस ढाँचामा उल्लेख गरिएको निर्देशन अनुसार, उप-आयोजना योजना र डिजाइनको क्रममा उप-आयोजनाहरू बारे थप जानकारी उपलब्ध हुन्छ। आयोजना व्यवस्थापन इकाइ(PMU) ले सबै वातावरणीय र सामाजिक आवश्यकताहरू/सिफारिसहरू उप-आयोजना योजना र डिजाइन एवं प्रतिस्पर्धाका लागि आह्वान गरिएको (बोलपत्र) दस्तावेज समावेश छन् र यी एक पूर्ण समीक्षा प्रक्रिया मार्फत अघि बढ्छन् भन्ने कुरा सुनिश्चित गर्दछ । वातावरणीय र सामाजिक व्यवस्थापन ढाँचा एक 'जीवित दस्तावेज' हो । तसर्थ, कार्यान्वयनको क्रममा आवश्यक्ता अनुसार यो वातावरणीय र सामाजिक व्यवस्थापन ढाँचालाई विश्व बैंकको सहमतीमा अद्यावधिक गर्न सकिन्छ ।

वातावरणीय र सामाजिक व्यवस्थापन ढाँचाका अतिरिक्त, सरोकारवालाहरूको संलग्नता सम्बन्धी योजना (SEP); पुनर्वास नीति सम्बन्धी ढाँचा (RPF), आदिवासी जनजाति योजना सम्बन्धी ढाँचा (IPPF) र वातावरणीय र सामाजिक प्रतिबद्धता योजना (ESCP) पनि तर्जुमा गरिएको छ, यी सबै दस्तावजेहरू आयोजनाको मूल्याङ्कन गर्नु अघि यस सम्बन्धमा आवश्यक परामर्श तथा सार्वजनीकीकरण गरिनेछ साथै आयोजना कार्यान्वयनको क्रममा प्रभावकारी रूपमा लागू गर्न आवश्यक छ ।कोभिड-१९ बाट सिर्जित अवरोधहरू र आवतजावतमा प्रतिबन्ध लगाइएको अवस्थामा यो ढाँचा तयार गरिएको हो ।

त्यसकारण यस ढाँचामा उपलब्ध गराइएका तथाङ्क र जानकारीहरू धेरै हदसम्म सहायक स्रोतहरूबाट लिइएको छ । यो ढाँचा तयार गर्ने उद्देश्यका लागि प्राथमिक आधारभूत जानकारी र सूचना संघीय र प्रादेशिक तहका प्रमुख र सम्बन्धित सरकारी अधिकारीहरूसँग छलफल गरेर सङ्कलन गरिएको थियो र ।उहाँहरुबाट प्राप्त जानकारीलाई समेत यो वातावरण तथा सामाजिक ढाँचाढाँचामा समावेश गरिएको हो । । यसबाहेक SEP ले आयोजना क्षेत्रहरूमा विपन्न र जोखिममा परेका मानिसहरूलाई प्रमुख सरोकारवालाहरूको रूपमा पहिचान गरेको छ । तसर्थ , मूल्याङ्कन गर्नु अघि, आयोजनाले अन्य वातावरण तथा सामाजिक विधिहरू[1] सहित वातावरण तथा सामाजिक

[1] मस्यौदा ESMF २०७८ माघ २ गते https://www.dwssm.gov.np मा सार्वजनिकगरिएको छ। अन्य सान्दर्भिक मस्यौदाहरू यही वेबसाइटमा सार्वजनिकीकरण लागि तयार भयेपछी अपलोड गरिनेछ ।

ढाँचा मस्यौदा खुलासा गर्नेछ, र आयोजना क्षेत्रमा रहेका विपन्न र कमजोर व्यक्तिहरू सहित सरोकारवालाहरुसँग परामर्शहरू लिने र आवश्यक सल्लाह र सुझाव लिएर यस मस्यौदालाई थप परिमार्जन गरिनेछ । वातावरण तथा सामाजिक ढाँचा मस्यौदा खानेपानी विभागको वेब्साईट (https://dwssm.gov.np/) मा २०७८ माघ २ गते सार्वजनिकीकरण गरिएको थियो । यसबाहेक, आयोजना तयारीको एक भागको रूपमा, खानेपानी उपभोक्ता समिति, नगरपालिका, प्रदेश सरकार, डिभिजन वन कार्यालय, वन उपभोक्ता समितिहरू विपन्न र कमजोर अवस्थामा रहेका व्यक्तिहरु लगायतका सरोकारवालाहरूलाई चयन गरी उनीहरूसँग परामर्श गरिएको थियो । ESMF का साथै RPF, SEP, IPPF का सम्बन्धमा यही फेब्रुअरी २०२२ सम्ममा उपभोक्ताहरू, नगरपालिकाहरू, प्रदेश सरकारका मन्त्रालयहरू र प्रमुख गैर-सरकारी संस्थाहरू, समुदायमा आधारित संस्थाहरू लगायत सम्बन्धित सरोकारवालाहरूसँग भर्चुअल माध्यम वा प्रत्यक्ष रुपमा परामर्शहरू गरिनेछ ।

ESMF लाई सरोकारवालाहरूको परामर्शको आधारमा अद्यावधिक गरिनेछ । आयोजना अन्तर्गत स्थानीय समुदायहरू, महिला, आदिवासी समूहहरूका साथै नागरिक समाज संगठनहरू (CSOs) र गैर-सरकारी संस्थाहरू लगायत आयोजना अन्तर्गत लक्षित गरिब र जोखिममा परेका समूहहरूका साथै बृहत्तर आयोजना सरोकारवाला समूहसँग सरोकारवालाहरूको, जसले यी समूहहरूलाई प्रतिनिधित्व गर्दछ, संलग्नता र परामर्श जारी रहनेछ ।

सान्दर्भिक नीतिहरू र नियमक ढाँचाहरू

ESMF ले देशको कानुनी र संस्थागत ढाँचाको समीक्षा गर्नुका साथै राष्ट्रिय सामाजिक र वातावरणीय कानूनी प्रावधान र विश्व बैंकको वातावरण तथा सामाजिक खाका का आवश्यकताहरूको आधारमा अन्तर/कमीहरूको पहिचान गरेर आवश्यकताहरू पूरा गर्न सम्बन्धित उपायहरूबारे सुझाव दिएको छ।। विश्व बैंकका दश मध्ये नौवटा वातावरणीय र सामाजिक मापदण्डहरू (ESS) यस आयोजनासँग सान्दर्भिक छन्, जस्तै ESS1 वातावरणीय तथा सामाजिक जोखिम एवंम प्रभावहरुको लेखाजोखा तथा व्यवस्थापन, ESS 2 श्रम र कार्य अवस्थाहरू, ESS 3 संसाधन दक्षता र प्रदूषण रोकथाम र व्यवस्थापन, ESS 4 सामुदायिक स्वास्थ्य र सुरक्षा, ESS 5 भूमी अधिग्रहण, भुउपयोग अवरोधहरु र अनियन्त्रित बसोबास, ESS 6 जैविक विविधता संरक्षण र जीवित प्राकृतिक स्रोतहरूको दिगो व्यवस्थापन, ESS 7 आदिवासी जनजातिहरू, ESS 8 सांस्कृतिक सम्पदा र ESS 10 सरोकारवालाहरूको संलग्नता र सुचनाको सार्वजनिकरण रहेका छन् ।

वातावरणीय तथा सामाजिक जोखिम र न्यूनीकरणका उपायहरू

यस आयोजनाले वन तथा शहरी क्षेत्रहरू सहित शहरी र ग्रामीण क्षेत्रहरूमा पाइप लाइन खन्ने र पाइप बिछ्याउने, भूमिगत पानी निकाल्ने व्यवस्था, इन्टेक, रिजर्भभ्वायर, लिफ्ट तथा पम्प जडान, पानी प्रशोधन केन्द्र, ढल र फोहोर पानी प्रशोधन केन्द्रहरू लगायतका निर्माण कार्यहरूमा सहयोग गर्नेछ। प्रमुख वातावरणीय सरोकारहरूमा सामुदायिक वन लगायतका वनहरूमा पुग्न सक्ने क्षति समावेश छ। पहिरोको जोखिम, पहाडी क्षेत्रका कमजोर

भूभागमा खन्नु पर्ने हुँदा भूक्षय सम्बन्धी जोखिमहरू; निर्माण स्थलहरूमा निस्कने धुलो र आवाज, निर्माण समयमा हुने कम्पन; विभिन्न घटनाहरूमा कामदारहरूलाई हुन सक्ने जोखिम र आयोजनाबाट निस्कने निर्माण सम्बन्धी र अन्य फोहोरबाट हुने प्रदूषण तथा खानेपानी तथा फोहोर पानी प्रशोधन गर्ने उपकरणको सञ्चालनबाट गन्ध र आवाजको रूपमा निस्कने प्रदूषण, पानीका स्रोतहरुबाट पानी ल्याउँदा हुन सक्ने प्रदूषणको जोखिम (प्रशोधन प्रणाली असफल भएको अवस्थामा),फोहोर निष्काशन र विसर्जनका साथै रासायनिक (कीटाणुनाशक, फिटकरी, क्लोरिन, इत्यादि) लगायत व्यावसायिक स्वास्थ्य र सुरक्षा जस्ता कामहरु गर्दा ।थप जोखिम र असरहरू निम्तिन सक्छन् ।

राष्ट्रिय कानूनहरूमा वातावरणीय अध्ययनहरू गर्नका लागि पूर्वाधार परियोजनाहरूको आवश्यकता पर्दछ र अध्ययनको तह (EIA वा IEE वा BES) सम्भावित जोखिमको स्तरका बवजूद धेरै हदसम्म परियोजनाको आकार, स्थान र लगानीको सीमामा निर्भर गर्दछ । सहयोगी परियोजनाहरू/क्रियाकलापहरूको लागि कुनै प्रावधान छैन; र पूर्ण ESIA अध्ययनबाट बच्न ठूला परियोजनाहरूलाई साना परियोजनाहरूमा विभाजन गर्न सकिन्छ । EA प्रक्रियाले प्रस्तावकलाई EA डिजाइन र कार्यान्वयन गर्ने स्वतन्त्रता दिन्छ (उदाहरणका लागि स्कोपिङ, सेवा तथा शर्त (ToR), EIA रिपोर्टहरू लगायतका सबै कागजातहरू प्रस्तावकद्वारा तयार हुन्छन् र सम्बन्धित सरकारी निकायहरूद्वारा अनुमोदित हुन्छन्) । अन्य सुधार गर्नु पर्ने कुराहरु/कमजोरीहरूमा न्यूनीकरण पदानुक्रम राम्ररी चिनिएको वा परिभाषित छैन, र जैविक विविधता र बासस्थान मूल्याङ्कन, पेशागत र सामुदायिक स्वास्थ्य र सुरक्षाका साथै स्रोत दक्षतासँग सम्बन्धित प्रावधानहरू कमजोर वा अपर्याप्त छन् । यद्यपि, वातावरण तथा सामाजिक मापदण्ड ले विश्व बैंक कोषबाट प्राप्त परियोजनाहरूलाई वातावरणीय र सामाजिक वातावरण तथा सामाजिक स्क्रिनिङ/छनोटमा जान आवश्यक छ र, जोखिम वर्गीकरणको आधारमा, परियोजनाहरूले ESIA वा ESMP वा अन्य विधिहरू सञ्चालन गर्न आवश्यक छ । त्यसैगरी, विश्व बैंकको वातावरण तथा सामाजिक मापदण्ड को आवश्यकताहरू विपरीत, नेपालको नियमक ढाँचाले परियोजना सरोकारवालाहरूको पहिचान र जानकारी खुलासा सहित सरोकारवालाहरूसँग आवधिक परामर्शको लागि सोध्दैन । । यद्यपि नेपालको कानूनले PAPs को गुनासो निदान संयन्त्र को परिकल्पना गरेको छ । यद्यपि, विश्व बैंकको वातावरण तथा सामाजिक मापदण्ड को विपरीत जसले परियोजनाको जीवनचक्रभर गुनासो निदान संयन्त्र कायम राख्न परियोजनाका लागि अनुरोध गर्दछ, गुनासो संयन्त्रले जग्गा अधिग्रहण सम्बन्धी मुद्दाहरूलाई मात्र व्यवहार गर्छ र जग्गा अधिग्रहण पूरा भएपछि प्रयोजन विहीन हुन्छ ।

यद्यपि परियोजनाले ठूलो निजी जग्गा अधिग्रहणको अपेक्षा नगरेकोले भौतिक र आर्थिक विस्थापनको परिणाम हो, परियोजना गतिविधिहरूले सार्वजनिक जग्गा प्रयोग गर्दै अनौपचारिक बसोबास गर्नेहरूको भौतिक र आर्थिक विस्थापनलाई ट्रिगर गर्न सक्ने चासोहरू व्याप्त छन् । यसबाहेक, यस्ता जोखिमहरू छन् कि परियोजना गतिविधिहरूले सार्वजनिक र निजी सुविधाहरू, घरहरू र व्यवसायहरूमा पहुँचमा अस्थायी प्रतिबन्ध ल्याउन सक्छ। मुख्य सामाजिक चासोहरू भूमि अधिग्रहण र अनैच्छिक पुनर्वास, विशेष गरी आर्थिक विस्थापन र सार्वजनिक र निजी सुविधाहरू, घरहरू र व्यवसायहरूमा पहुँचको अस्थायी प्रतिबन्ध हुन् । जोखिममा परेका र सीमान्तकृत समूहहरूलाई योजना प्रक्रिया, सरोकारवालाहरूको संलग्नता, अवसरहरू र परियोजनाद्वारा प्रदान

गरिएका सुविधाहरूबाट वञ्चित हुने सम्भावना पनि छ । निर्माणका क्रममा अन्य सम्भावित जोखिम र प्रभावहरू जसमा श्रमको आगमन, SEA/SH, बाल श्रमको प्रयोग वा अनुबंधित कामदारहरू बीचको जबरजस्ती श्रम, साथै पेशागत र सामुदायिक स्वास्थ्य र सुरक्षा समावेश हुन सक्छ ।

वातावरण र सामाजिक व्यवस्थापन प्रक्रियाहरू

वातावरणीय र सामाजिक जोखिम र प्रभावहरूको व्यवस्थापन उप-आयोजनाको आधारमा गरिनेछ । लगानीको उपयुक्तता सुनिश्चित गर्न उप-आयोजनाहरू प्रारम्भिक चरणमा सहभागी नगरपालिकाहरूद्वारा परीक्षण गरिनेछ । वातावरण तथा सामाजिक मापदण्ड १ का आवश्यकताहरू अनुरूप, उच्च वातावरणीय र सामाजिक जोखिम र प्रभावहरू निम्त्याउने सम्भावनाका कारण केही गतिविधिहरूलाई आयोजना अन्तर्गत स्वीकार/समर्थन गर्न नसक्ने भनी पूर्वनिर्धारित गरिएको छ । निम्न प्रकारका गतिविधिहरू यसका केही उदाहरणहरू हुन् जसलाई आयोजनाले स्वीकार/समर्थन गर्दैन:

- अन्तर्राष्ट्रिय सम्झौताहरू अन्तर्गत नेपालको दायित्वहरू उल्लङ्घन गर्ने गतिविधिहरू
- महत्त्वपूर्ण प्राकृतिक बासस्थान (habitat) हरूलाई परिवर्तन गर्ने वा त्यसमा ह्रास ल्याउनसक्ने गतिविधिहरू ।
- राष्ट्रिय निकुञ्ज, वन्यजन्तु आरक्ष, र तिनीहरूका मध्यवर्ती क्षेत्रहरू लगायतका कानुनी रूपमा संरक्षित क्षेत्रहरूमा सञ्चालन गरिने प्रस्तावित गतिविधिहरु
- बँधुवा मजदुर र/वा हानिकारक बाल श्रमका हानिकारक वा शोषणकारी रूपहरू समावेश गर्ने खालका गतिविधिहरू
- सांस्कृतिक सम्पदा स्थलहरूमा अव्यवस्था निम्त्याउने त्यसलाई बदल्ने वा पहुँचमा प्रतिबन्ध लगाउने गतिविधिहरू, र सांस्कृतिक र सम्पदास्थलहरूमा प्रतिकूल प्रभाव पार्ने खालका गतिविधिहरु

आयोजनाको प्रकृति र यससँग सम्बन्धित वातावरणीय र सामाजिक सवालहरूलाई ध्यानमा राख्दै, बहिष्कार गरिने / मान्यता नदिइने सूचीमा निम्न गतिविधिहरू पनि समावेश छन्:

- राष्ट्रिय निकुञ्ज र संरक्षित क्षेत्रहरूबाट पानी निकालेर र वितरण गर्ने खालका गतिविधिहरू[2]
- आर्सेनिक र अन्य खतरनाक रसायनहरूयुक्त भूमिगत पानी उत्पादन र वितरण

[2] यसले संरक्षित क्षेत्रको सिमानाबाहिर नदी/मुहानबाट पानी निकासीमा रोक लगाउने छैन, यदि नदी/खोला संरक्षित क्षेत्रभित्र निस्किएर बाहिर बगेको भए बाहिरबाट पानी निकाल्न सकिन्छ।

- जलचरहरूका लागि व्यवधान पुऱ्याउने खालका गतिविधिहरु, जसले तिनीहरूको बसाई सराई लाई असर गर्छ

- विशेष प्रकारका जलचरहरु रहेको नदीको निश्चित खण्डमा गरिने निर्माण कार्यहरु

- हानिकारक तरल फोहोरहरू (उदाहरणका लागि लेदो, कीटाणुनाशक रसायनहरू) सीधै नदी प्रणालीहरूमा निस्कासन गर्ने खालका गतिविधिहरु

- आदिवासी जनजाति (IP) बाट नि: शुल्क पूर्व सूचित सहमति (FPIC) को स्तर प्राप्त गर्न आवश्यक पर्ने गतिविधिहरू।

- सतही पानीको निकासी गर्ने गतिविधि, जसले पानीको प्रवाहको मात्रालाई उल्लेखनीय रूपमा घटाउन सक्छ, पानीको गुणस्तर घटाउन सक्छ वा पानीको वेगलाई उल्लेखनीय रूपमा परिवर्तन गर्न सक्छ।

- समाधान हुन नसकेको सामाजिक द्वन्द्व व्याप्त पानीको स्रोतको प्रयोग (उदाहरणका लागि प्रतिस्पर्धाको माग वा यसमा आ-आफ्नो अधिकार दावी, आदि) गर्ने गतिविधि।

- भूमिगत पानीको अभाव भएका क्षेत्रमा भूमिगत पानीको निकासीले सम्भावित आयोजना प्रभावित क्षेत्रमा अवस्थित उपभोक्ताहरूको स्रोत र जीविकोपार्जनमा प्रतिकूल असर पार्ने खालका गतिविधिहरू।

एक मानक प्रक्रियाको रूपमा, राष्ट्रिय नियमक आवश्यकताहरू र विश्व बैंकको वातावरणीय र सामाजिक मापदण्डको परिपालनका लागि आयोजना अन्तर्गत समर्थनका लागि छनोट गर्नु अघि आयोजना अन्तर्गत लगानी गरिने प्रत्येक उप-आयोजनाहरु वातावरण र सामाजिक स्क्रिनिङ /छनोटबाट गुज्रिनु पर्ने हुन्छ। स्क्रिनिङ/छनोट अभ्यासको नतिजाले आवश्यक भएमा वातावरणीय र सामाजिक व्यवस्थापन योजनाहरू (ESMPs) को योजना र कार्यान्वयन पछि विस्तृत मूल्याङ्कनको दायरालाई सूचित गर्नेछ जसमा कुनै पनि अतिरिक्त व्यवस्थापन योजनाहरू जस्तै पुनर्वास कार्य योजना (RAP), जैविक विविधता व्यवस्थापन योजना इत्यादिहुनेछन्।। ESMP को कार्यान्वयन, कुनै पनि अतिरिक्त व्यवस्थापन योजनाहरू सहित आयोजना व्यवस्थापन इकाइ र आयोजना कार्यान्वयन गर्ने नगरपालिकाहरू द्वारा गरिनेछ।

स्क्रिनिङ/छनोटको नतिजामा र एक पटक उप-आयोजनाको जोखिम स्तर वा श्रेणी निर्धारण भएपछि, उप-आयोजनाको प्रकृति र मापनका लागि उपयुक्त र वातावरणीय र सामाजिक जोखिम र प्रभावहरूको स्तरसँग समानुपातिक एक वा विभिन्न उपकरणहरूको संयोजन प्रयोग गर्न सकिन्छ। उप-आयोजनाहरूको वातावरणीय र सामाजिक मूल्याङ्कन उप-आयोजना स्तरमा प्रयोग गर्न सकिने केही वातावरणीय र सामाजिक मूल्याङ्कन उपकरणहरूमा ESIA, ESMPs, संचित प्रभाव मूल्याङ्कन, र सामाजिक द्वन्द्व विश्लेषण समावेश छन्। उप-आयोजनाहरूको भौतिक, जैविक, सामाजिक-आर्थिक र सांस्कृतिक वातावरणमा पर्न सक्ने जोखिम वा नकारात्मक प्रभावहरूको मूल्याङ्कन गर्न र त्यस्ता अवांछित प्रभावहरूलाई न्यूनीकरण वा हतोत्साह गर्ने उपायहरू निर्धारण गर्न मूल्याङ्कन गरिनेछ। मूल्याङ्कनले निर्णयकर्ताहरूलाई प्रस्तावित उप-आयोजनाहरूको

सम्भावित वातावरणीय र सामाजिक प्रभावहरू बारे जानकारी गराउनेछ र प्रतिकूल प्रभावहरूलाई कम गर्न र/वा न्यूनीकरण गर्न उपयुक्त र उचित न्यूनीकरण उपायहरू सुझाव र अभिलेखीकरण गर्नेछ ताकि आयोजनालाई वातावरणीय र सामाजिक रूपमा स्वीकार्य रूपमा कार्यान्वयन गर्न सकियोस् । मूल्याङ्कनले न्यूनीकरण पदानुक्रम अपनाउनेछ र संवेदनशील रिसेप्टरहरूको लागि स्थान अनुरुपका विशेष उपायहरू सिफारिस गर्नेछ । यस्ता उपायहरू प्राविधिक विशिष्टताहरू सहित विस्तृत इन्जिनियरिङ डिजाइनमा प्रतिबिम्बित हुनेछन् । सम्भव भएसम्म वन क्षेत्र वा अन्य बासस्थानको प्रयोग नगर्ने (र जहाँ यो सम्भव छैन, पहिले नै रूपान्तरित वा घटेको वन क्षेत्र प्रयोग गर्ने । महत्त्वपूर्ण प्राकृतिक बासस्थानमा कुनै पनि उप-आयोजना स्वीकार/समर्थन गरिने छैन) जस्ता वातावरणीय र सामाजिक मार्गदर्शन ESMF मा उपलब्ध गराइएको उप-आयोजनाको स्थतान चयन, योजना र डिजाइनको समयमा प्रयोग गरिनेछ ।

एक पटक उप-आयोजना पहिचान भएपछि, आयोजना व्यवस्थावन इकाइ र आयोजना कार्यान्वयन गर्ने नगरपालिकाले लगानीको उपयुक्तता सुनिश्चित गर्न स्क्रीनिंग/छनोट गर्नेछ । उच्च वातावरणीय र सामाजिक जोखिम निम्त्याउन सक्ने सम्भाव्यता भएका उप-आयोजनाहरूको जाँच गरिनेछ । प्रस्तावक, आयोजना व्यवस्थापन समिति र/वा कार्यान्वयन गर्ने नगरपालिकाले ESMF आवश्यकताहरूको एकीकरण सुनिश्चित गर्ने ESMPs सहित वातावरणीय र सामाजिक मूल्याङ्कन प्रतिवेदनहरू तयार गर्न सेवा तथा शर्तहरु (TOR) तयार गर्नेछन् । त्यसपछि उक्त TOR स्वीकृतिका लागि सम्बन्धित निकायमा पेश गरिनेछ । त्यसपछि अनुमोदित TOR अनुसार वातावरणीय र सामाजिक मूल्याङ्कन गर्न एक परामर्शदाता नियुक्त गरिनेछ । आवश्यक परेमा, RAPs, BMPs, आपतकालीन प्रतिक्रिया योजना आदिलाई उप-आयोजना विशिष्ट ESMP सहित वातावरणीय र सामाजिक मूल्याङ्कन प्रतिवेदनसँगै तयार गरिनेछ ।

वातावरणीय र सामाजिक मूल्याङ्कनमा पहिचान गरिएका सबै प्रभावहरूको मूल्याङ्कन गरिएको र संभाव्य न्यूनीकरणका उपायहरू ESMPs र अतिरिक्त वातावरणीय र सामाजिक योजनाहरूमा पर्याप्त रूपमा प्रदान गरिएको छ भन्ने कुरा आयोजना व्यवस्थापन इकाइले सुनिश्चित गर्नेछ ।अनुमोदनको लागि सम्बन्धित निकायहरूलाई पेश गर्नु अघि सबै उप-आयोजनाहरू वातावरणीय र सामाजिक मूल्याङ्कनहरू आयोजना व्यवस्थापन इकाइ वातावरणीय र सामाजिक विज्ञहरूद्वारा समीक्षा गरिनेछन् ।

वातावरणीइ र सामाजिक प्रक्रियाहरूले सामाजिक र वातावरणीय जोखिम व्यवस्थापनलाई सुदृढ गर्न र जोखिमहरूलाई सम्बोधन गर्न उपयुक्त विधि निर्धारण गर्न उप-आयोजना तर्जुमा र कार्यान्वयनमा वातावरण र सामाजिक पक्षहरूको प्रभावकारी एकीकरण सुनिश्चित गर्दछ । आयोजना व्यवस्थापन इकाइमा रहेका वातावरणीय र सामाजिक विज्ञहरू र सहभागी नगरपालिकाहरूका वातावरण र सामाजिक क्षेत्र हेर्ने कर्मचारीहरूले आयोजना तर्जुमामा वातावरण र सामाजिक उपायहरूलाई एकीकृत गर्न तर्जुमा टोलीहरूसँग मिलेर काम गर्नेछन् । आयोजना व्यवस्थापन इकाइले वातावरण र सामाजिक आवश्यकताहरू विस्तृत आयोजना प्रतिवेदन (DPR) साथै बोलपत्र र सम्झौता सम्बन्धी कागजातहरूमा समावेश गरिएको कुराको सुनिश्चितता गर्नेछ । यसलाई वातावरणीय र सामाजिक विज्ञहरु द्वारा समीक्षा र पुष्टि गरिनेछ । उप-आयोजनाका लागि आवश्यक वातावरण र सामाजिक

विधिहरु तयार भई ती वातावरण र सामाजिक विधिहरूमा नेपाल सरकार र/वा विश्व बैंकबाट स्वीकृतिहरू प्राप्त नभएसम्म कुनै पनि उप-आयोजना सुरु हुनेछैन । सम्बन्धित उप-आयोजना बोलपत्र सम्बन्धी कागजातहरूमा वातावरण र सामाजिक विशिष्टताहरू एकीकृत भएपछि मात्र बोलपत्र प्रक्रिया सुरु हुनेछ । कार्यान्वयन, अनुगमन र अनुपालन जाँच वातावरण र सामाजिक विज्ञहरुद्वारा निर्माण (ठेक्का प्रदान र कामको थालनी) को समयमा र आयोजनाको संचालन र मर्मत सम्भारको समयमा स्थानीय स्तरमा गठित खानेपानी तथा सरसफाइ इकाइहरु द्वारा गरिनेछ ।

सरोकारवालाहरुको सहभागिता तथा सार्वजनिकरण

आयोजनाको दिगो व्यवस्थापनका लागि राम्रो संवाद संयन्त्रको आवश्यकता पर्दछ । आयोजना र स्थानीय समुदायसँग संवाद र सहकार्यको निम्ति सरोकारवालाहरुसँगको सहकार्य योजना (SEP) तयार गरिएको छ । यसले नै निर्दिष्ट गरेको विधि अपनाई सहकार्यलाई आयोजना अवधिभरि लागू गरिनेछ । सो सहकार्य योजनाको मुख्य उद्देश्य भनेको आयोजनाबाट प्रभावित सरोकारवालाहरुको सहभागितामा आयोजनाको लाभलाई बढोत्तरी गर्दै नकारात्मक प्रभावहरुलाई न्युनीकरण गर्ने तथा आयोजना प्रति सरोकारवालाहरुमा अपनत्व बढाई आयोजना समयमा सम्पन्न गर्ने नै हो । सहकार्य गर्दागर्दै यदि सरोकारवालाहरुमा आयोजना सञ्चालनमा आए पश्चात आयोजना सञ्चालन गर्ने दृढ इच्छा शक्ति व्यक्त भए सो समुदायस्तरको आयोजना सम्बन्धित समुदायले नै सञ्चालन गर्ने व्यवस्था हुनेछ । वातावरणीय तथा सामाजिक अध्ययनको सिलसिलामा गरिने सार्वजनिक सुनुवाईहरुमा महिला, आदिवासी, दलित, जनजातिहरुको समेत सहभागिता सुनिश्चित गरिनेछ । स्थानीय पालिकाहरुमा चलनचल्तीमा रहेको सहभागितमूलक कार्यहरुलाई निरन्तरताका साथै बढावा दिनका लागि आयोजनाले सहयोग पुऱ्याउनेछ । सहभागी नगरपालिकाहरूको क्षमता अभिवृद्धिमा सहयोग गर्न, आदिवासी जनजाति, दलित, वृद्धवृद्धा र महिला प्रधान घरपरिवारहरू लगायत जोखिममा परेका र पिछडिएका समूहहरू लगायत सरोकारवालाहरूसँग संलग्न हुन अवस्थित स्थानीय संयन्त्रहरू पनि प्रयोग गरिनेछ । परियोजनाको लागि तयार गरिएको सरोकारवाला संलग्नता योजनामा व्याख्या गरिए अनुसार, जोखिममा परेका र पिछडिएका समूहहरूलाई लक्षित परामर्श, फोकस समूह छलफल, लक्षित जानकारी खुलासा, र आवश्यक भएमा प्रत्यक्ष व्यक्ति-व्यक्ति बैठकहरू मार्फत संलग्न गरिनेछ ।

कोभिड-१९ महामारीको विषम परिस्थितिमा यस वातावरणीय तथा सामाजिक व्यवस्थापन ढाँचा (ESMF) स्वास्थ्य मापदण्डको पूर्ण पालनाको निम्ति प्रतिबद्ध र आयोजना कार्यान्वयनको क्रममा अझ बढी ध्यान दिइनेछ । ESMF ले गुनासो व्यवस्थापन र समाधानका लागि विस्तृत प्रक्रिया सहितको दुई-तहको संरचना सहित परियोजना गुनासो निवारण संयन्त्र (गुनासो निदान संयन्त्र) को विवरणहरू पनि समावेश गर्दछ । पहिलो लेभल-१ गुनासो निदान संयन्त्र सहभागी नगरपालिका उप-परियोजनाको WASH एकाइमा आधारित हुनेछ र विद्यमान

खानेपानी आपूर्ति उपभोक्ता समितिहरू (र पछि गठन हुँदा WASH एकाइहरू) को प्रमुखले नेतृत्व गर्नेछ र वातावरण तथा सामाजिक कर्मचारीहरू र एक नगरपालिकामा प्राविधिक इन्जिनियर लाई समावेश गर्नेछ। त्यसैगरी, लेभल-2 गुनासो निदान संयन्त्र DoWSSM को PMU मा आधारित हुनेछ, PMU को प्रमुखले नेतृत्व गर्नेछ, र PMU मा सामाजिक विकास विशेषज्ञ र PMU प्रमुख द्वारा तोकिएको अर्को व्यक्ति द्वारा समर्थित हुनेछ। गुनासो सुनुवाई तथा निरुपणको गठन, व्यवस्थापन लगायत निर्दिष्ट ढाँचामा आयोजना व्यवस्थापन केन्द्र तथा सम्बन्धित पालिकाहरुमा उपलब्ध हुनेछ । गुनासो सुनुवाई तथा निरुपण निकायले उपभोक्ता र सर्वसाधारणबाट निशुल्क गुनासो सुनुवाई गर्ने, त्यसको विवरण राख्ने र समाधानको पहल गर्नेछ । तर व्यक्तिको न्याय खोज्ने अवसरलाई सो निकायले कुनै अवरोध गर्ने छैन । सरोकारवालासँग सहकार्य योजना (SEP) मा गुनासो सुनुवाइ तथा निरुपण बारे अझ विस्तृत रुपमा प्रस्तुत गरिएको छ ।

वातावरणीय तथा सामाजिक व्यवस्थापन, उत्तरदायित्व र क्षमता अभिवृद्धि

खानेपानी मन्त्रालय अन्तर्गत आयोजना निर्देशन समिति रहनेछ भने खानेपानी तथा ढल व्यवस्थापन विभाग अन्तर्गतको आयोजना व्यवस्थापन इकाइले काठमाडौंमा रहेर आयोजना कार्यान्वयन इकाइहरु मार्फत् सम्बन्धित पालिकाहरुमा आयोजना निर्माण गर्ने र त्यसको अनुगमन गर्नेछ । परियोजना तयारीका लागि पीएमयू (PMU)ले वातावरण विशेषज्ञ र एक सामाजिक विशेषज्ञ भर्ना गरेको छ। कार्यान्वयनको क्रममा, परियोजनाले वातावरणीय र सामाजिक विशेषज्ञहरूलाई PMU र PIU मा आवश्यकता अनुसार राख्नेछ, जसले ESMF को प्रभावकारी कार्यान्वयनको लागि समग्र जिम्मेवारी लिनेछ जस्तै वातावरण तथा सामाजिक परिप्रेक्ष्यबाट कागजातहरू समीक्षा गर्ने, अनुगमन, परामर्श प्रक्रिया मार्गदर्शन गर्ने, PIU क्षमतामा अभिवृद्धि गर्ने, सुदृढीकरण गतिविधिहरू, र ESMF को कार्यान्वयनमा PMU र विश्व बैंकलाई नियमित रिपोर्टिङ गर्ने। परियोजना कार्यान्वयनको क्रममा वातावरण तथा सामाजिक नियमित अनुगमन रिपोर्टहरूले परियोजना गतिविधिहरूको मुख्य वातावरणीय र सामाजिक पक्षहरू र ESMF र ESMPs को प्रभावकारिताबारेमा जानकारी प्रदान गर्नेछ। अन्य जिम्मेवारीहरू मध्ये, E&S विशेषज्ञहरू E&S स्क्रिनिङहरू, ESIAs, ESMPs, E&S परिप्रेक्ष्यबाट योजनाहरू, डिजाइन र बिडिङ कागजातहरू समीक्षा गर्ने र अन्य रिपोर्टहरूको, आवश्यक भएमा विश्व बैंकको उचित सहमतिमा, प्रमाणीकरण र स्वीकृतिको लागि जिम्मेवार हुनेछन्।

वातावरणीय विशेषज्ञ र सामाजिक विशेषज्ञ सहितको PMU ले ESMF कार्यान्वयन र अनुगमन इकाईको नेतृत्व गर्नेछ। ESMF को कार्यान्वयनको लागि आवश्यक मानव संसाधन ESMF को तालिका 31 मा प्रस्तुत गरिएको छ। ESMF कार्यान्वयन गर्न सम्बन्धित एकाइहरू/एजेन्सीहरू र व्यक्तिहरूको भूमिका र जिम्मेवारीहरू ESMF को तालिका 32 र 33 मा परिभाषित र प्रस्तुत गरिएका छन्।

थप रूपमा, परियोजना कार्यान्वयनको क्रममा बाह्य ESMF अनुगमन तीन पटक सञ्चालन गरिनेछ - कार्यान्वयनको पहिलो वर्ष, पछि मध्य अवधिमा, र परियोजना कार्यान्वयनको अन्तिम वर्षमा - सबै वातावरण तथा

सामाजिक मुद्दाहरू ठीकसँग सम्बोधन भइरहेका छन् र न्यूनीकरण उपायहरू कार्यान्वयन गर्दैछन् भनी सुनिश्चित गर्न । सबै वातावरण तथा सामाजिक मुद्दाहरू ESMF द्वारा परिकल्पना गरिए अनुसार कार्यान्वयन भइरहेको छ भन्न । बाह्य ESMF अनुगमनले यसको प्रभावकारिता सुधार गर्नको लागि यस ESMF मा समाहित दृष्टिकोणमा कुनै पनि संशोधनहरू पहिचान गर्न र सिफारिस गर्न सक्षम हुनेछ । बाहिरी अनुगमन, परियोजनाको PMU द्वारा खरिद गरिएको एक स्वतन्त्र निकायले गर्नेछ । बाह्य अनुगमनले आन्तरिक, परियोजना-स्तर अनुगमन प्रणालीहरू पनि प्रमाणित र जाँच गर्नेछ । यसले गुनासोहरू सम्बोधन गर्न परियोजनाको गुनासो निदान संयन्त्र प्रणाली प्रभावकारी रूपमा काम गरिरहेको छ भनी सुनिश्चित गर्नेछ । बाह्य अनुगमन प्रतिवेदनहरू विश्व बैंक र PMU सँग एकैसाथ आदान प्रदान गरिनेछ ।

वातावरणीय र सामाजिक जोखिम र प्रभाव व्यवस्थापन क्षमता

नगरपालिका सामाजिक विकास एकाइ (र पछि WASH एकाइहरू अझै स्थापना हुन बाँकी) परामर्श गतिविधिहरू कार्यान्वयन गर्न, परियोजना-सम्बन्धित गुनासो र गुनासोहरू व्यवस्थापन गर्न र परियोजनाको समुदाय परिचालन काममा जिम्मेवार हुनेछ । वातावरण खण्डका कर्मचारीहरूले सहभागी नगरपालिकाहरूमा ESMF गतिविधिहरूको लागि फोकल व्यक्तिको रूपमा सेवा गर्नेछन् । साथै, सहभागी नगरपालिकाका वातावरण तथा सामाजिक कर्मचारीहरू PMU मा वातावरण तथा सामाजिक विशेषज्ञहरूको प्राविधिक सहयोग र मार्गदर्शनको साथ वातावरण र सामाजिक (वातावरण तथा सामाजिक) समस्याहरू व्यवस्थापन गर्न जिम्मेवार हुनेछन् । तर, वातावरणीय र सामाजिक जोखिम र प्रभाव व्यवस्थापनलाई कार्यान्वयन गर्ने र पालना गर्ने क्षमता तीनै तहमा न्यून छ । तसर्थ, परियोजनाले कार्यान्वयन साझेदारहरू, PIUs, प्रदेशहरू, नगरपालिकाहरूलाई वातावरणीय र सामाजिक जोखिम र प्रभावहरूको पहिचान र व्यवस्थापन गर्न क्षमता-निर्माण/अभिवृद्धि गर्न सहयोग प्रदान गर्नेछ । परियोजनाले ESMF को कार्यान्वयन र परियोजनासँग सम्बन्धित वातावरण तथा सामाजिक जोखिम र प्रभावहरूको व्यवस्थापनमा सहयोग गर्न वातावरण तथा सामाजिक विशेषज्ञहरू नियुक्त गर्नेछ । परियोजना, DWSSM, र PMU ले कार्यान्वयन साझेदारहरूसँग मिलेर क्षमता अभिवृद्धि योजना विकास र कार्यान्वयन गर्नेछ, साथै ESCP, ESMF, SEP, र अन्य व्यवस्थापन योजनाहरूको प्रभावकारी कार्यान्वयन गर्न परियोजनाका कर्मचारीहरूलाई तालिम दिने र प्राविधिक सहयोग प्रदान गर्नेछ ।

Executive summary

Background

Nepal endeavored to federal government system with a new constitution in 2015. The current governance system comprised of three tiers: a federal government, seven provincial government, and 753 local governments. Several Water Supply and Sanitation (WASH) legislations, rules/regulations and policies have been formulated and enforced so as to improve the WASH sector. However, significant challenge of achieving safe, reliable and continuous service delivery has been the focus of this sector, with less attention given to other important considerations such as environmental and social sustainability and the proposed project is therefore designed to improve the E&S issues, sector governance and institutional capacity nationwide.

The Nepal Water Governance and Infrastructure Project (NWGIP) is the culmination of over two years of dialogue between the World Bank and the Ministry of Water Supply under the Nepal Water Platform. The Platform will continue providing a convening space for cross-sectoral coordination, and coordination with other Global Practices in the World Bank, other development partners, and sector stakeholders during project preparation and implementation, as well as support for key analytics on federalism and governance reforms in the country.

Project Components

The project development objective (PDO) of NWGIP is to increase access to water supply and sanitation, build resilience to disasters, and to strengthen sector institutional capacity for water supply service delivery in participating local governments under the federal systems. The NWGIP has three major components.

Component 1: Improving Sector Governance and Institutional Capacity, Project Management.

Component 2: Access to Improved and Safe Water Supply, Sanitation and Hygiene: The activities under the component are divided into three further subcomponents:

a) Urban and peri-urban water supply and City-wide Inclusive Sanitation (CWIS);

b) Rural water supply and sanitation;

c) Water Quality Monitoring and Management.

Most of infrastructure construction activities are included under the Component 2. Types of infrastructure the project is likely to finance include: Side intake in river and pumping system to augment water supply to Surkhet (one potential option under consideration is pumping water from the Bheri River); Reservoirs at different locations; Water treatment plants; Water transmission lines (system)/Bulk water transmission pipelines; Rehabilitation, upgrading or installation of new water distribution lines; Rural Community Gravity Water Supply Schemes using surface water sources (such a scheme consists of small intake at spring or stream, pipeline, reserve tanks, break-pressure tanks, distribution pipelines and water taps; Rural community water supply schemes using groundwater (pumping through shallow tube-well or deep tube-well, overhead reserve tanks distribution pipelines), Improving sewer system; installation of new sewer lines for sanitary wastewater management; Faecal sludge and wastewater treatment facilities.

Component 3: Building Resilience through Integrated Watershed Management. This component will support urban/rural watershed management and nature-based solutions to improve upstream/downstream water quality and environmental flows, and provide adaption and mitigation measures against climate-related hazards including droughts, floods and rain induced- landslides, as provided for under the Surkhet Valley Northern watershed Management Plan developed by the Forest and Environment Directorate, Ministry of Industry, Tourism, Forest and Environment, Karnali Province (MITFE-K, 2020).

NWGIP will demonstrate the operationalization of federalism at the local level with a specific focus on improving water supply and sanitation service delivery in participating municipalities, together with promoting an integrated urban-water and rural-water management. The Project will be implemented in two provinces – Karnali and Sudurpaschim. Karnali and Sudurpaschim provinces have the lowest coverage of basic water supply service delivery at about 84 percent. In Karnali Province, provincial capital Birendranagar Municipality, and Sharada Municipality will be supported. In Sudurpaschim, Janaki Rural Municipality, Joshipur Rural Municipality, Bardgoriya Rural Municipality will be supported.

Environmental and Social Management Framework

During preparation, broader geographical locations/ boundaries within which NWGIP subprojects will be implemented have been identified. These include selected municipalities

and rural municipalities of Karnali and Sudurpaschim Provinces. However, exact locations/ sites of subprojects are not known. As particular details such as location and scope of subprojects are not yet known, this Environmental and Social Management Framework (ESMF) has been prepared in order to assist in the screening, identification, assessment and management of environmental and social risks and impacts during the sub-project planning, design, construction and operation phases. The ESMF has been prepared complying with the applicable environmental and social requirements of the Government of Nepal (GoN) and the World Bank including the Environmental and Social Framework (ESF) and Environmental and Social Standards (ESSs). The ESMF has been prepared to provide environmental and social guidance during site selection, planning and design of subproject and site-specific assessment of the environmental and social impacts of particular sub projects once specific site and activities are finalized. This ESMF provides procedures on how the subproject proponent will manage the identified E&S risks and impacts as and when the details of the subprojects (i.e., location, capacities and components) are established. Subproject specific and appropriate environmental and social instruments e.g., Brief Environmental Study (BES), Initial Environmental Examination (IEE), ESIA, and ESMPs will be developed, following the guidance set in the ESMF, during subproject planning and design, when more information about the subprojects are available. The Project Management Unit (PMU), ensures that all environmental and social requirements/recommendations are incorporated in the subproject plan and design, and in the bidding documents; and ensures that these go through a thorough review process. The ESMF is a 'living document'. Hence, during implementation, project may update ESMF itself and disclose as needed and in agreement with the World Bank.

In addition to the ESMF, a Stakeholder Engagement Plan (SEP); a Resettlement Policy Framework (RPF), an Indigenous People Planning framework (IPPF) and an Environmental and Social Commitment Plan (ESCP) have also been developed, will be consulted and disclosed prior to Project appraisal all of which needs to be effectively implemented during the project implementation.

Given that the ESMF was prepared in the context of COVID-induced disruptions of services and restrictions of movements, data and information provided in this ESMF were drawn largely from secondary sources. Additional information for the purpose of preparing this ESMF was collected through discussions with key and relevant government officials at the federal and provincial levels. Further, as part of project preparation, selected stakeholders including officials of water users' committees, municipalities, provincial government,

Divisional Forest Office, forest users including User Committees, etc. have been consulted to obtain their views and feedbacks, and their inputs informed this draft ESMF. In addition, the SEP has identified disadvantaged and vulnerable people in the sub-project areas as one of the key stakeholders. So, before the appraisal, the project will disclose the ESMF including other E&S instruments[3], organize further stakeholder consultations with the stakeholders including with disadvantaged and vulnerable people, and get their feedback on those instruments and make appropriate changes in the draft ESMF and other E&S instruments, as needed. The draft ESMF was disclosed on https://www.dwssm.gov.np on January 16, 2022. Follow up stakeholder consultations on the ESMF as well as RPF, SEP, IPPF will be undertaken, virtually or face to face depending on the pandemic situation, in February 2022 with the relevant stakeholders including target beneficiaries, disadvantaged and vulnerable people, municipalities, provincial ministries, and key non-government organizations (NGOs) and community-based organizations (CBOs). The Draft ESMF will be updated, based on stakeholder consultations. Stakeholder engagement and consultation will continue during implementation with the wider project stakeholder group including local communities, and poor and vulnerable groups targeted under the project including women, indigenous groups, as well as civil society organizations (CSOs) and non-government organizations (NGOs) which represent these groups.

Relevant Policies and Regulatory Frameworks

The ESMF reviewed country's legal and institutional framework, identified gaps from comparison of national and World Bank ESF requirements and suggested corresponding measures to meet the requirements. Nine of the ten World Bank Environmental and Social Standards (ESSs) are relevant to this project, namely ESS1 on Environmental Assessments, ESS2 on Labour and Working Conditions, ESS3 on Resource Efficiency and Pollution Prevention and Management, ESS4 on Community Health and Safety, ESS5 on Involuntary Resettlement, ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources, ESS7 on Indigenous Peoples, ESS 8 Cultural Heritage and ESS10 on Stakeholder Engagement and Information Disclosure.

[3] The draft ESMF is disclosed on https://www.dwssm.gov.np on 16 January 2022. Other relevant documents will be uploaded in the same website as and when they are ready for disclosure.

Environment and Social Risks and Mitigation Measures

The project will support civil works which may include excavation and pipe laying, facilities for water withdrawal, intake, and water reservoir, installation of lift pumps, water treatment plants, sewers, and wastewater treatment plants in urban and rural settings including in the forest areas and hilly terrains. The major environmental concerns include loss and degradation of small portions of forests including community forests; increased risk of landslides, and localized soil erosion related risks when excavation is needed at hilly fragile slopes; dust and noise at construction sites, vibration during construction; exposure of workers to occupational hazards and incidents; and pollution from construction and other wastes generated by the project. The operation of water and wastewater treatment facilities may also pose additional risks and impacts in the form of odour and noise from operations of equipment, pollution risks to receiving water bodies (in case of treatment system failures), wastewater sludge production and disposal as well as occupational health and safety hazards including chemical (disinfectants, alum, chlorine, etc) storage, use and disposal.

The national laws require infrastructure projects to undertake environmental studies and the scale of the study (EIA or IEE or the BES) largely depends on project's size, location and financial threshold; irrespective of the level of potential risks. There is no provision for associate project projects/activities; and large projects can be split into smaller projects to avoid full ESIA study. The EA process gives freedom to proponent to design and implement EA on their own (for example all documents including Scoping, ToR, EIA reports are prepared by proponent and approved by concerned government agencies). The other gaps include mitigation hierarchy is not well recognized or defined, and provisions related to biodiversity and habitat assessment, occupational and community health and safety as well as to resource efficiency are weak or inadequate. However, the ESS requires the WB-funded projects to go through the E&S screening and, depending upon risk categorization, projects are required to undertake either the ESIA or the ESMP or other instrument. Similarly, unlike the requirements of the WB's ESS, Nepal's regulator frameworks do not ask for the identification of project stakeholders and periodic consultations with the stakeholders, including information disclosures. Though Nepal's law envisages the GRM for the PAPs. However, unlike the WB's ESS that asks for the project to maintain the GRM throughout the project lifecycle, the grievance mechanism only deals with issues related to land acquisition and becomes non-functional once the land acquisition is completed.

Though the project does not expect major private land acquisition, resulting in physical and economic displacement, there are concerns that the project activities might trigger physical and economic displacements of informal settlers that have been using public land. In addition, there are risks that the project activities might cause temporary restriction of access to public and private facilities, homes, and businesses. There is also potential for excluding vulnerable and marginalized groups from the planning process, stakeholder engagements, opportunities and benefits offered by the project. During construction, other potential risks and impacts which may include labor influx, SEA/SH, use of child labor or forced labor among contracted workers, as well as occupational and community health and safety risks.

Environmental and Social Management Procedures

The management of environmental and social risks and impacts will be undertaken on per sub-project basis. Sub-projects shall be initially screened by the participating municipalities to ensure eligibility for funding. Consistent with the requirements of ESS1, some activities have been predetermined as ineligible for support under the project due to their potential for causing high environmental and social risks and impacts. Following are examples of the following type of activities that will not be supported by the Project:

- Activities that contravene Nepal's obligations under its international agreements
- Activities that convert or degrade critical natural habitats
- Activities that are proposed to take place inside legally protected areas including National Parks, wildlife reserve, and their buffer zones
- Activities involving harmful or exploitative forms of forced labor and/or harmful child labor
- Activities that would cause dislocation, modification, or restriction of access to cultural heritage sites, and pose adverse impacts to cultural and heritage sites;

Considering the nature of the project and the environmental and social issues connected with it, the exclusion list also includes the following activities:

- Activities that require extraction and distribution of water from the National Parks and protected areas[4]

[4] This will not restrict extraction of water from the river/spring outside the protected area boundary, If the river/stream is originating inside a protected area and flows outside, the water can be extracted from outside.

- Extraction and distribution of ground water containing Arsenic and other hazardous chemicals
- Construction of barrier for aquatic fauna that would affect their migration
- Construction activities in the river section where there are presence of aquatic species of concern
- Activities that will discharge harmful liquid waste (for example leachate, disinfecting chemicals) directly into the river systems
- Activities that require obtaining FPIC from IPs.
- Extraction of surface water that may substantially reduce downstream flow quantity, degrade water quality or significantly alter the velocity.
- Use of water source that has unresolved social conflict over it (e.g. competing demand or right over it, etc.)
- Extraction of ground water in ground water stressed area adversely affecting existing users source and livelihood in potential project affected area

As a standard procedure, every subproject to be financed under the project will undergo an E&S screening before it is selected for support under the project, in order to comply with national regulatory requirements and the WB's ESSs. The results of the screening exercise will inform the scope of detailed assessment followed by planning and implementation of Environmental and Social Management Plans (ESMPs) including any additional management Plans such as Resettlement Action Plan (RAP), Biodiversity Management Plan (etc), where required. The implementation of ESMP, including any additional management plans will be undertaken by the PMU and the implementing municipalities

Upon the outcome of screening and once the risk level or Category of subproject is determined, one or combination of different tools, appropriate to the nature and scale of the subproject and proportionate to the level of environmental and social risks and impacts, can be used for the environmental and social assessment of the sub-projects. Some of the environmental and social assessment tools that may be used at subproject level include ESIA, ESMPs, cumulative impact assessment, and social conflict analysis. The assessment will be carried out to assess the risks or negative impacts of the sub-projects that may have on the physical, biological, and socio-economic and cultural environment and to determine measures for avoiding, mitigating, or offsetting such undesired effects. The assessment will inform decision-makers about the potential E&S impacts of the proposed sub-projects and to suggest

and document appropriate and reasonable mitigation measures to mitigate and/or minimize the adverse impacts so that the project can be implemented in an environmentally and socially acceptable manner. The assessment will demonstrate the mitigation hierarchy and will recommend site-specific measures for sensitive receptors. The site-specific measures will be reflected in the detailed engineering design, including technical specifications. The environmental and social guidance, such as avoiding using forest areas or other habitat to the extent possible (and where this is not possible, use already converted or degraded forest area and location for any subproject. Sub project component in critical natural habitat will not eligible.), provided in the ESMF will be used during subproject's site selection, planning and design.

Once the sub-project is identified, the PMU and the implementing municipality will carry out the screening to ensure eligibility for funding. The sub-projects with the potential for causing high environmental and social risks will be screened out. The proponent, PMU and/or implementing municipality will prepare a Terms of Reference (TOR) for the preparation of Environmental and Social Assessment reports including ESMPs ensuring integration of the ESF requirements. The TOR will then be submitted to the concerned agencies for approval. A consultant will then be hired to undertake the E&S assessment in accordance with the approved TOR. If required, RAPs, BMPs, Emergency Response Plan etc will be prepared simultaneously with the Environmental and Social Assessment report including the sub-project specific ESMPs.

The PMU will ensure that all the impacts identified in the Environmental and Social Assessment have been assessed and relevant mitigation measures are adequately provided in the ESMPs and in additional E&S plans, if any. All subprojects E&S assessments shall be reviewed by the PMU E&S Specialists before submitting to the concerned agencies for no objection and/or approval.

The E&S procedures ensure effective integration of the environment and social aspects into subproject design and implementation to strengthen social and environmental risk management and determine the appropriate instrument for addressing the risks. The E& S Specialists of the PMU and E&S personnel from participating municipalities will work together with the design teams for integrating E&S measures in project design. The PMU will ensure that the E&S requirements have been incorporated in the Detail Project Report (DPR) as well as in the bidding and contract documents. This will be reviewed and confirmed by the

environmental and social specialists. No sub-project will commence before the required E&S instruments needed for the sub-project are prepared and relevant clearances from the GoN and/ or WB a on those E&S instruments are received. The bidding process will start only after the E&S specifications are integrated in the respective sub-project bidding documents. The enforcement, monitoring and compliance check will be carried out by the E&S Specialists during the construction (contract award and commencement of works) and by the local WASH units during operation and maintenance of the project.

Stakeholder Engagement and Disclosure

A good communication strategy between the project and communities needs to be established to ensure that the project is implemented in a sustainable manner. A Stakeholder Engagement Plan (SEP) has been prepared to guide meaningful engagement with project stakeholders throughout the life of the project. Key objectives of SEP is to keep all stakeholders informed of the project activities, the potential beneficial and adverse impacts; and to ensure that stakeholders actively participate in all levels of the project cycle, i.e., they are able to share and provide inputs in the preparation and implementation of project activities, including E&S management; engaged in implementation and monitoring activities, where relevant; and are well-trained and equipped to take over the responsibilities of operation and management once the project phases out. Consultations on social and environmental issues carried out during implementation of subprojects will be done in an inclusive manner and with active participation from women representatives, indigenous people and Dalit communities and vulnerable social groups. To help support the capacity building of participating municipalities, existing local mechanisms will also be used for engaging with stakeholders, including the vulnerable and disadvantaged groups such as IPs, Dalits, the elderly, and female-headed households, among others. As explained in the SEP prepared for the project, the vulnerable and disadvantaged groups will be engaged through targeted consultations, focus group discussions, targeted information disclosures and one-to-one meetings, if required.

In the context of COVID-19 crisis, the ESMF has also proposed additional engagement strategies and tools to take into account requirements around social distancing. The ESMF also includes details of the project Grievance Redressal Mechanism (GRM) including a two-tier structure with the provision escalation and detailed procedure for resolution. The first Level-1 GRM will be based at the WASH unit of the participating municipality sub-project

and will be led by the Chief of the existing Water Supply Users Committees (and later WASH Units when constituted) and supported by the E&S staff and a technical engineer at the municipalities. Similarly, the Level-2 GRM will be based in the PMU of the DoWSSM, will be headed by the chief of the PMU, and supported by the Social Development Specialist at the PMU and another person assigned by the PUM head. The GRM will be provided at no cost to complainants and without retribution, and will not impede access to judicial and administrative remedies. The structure as well as procedures for the GRM will draw on the existing mechanisms and processes established at the local level to help strengthen the capacity of these local systems. The SEP includes further details around the structure and procedures of the GRM.

Implementation Arrangements for E&S Responsibilities and Capacity Building

Ministry of Water Supply (MWS) will set up a project steering committee (PSC) in the Ministry and a PMU at the Department of Water Supply and Sewerage Management (DWSSM) in Kathmandu, and a Project Implementation Unit (PIU) will be established in each municipality for project implementation in the field. The PMU has recruited an Environment Specialist and a Social Specialist for the purpose project preparation. During implementation, project will retain environmental and social specialists at the PMU as well as at PIU, as needed, who will assume overall responsibility for effective implementation of the ESMF, reviewing documents from E&S perspective, monitoring, guiding consultation process, supporting in capacity strengthening activities, and regular reporting to PMU and the World Bank on the implementation of the ESMF. E&S regular monitoring reports during the project implementation will provide information on key environmental and social aspects of the project activities and on the effectiveness of ESMF and ESMPs. Amongst other responsibilities, the E&S Specialists will be responsible for the verification and approval of E&S screenings, ESIAs, ESMPs and other reports, with due concurrence of the World Bank where required, reviewing plans, design & bidding documents from E&S perspective, and will be overall responsible for ensuring E&S compliance.

The PMU staffed with an Environmental Specialist and Social Specialist will be the lead ESMF implementing and monitoring unit. Human resources required for the implementation of ESMF is presented in table 31 of the ESMF. The roles and responsibilities of respective units/agencies and individuals for implementing ESMF are defined and presented in table 32 and 33 of the ESMF.

In addition, an external ESMF monitoring will be conducted thrice during project implementation – after first year of implementation, at mid-term and during the final year of project implementation - to ensure that all E&S issues are being properly addressed and that mitigation measures are being implemented as envisaged by the ESMF. The external ESMF monitoring will be able to identify and recommend any amendments to the approach embodied in this ESMF to improve its effectiveness. The external monitoring will be done by an independent body procured by the PMU, external to the project. The external monitoring will also validate and check the internal, project level monitoring systems. It will also ensure that the project's GRM system to address complaints is functioning effectively. The external monitoring reports will be shared simultaneously with the World Bank and PMU.

Environmental and Social Risk and Impact Management Capacity. The Municipal Social Development unit (and later the WASH units yet to be established) will be responsible for the implementation of consultation activities, managing project-related complaints and grievances, and supporting community mobilization efforts of the project. Staff at the Environment Section will serve as the focal persons for the ESMF activities at the participating municipalities. In effect, the E&S staff at the participating municipality will be responsible for managing E&S issues, with technical support and guidance from the E&S specialists at the PMU. However, the capacity to implement and comply with the environmental and social risk and impact management is low at all three levels. Therefore, project will provide capacity-building support to the implementing partners, PIUs, provinces, municipalities to identify and manage environmental and social risks and impacts. Project will hire E&S specialists to support implementation of the ESMF and management of E&S risks and impacts related to the project. The Project, DWSSM and PMU together with implementing partners, will develop and implement a capacity building plan, as well as train and provide technical support for project staff towards effective implementation of the ESCP, ESMF, SEP, and other management plans.

Chapter 1: Introduction

1.1 Project Background

Over the last few decades, Nepal has made commendable progress in expanding the access to Water Supply and Sanitation (WASH) despite tremendous challenges such as poverty, difficult terrains and conflicts. A number of WASH legislations, rules/regulations and policies have been formulated and enforced so as to improve the sector. However, significant challenge of achieving safe, reliable and continuous service delivery has been the focus of WASH sector, with less attention given to other important sustainability considerations such as environmental and social sustainability.

In retrospect, before formulating National Sanitation policy 1994, 46 percent of the total population was using drinking water from the improved sources and only 6 percent had access to toilet facilities (NSASC, 2000). Later, 85% of Nepalese households in 2011 had access to improved water sources and 62 percent access to sanitation facility as per the census report (CBS, 2012). The involvement of users in the process of planning and implementation had significantly increased the coverage from 6% (1990) to 87.3% (2016) in sanitation and similarly 46% (1990) to 87% (2016) in water supply (MWSS, 2016).

The proposed NWGIP is the culmination of over two years of dialogue between the World Bank and the Ministry of Water Supply under the Nepal Water Platform ASA 1.0 (P168191, 2019) and 2.0 (P171575, 2020), which included analytical works on key sector issues, notably (i) an overall water sector diagnostic; (ii) policies, institutions and regulations (PIR) pertaining to provisioning of water supply and sanitation (WSS) facilities; (iii) Water Quality Management; and (iv) Urban/Municipality-wide WSS service delivery. The Platform will continue providing a convening space for cross-sectoral coordination, and coordination with other Global Practices in the Bank, development partners, and sector stakeholders during project preparation and implementation, as well as support for key analytics on federalism and governance reforms.

The Proposed Project Development Objectives (PDO) for the Nepal Water Governance and Infrastructure Project (NWGIP) is to increase access to water supply and sanitation, build resilience to disasters, and to strengthen sector institutional capacity for water supply service delivery in participating local governments under the federal systems set forth in Nepal's 2015 constitution. NWGIP is expected to demonstrate the operationalization of federalism at the local level with a specific focus on improving water supply and sanitation service delivery

in participating municipalities, together with promoting an integrated urban-water and rural-water management. The proposed Project will be implemented in selected local governments in two provinces – Karnali and Sudurpashchim (former Provinces 6 and 7), focusing on provincial capitals, strategic towns and selected rural municipalities (palikas). DWSSM data also shows that Karnali and Sudurpashchim provinces have the lowest coverage of basic water supply service delivery at about 84 percent, owing to their geographical remoteness.

1.2 Rationale and Objective of the ESMF

This Environmental and Social Management Framework (ESMF) has been prepared for the Nepal Water Governance Infrastructure Project (NWGIP) to comply with the national requirements of the Government of Nepal (GoN) and the World Bank's requirements as outlined in the Environment and Social Framework (ESF), applicable Environmental and Social Standards (ESSs), and World Bank Group's Environmental Health and Safety Guidelines (WBG EHS Guidelines). The implementing agencies will apply the ESMF for mainstreaming and managing the environmental and social risks and impacts during planning, design and implementation of the subprojects and activities under the project.

To assess specific E&S impacts and risks, it is essential that subproject activity design and locations are known. At this stage, although projects administrative boundaries (municipalities) and types of subprojects/activities are defined, subprojects' specific sites/locations and their respective sizes/scale are not known. Therefore, at the preparation stage, subproject specific environmental and social risks and impacts, and the nature and degree of E&S risks and impacts could not be ascertained. Hence, an Environmental and Social Management Framework (ESMF) has been prepared for assessment and management of E&S risks and impacts during project implementation. The ESMF has been prepared based on the available secondary information of the project area, typology of subproject/activities to be financed, environment and socio economic information of the project area, assessment of potential risk, environment and social requirement of GoN and World Bank etc. overall assessment of the project components and the areas to be covered.

The environment and social factors are of key concern for the overall sustainability of the water supply and sanitation schemes.8. This ESMF has been developed both for the construction and operations of the proposed facilities; and risk assessment and mitigating measures should be done for both stages of the project. This will help to address as to how the key environment and social issues would be identified, assessed, managed, mitigated and

monitored by the implementing agencies into the main program planning, execution, operation and maintenance.

Projects supported by the World Bank through Investment Project Financing (IPF) are prepared in compliance with the World Bank's ESF and Environmental and Social Standards (ESSs) for the management of environmental and social risks and impacts. This ESMF has been prepared to assist in screening, assessment, management of environmental and social risks of the subprojects and activities to be financed under the project from an early stage in subproject planning and to integrate mitigation measures during the design of sub-project activities and their implementation. The ESMF provides specific guidance on the policies, requirements, process, and procedures to be followed for environmental and social assessment along with roles and responsibilities of the various implementing agencies. The ESMF describes the procedures for the assessment and management of the environmental & social risks and impacts associated with the subprojects/ activities under the project with the following objectives:

- Set out the principles, rules, guidelines, procedures, and methods to assess the environmental and social risks and impacts of the subprojects/ activities to be financed under the project

- Provide guidance/solutions on the implementation of the environmental and social management measures and provide a plan for monitoring the implementation of environmental and social standards

- Provide a negative list of activities that will not be eligible for funding and support. (Annex 1)

- Provide environmental guidance and criteria for site selection, planning and design of subprojects in line with mitigation hierarchy.

- Specify institutional arrangements, including appropriate roles and responsibilities for managing, reporting, and monitoring environmental and social concerns of the project activities

- Provide guidance and strategy for stakeholder engagement for the identification and management of the environmental & social issues, impacts, and risks associated with the project; and,

- Assess capacity of the implementing agencies in managing environmental and social risks, and determine the institutional requirements, including plans for training and capacity building of key stakeholders needed to successfully implement the provisions of the ESMF.

The implementation of the ESMF will be key for environmental and social sustainability of the project as well as will be the basis for compliance with the World Bank's ESF and ESSs and national requirements to address the associated risk and impacts of the project.

A Resettlement Plan Framework (RPF) and an Indigenous People Plan framework (IPPF) are also prepared. In addition, a stand-alone Stakeholder Engagement Plan (SEP) has also been developed, to provide outline of how the project will undertake meaningful consultation with stakeholders throughout the project lifecycle. The project has also developed an Environmental and Social Commitment Plan (ESCP), which describes the measures and action the Borrower is required to undertake to be in compliance with the World Bank ESSs and is legally binding agreement between GoN and WB.

1.3 Methodology

Detailed data collection could not be carried out during the preparation of this ESMF due to the COVID19 imposed restrictions. Information provided here is based on the desk review, limited physical consultations with the government officials, water users, forest users, and virtual discussion (email, and telephone) with selected stakeholders and secondary information (website, reports, and bulletin, etc.). During preparation, broader geographical locations/ boundaries within which NWGIP subprojects will be implemented have been identified. However, exact locations/ sites of subprojects are not known. As particular details such as location and scope of subprojects are not yet known, this Environmental and Social Management Framework (ESMF) has been prepared in order to assist in the screening, identification, assessment and management of environmental and social risks and impacts during the sub-project planning, design, construction and operation phases. The ESMF is a living document and will be updated as the sub-project activities become clearer. The ESMF has been prepared adopting following methodologies:

- Reviews of relevant documents acts, policies, rules, regulations, environmental statistics of Nepal, CBS 2011 results, The World Bank Environmental and Social Framework (ESF), previous ESMFs prepared for different projects (Agriculture, Road, Water etc.).
- Review of environmental assessments/studies of projects implemented by different agencies in the same geographical regions in order to understand potential E&S issues that might be relevant to this Project e.g. EIA of Bheri Diversion, Updated EIA of Asian Development Bank (ADB) funded Small Town Water Supply Rehabilitation Sub-project, Birendranagar, Surkhet District; Environmental Impact Assessment (EIA) Study of Bheri-Babai Diversion Multipurpose Project, Component B (Hydropower) etc.
- Meteorological, hydrological and geological source information (GIS map, scientific data compilation, statistical material etc) of the project area were consulted
- Review of the institutional structure, staffing and capacity in light of E&S mandate, roles, responsibilities and functions required for managing E&S risks and impacts during implementation of the NWGIP, discussion with the implementing agencies/client to identify needs for capacity building and institutional strengthening for discharging the E&S roles and responsibilities.
- Stakeholder consultation: In the first round of consultation, as part of project preparation, selected stakeholders including officials of water users committee, municipalities, provincial government, Divisional Forest Office, forest users including User Committee etc were visited to obtain their views and feedbacks. Specific E&S consultation is not yet done but it is planned to be conducted in the third week of January after the disclosure of the draft ESMF in DWSSM and The World Bank external website. In the consultation proposed project activities with their possible environment and social impacts will be discussed and will be updated in the ESMF document later. Details of the consultations and focus group discussions are given the Project's SEP.
- Second round of stakeholder consultation in the form of a workshop will be conducted on first week of February 2022 where draft ESMF, RPF, IPPF, SEP will be presented to the representatives from relevant stakeholders a) project affected or likely to be affected by the project (project affected parties) and b) may have an interest in the project (other interested parties) who will participate and provide their

views/feedback. Appropriate form of the workshop(s) and consultation(s) will be decided and agreed between the DWSS and World Bank in the context of COVID 19 Pandemic. Public Disclosure: The Draft version of ESMF will be published on DWSSM website on second week of January 2022. Final version will be disclosed in the DWSSM website as well as the World Bank external site for public access.

Chapter 2: Project Description

2.1 Project Location

The project will be implemented in two provinces of Nepal - Karnali and Sudurpashchim – targeting two municipalities and three rural districts (see Table 1). These provinces are the least developed in Nepal with HDI of 0.463 and 0.478 respectively and have the lowest coverage of basic water supply. Karnali is the least populous province in the country with about 1,570,418 people and 298,359 households as at the 2011 census. Sudurpaschim has a population of 2,552,517 with 469,703 households. About 54% of households in Karnali have access to safe drinking water; with 47% having access to toilet facilities. In Sudurpaschim Province, an estimated 40 % of the households have access to piped water supply, with 47 % having access to improved toilet facilities.

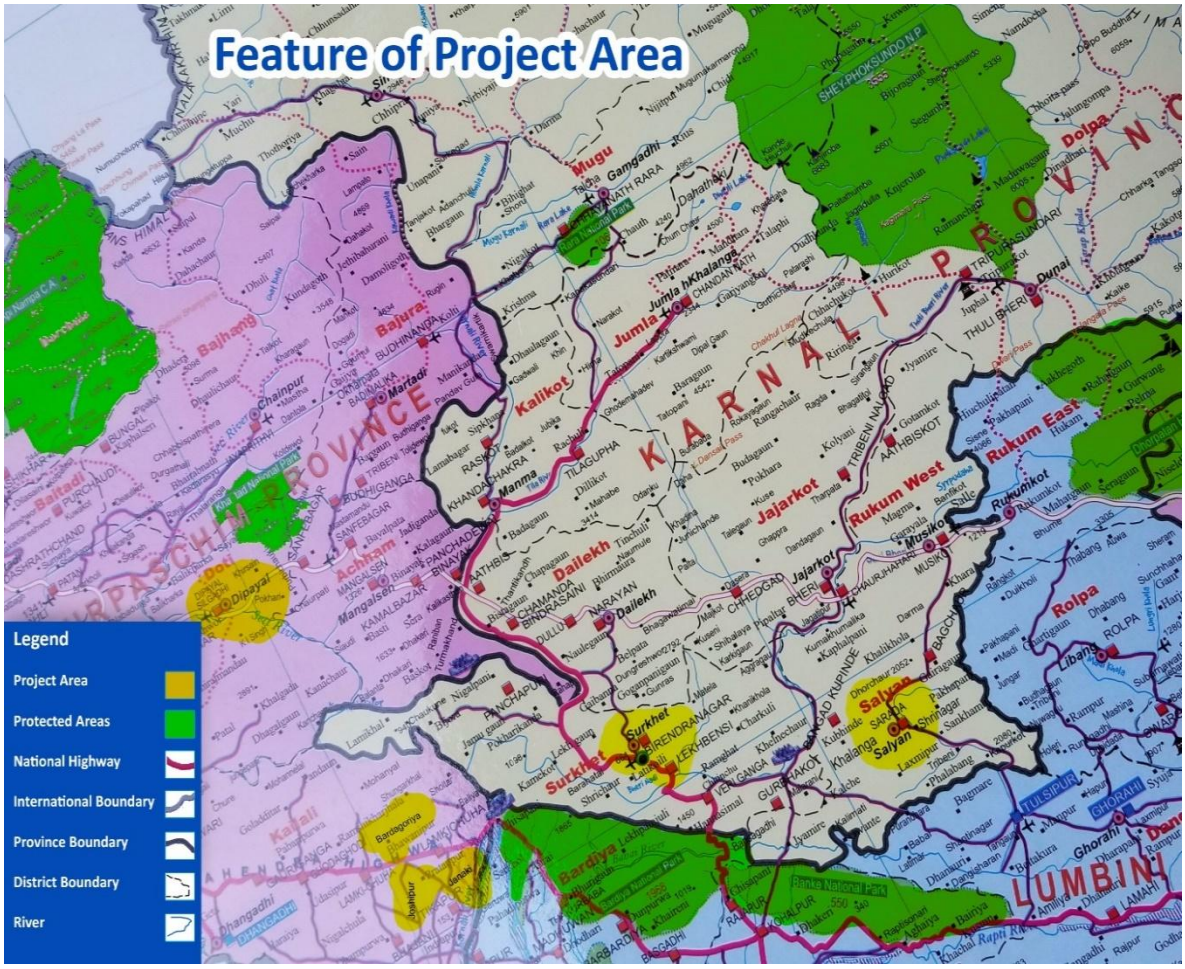
Table 1: Project Location

Province	Municipality level (Urban) project	Rural Municipality (Gaunpalika) level project
Karnali	1. Birendranagar Municipality, Surkhet District 2. Sharada Municipality, Salyan District	
Sudurpashchim	• Dipayal Silgadhi, Doti District	• Janaki Rural Municipality, Kailali District • Joshipur Rural Municipality, Kailali District • Bardgoriya Rural Municipality, Kailali District

Project Area: A key project target location is Birendranagar Municipality Surkhet, which is the capital city of the Karnali Province. The other selected urban municipalities are Dipayal, Siliagadhi in Sudurpaschim province and Sharda Municipality of Salyan district in Karnali Province and three rural municipalities of sudurpaschim province Bardagoria, Joshipur and Janaki rural municipality. In the Karnali province, the project area in Birendranagar Municipality will cover both the urban core and surrounding rural areas of the Municipality. The present population of the municipality is estimated to be about 200,000 in 35,000 households. Besides the core urban area in Surkhet Valley, the project activities will include surrounding rural areas in Birendranagar Municipality where small, fragmented water supply schemes will be consolidated under the oversight and coordination of the proposed municipality WASH unit and operated by a proposed municipal utility-

Map 1: GIS Map of Birendranagar Municipality

In the Sudurpashchim province, Dipayal Silgadhi, with a population of 32,941 is the capital town of the Doti District. The town is situated on the bank of the Seti River, also known as west Seti. The river originates from the twin peaks of Api-Nampa conservation area and serves as an important tributary of the Karnali river in south-east. Most of the forests around the municipality are community forests and government-managed National forests. The potential environmental and social concerns of the project may include impacts on forest and vegetation, aquatic life, erosions and water quality issues, water use conflicts, and potential for Glacial Lake Outburst Floods (GLOF). Physical and economic displacements from land acquisition, community health and safety, and the potential for marginalizing indigenous and poor households from project benefits are also noted as potential concerns.



Map 2: Topographical Map of the Project area

2.2 Project Components

Component 1: Improving Sector Governance and Institutional Capacity, Project Management

This component will provide support to improve sector governance and build institutional capacity of water supply and sanitation related agencies of all three levels of the government at Federal, Provincial and Local Municipality level, including establishing dedicated municipality WASH units and municipal utilities. The project will provide support to build the capacities of private operators responsible for front-end delivery of water and sanitation services as necessary.

Component 2: Access to Improved and Safe Water Supply and Sanitation

a. ***Urban and Peri-Urban Water Supply and City-wide Inclusive Sanitation (CWIS):*** (i) Construction and rehabilitation of water supply schemes in participating urban municipalities to improve water and sanitation service delivery levels. This would

include rehabilitation and improvement of existing systems, interventions to reduce non-revenue water (NRW), and expansion of systems to new areas, development of new water sources, transmission conveyance, water supply treatment facilities, distribution lines, and connection arrangements. Water treatment facilities will be constructed in the water supply schemes to ensure safe water quality as necessary (ii) Construction of faecal sludge and wastewater treatment facilities including sewer systems, Faecal Sludge Treatment Plants (FSTPs) and on-site sanitation. This will include sewer networks (combined and separate both) applying stabilization pond or lagoon system as disposal system, based on availability and onsite sanitation that will apply periodic de-sludging as disposal system.

b. ***Rural Water Supply and Sanitation:*** Construction and rehabilitation of water supply schemes and sanitation facilities in selected rural municipalities of Karnali and Sudurpashchim Provinces to provide adequate, reliable, and safe water supply with a year-round reliability through household connections. This will also include promotion of "Total Sanitation" and improved faecal sludge management approaches in participating rural areas.

c. ***Water Quality Monitoring and Management:*** Construction of water quality testing infrastructure, notably functioning laboratories at Provincial Levels and selected municipalities to support water quality monitoring; and operationalization of a national drinking water quality surveillance and governance system and integrated MIS. It will also include support for preventive water safety planning, installation of infrastructure for source protection, and community campaigns to declare municipalities as "safe water zones".

Table 2: Summary of possible infrastructure subprojects

Possible infrastructure/ Activities	**Possible Locations**	**Characteristics**	**Remarks**
Construction of river intake; pumping system (one option under consideration is pumping water from the Bheri River)	Right bank of the Bheri river is under consideration. Exact location is to be established yet	No barrier across the river. Side intake Estimated pump delivery capacity: 560l/s	Birendranagar Municipality
Construction of reservoirs	Exact locations are to be established yet	The project aims to construct four reservoirs with each capacity of around 1 million liters to supply water in the Surkhet valley. Tentative size of each reservoir of 25mx25mx5.2m	Birendranagar Municipality
Construction of water treatment plant	Exact location is to be established yet Tentative 75- 90m above the pumping station has been proposed	One water treatment plant	Birendranagar Municipality
Construction of water bulk transmission lines (system)	Exact pipe route/alignment is to be established yet Tentative pipeline mainly follows the right of the way of road	Around 7 kilometers transmission pipeline to reservoirs. The project aims to use the existing distribution system with some improvements Tentative pipe diameter- 600mm	Birendranagar Municipality
Construction of fecal sludge and wastewater conveyance and treatment facilities	Exact locations and alignment are to be established yet	Sewer networks (combined and separate both) applying stabilization pond or lagoon system as disposal system, based on availability and onsite sanitation that will apply periodic de-sludging as disposal system	Birendranagar Municipality. The activities in other municipalities are not decided yet
Groundwater pumping for rural community water schemes	Exact locations are to be established yet	Not determined yet	Rural Municipalities of Kailali district

In Nepal different organizations are involved in water supply projects, under the ministry of water supply. Rural Water Supply and Sanitation Improvement Project implemented by the Rural Water Supply and Sanitation Fund Development Board and supported by the World Bank, under the Ministry of Water Supply had constructed several small scale similar infrastructures in different geographical regions of Nepal. Under this, spring intake, stream intake, rural water supply trench line, BPT, reservoir tank (gravity and surface lift), tap-stand, tube well, overhead tank, water treatment plant etc have been constructed. These structures with their indicative diagram have been presented in Annex 13. The image of the intake has been taken from Rural Village Water Resource Management Project (RVWRMP), which has been working for a long time in Sudurpaschim Province.

Component 3: Building Resilience through Integrated Watershed Management

This component will support urban/rural watershed management and nature-based solutions to improve upstream/downstream water quality and environmental flows and provide adaption and mitigation measures against climate related hazards including droughts, floods and landslides. The activities will include combination of reforestation/conservation techniques, ground water recharge, rainwater harvesting, wastewater reuse, etc. This component will also support a feasibility study on water source augmentation.

Component 4: Contingency Emergency Response:

A provisional zero amount component is included, which will allow for the rapid reallocation of credit proceeds from other project components during an emergency.

The proposed project will improve water supply service by ensuring,

- ***Access to additional water resources***: By establishing the most cost-effective solution to resolve the lack of raw water for the water supply services, while balancing sources with future demand considering network improvements and NRW reductions.
- ***Effective NRW reduction program:*** By using mixture of methodologies and technologies to optimize efforts in reducing leakages.
- ***Expansion of network and service to unconnected households:*** By improving coverage of the water supply for the residents of participating municipalities of Karnali and Sudurpashchim provinces, while expanding the revenue base for financially sustainable operations.

This proposed project will provide institutional development by ensuring,

- ***Transformation of current unsettled institutional setup of the water supply services****: By* establishing a private utility company with consumer representation, who has ownership, and manages operation of the local water supply infrastructure. The planning authority and regulatory role concerning water tariffs is assumed to continue by the current municipal government.
- ***Institutional setup engaging water resource management*****:** Provincial/national government to manage water resources.

Chapter 3: Legal and Institutional Framework

3.1 Introduction

This chapter reviews and analyses the legal and institutional framework (i.e., policies and measures) for the ESMF and identifies gaps in addressing and respecting standards related to the proposed project activities. The first part lists the existing legal and institutional framework for their relevance in mitigating potential negative environmental and social impacts of the proposed project activities. This is followed by detailed analysis and review of WB Environmental and Social Framework. Finally, Environmental and Social policies of other international agencies are listed.

3.2 Relevant National Laws and Policies

Constitution of Nepal, 2015

Promulgated in 2015, the constitution establishes the right relating to health for all the citizens of Nepal. Article 35 of the constitution states that every citizen will have the right to free basic health services and articulates that every citizen will have equal access to health services and every person will have the right to get information about his or her medical treatment. Article 38, which establishes rights to women, says that every woman will have the right to safe motherhood and reproductive health while Article 40 ensures special provision to ensure the health and social security to the Dalit community. Under the policies relating to the basic needs of the citizens, Article 51 h (5) pledges that the state will make the necessary investment in the public health sector to have healthy citizens. Article 51 h (9) says that the state will focus on health research and maintain the required number of health institutions and health workers to ensure wide availability of qualitative health services while Article 51 h (15) vows to ensure health insurance to all citizens. The constitution says that no one will be deprived of emergency health services. Article 271 of the constitution has a provision of declaring a state of emergency in case of a grave emergency such as epidemic in a specific part of the whole country. The constitution mentions “infectious diseases control” in Schedule 5 as one of the functions to be undertaken by the federal government. The constitution also envisions environmental protection for pollution prevention and its management.

Environment Protection Act, 2019

Nepal new Environmental Protection Act 2019 prohibits carrying out of any project proposal without getting the environmental studies approved the concerned. All project proposals will have to conduct environmental studies, but the capacity, output or investment of the proposed project determine whether a project requires Environment Impact Assessment (EIA), Initial Environment Examination (IEE), or Brief Environmental Studies (BES). Also it states that for any environment study conducted under section 3(2) (c) needs necessary approval from concerned authority. In case of BES or IEE, designated body by the concerned law will be responsible for the necessary approval for the proposal relating to development, construction work or project pertaining to a matter falling under the jurisdiction of the Provincial/Local Level. But in case of EIA, approval will be done by the Ministry of Forest and Environment.

Environmental Protection Rules, 2020

The EPR and its schedules clearly provide various stepwise requirements to be followed while conducting the BES, IEE and EIA study. EPR contains the elaborative provisions on the process to be followed during the preparation and approval of projects.

Summary of requirements

EIA: Environmental Impact Assessment is conducted for drinking water related projects in following cases:

i. Collection, Screening, preparation of rain-water in an area of more than 500 hectares and use of water sources (springs/wetlands) located within the same area.

ii. Surface water sources with more than 100 LPS safe yield, and the use of its entire part during the dry season.

iii. Recharging of more than 75 percent of the total aquifer for the development of underground water sources.

iv. Displacement of more than 100 persons for the operation of water supply scheme.

v. Settlement of more than 500 persons on the upper reaches of water sources.

vi. Supply of drinking water to a population of more than 2 lakh.

vii. Supply of drinking water to a population of more than One Hundred Thousand upon connecting of new sources.

viii. Mining of biologically or chemically polluted point and non-point sources or underground water sources that may be affected by them.

ix. Operation of multi-purpose projects relating to sources of drinking waste water which consumes the sources at the rate of more than 500 liters per second.

x. Construction of more than 3 km. long water tunnels.

xi. Any proposal implementing in major sources of any public water supply.

In EIA process proponent needs to start with the screening of the project as per the schedule 1, 2 and 3 and determine the project category in coordination with concerned federal, provincial or local authority. In the next step, scoping and ToR is done with public consultation. This Scoping and ToR document need necessary, approval from the concerned authority. Thereafter, of ToR and preparation of draft EIA report is prepared and presented to concerned provisional authority and, Public Hearing and finalization of report, approval of EIA report. Ministry for necessary approval process and process of Forest and Environment (MoFE) is disclosed to public through public hearing.

IEE: Initial Environmental Examination is conducted for drinking water related project in responsible agency for the following cases:

i. For rainwater harvesting in an area of 100 to 500 hectares and using the water resource available in same area.

ii. Safe yielding of surface water above 100 Litre per Second (LPS) and to supply the water up to 50 to 75% during the dry season.

iii. Processing of water at the rate of over 100 LPS.

iv. Recharging up to 50 to 75% present of the total aquifer for the development of underground water sources.

v. Construction of 1 to 3 kilometer long tunnels for carrying water and operating water supply scheme.

vi. Displacement of 25 to 100 persons for operating a water supply scheme.

vii. Settlement of up to Five Hundred persons on the upper reaches of water sources.

viii. Supply of drinking water to a population ranging between 50 thousand to 2 lakh.

ix. Supply of drinking water to a population ranging between 50 thousand to 2 lakh upon connecting new sources.

x. Diversion activities over an area of more than one Kilometer.

xi. Operation of water supply scheme that includes sewerage system with treatment.

As per the schedule 3(1) proponent needs to prepare an IEE report falling on the criteria of EPR - Annex 2 as mentioned above. The next step is to prepare the ToR as per the Annex 7 of EPR. The necessary approval of the ToR is then done by the designated body prescribed by the concerned provincial law in the case of a proposal relating to development, construction work or project pertaining to a matter falling under the jurisdiction of the Provincial Government. Then the report is prepared as per the format given in Annex 11 and further the approval is taken as per the jurisdiction of the provincial law.

BES: As per the schedule 3(1) proponent needs to prepare a BES report falling on the criteria of EPR - Annex 3. The next step is to prepare the ToR as per the Annex 6 of EPR and approval of ToR by the designated body prescribed by the concerned Provincial/Local law in the case of a proposal relating to development, construction work or project pertaining to a matter falling under the jurisdiction of the Provincial of Local Government. Thereafter the report is prepared as per the format given in Annex 10 of the EPR.

EPR calls for the public consultation at different stages. For example, in the EIA process, prior to the preparation of scoping document and Terms of Reference for EIA, and public hearing prior to the approval of EA Reports. For BES and IEE, if the proposed areas fall on the jurisdiction of the province, the report will be approved as per the EPA & EPR of the concerned provincial authorities (Karnali, Sudurpaschim), whereas for EIA, federal ministry will be responsible for the approval. The preparation of Environmental Management Plan (EMP) is determined as a key part of the EA report. The proponent is required to implement the mitigation measures, while the environmental monitoring works should be performed by the concerned agency (ministries), and auditing by the then Ministry of Forest and Environment (MoFE) in accordance with the provisions of the EPR, 2020.

Forest Act, 2076 (2019)

The Forest Act 2019 recognizes the importance of forest in maintaining a healthy environment. The Act requires decision-makers to take account of all forest values including environment services and bio-diversity, not just the production of timber and other commodities. The basis of the Act's approach to forest and forest products is 'resource oriented' rather than 'use oriented'.

Section 41 of the act empowers the government that any part of the national forest shall not be changed in a manner to change the land-use of the forest area, provided that this provision shall not apply to the forest area provided to any project, pursuant to the decision of the Government of Nepal, for the development of infrastructures.

Section 42 of the act states that for the use of forest area: if there is no other alternative to the using of forest area for the operation of a national priority project, plan of which investment is approved by the Investment Board, project of national pride and it appears from the environment examination referred to in the prevailing law that the operation of such plan does not result in significant adverse effects on the environment, the Government of Nepal may give approval, as prescribed, to use any part of the national forest for the purpose of operating such plan

Section 42(2) further states to the extent possible, a land that is adjoining to the national forest area near the project site and situated in the same geographical and ecological belt and has such landscape where forest can be developed shall be provided for the purpose of planting trees at least in the area equal to the forest area that has to be used.

Section 42(3) also states that if there is no other alternative to the using of forest area for the operation of any development project by the Province or Local levels and it appears from the environment examination referred to in the prevailing law that the operation of such plan does not result in significant adverse effects on the environment, it may request the Government of Nepal for acquisition of the land in such forest area for the operation of that project.

Forest Clearance

In Nepal, majority of development projects facing challenges in timely obtaining forest clearance from MOFE. There are strict laws; complex regulations and long procedures that

protect forest land in the country. Development projects must put reasons for not being able to avoid the use of forest land and must have provisions for offsetting forest loss through compensatory plantation. The delay in obtaining clearance from MOFE and subsequent delay in site clearance is partly due to the lack of familiarity by the line ministries, departments and their offices, project team (client, consultant and contractors), local community about the regulatory requirements and procedures related to forestry clearance and partly due to the lack of proper planning for example forest clearance plan preparation, obtaining approval and its implementation, forest resource survey and inventory as well as compensatory plantation. Therefore, in order to avoid the implementation delay, this ESMF guides to obtain the pre-requisites for forestry clearance. Prior to obtaining forestry clearance approval, environmental assessment (EIA/IEE/BES) study with alternative analysis that details the project in and out of forest area is prerequisite. Experiences show that in majority of development projects, there is a mismatch in area of forest and tree loss data with BES/IEE/EIA reports and forest clearance plan. Later, this mismatch demands preparation of supplementary BES/IEE/EIA which delay forestry clearance approval process and ultimately project implementation. Consistent methodology for estimation and inventory of forest resource in all studies is recommended.

Environment Policy, 2019

The new environmental policy that aims to ensure the rights of people to live in a clean and healthy environment by controlling, lessening and preventing all types of environment pollutions, managing household, and industrial wastes, expanding parks and greenery in the urban area, and ensuring environmental justice to the pollution affected population. The policy also aims to protect human health and the environment from hazardous waste by regulating and controlling chemicals in products. Similarly, the policy calls for establishing a national environment council, which will be responsible for policy coordination among all the stakeholders on all types of environment-related activities. On the distribution of authority among the three tiers of governments, the policy has made the federal government responsible for looking after national policy, law, and standards required for protection and management of environmental. Similarly, the provincial government has been made responsible for formulating state-level policy, plans, rules and regulations, and standards to control and pollution. Similarly, the local level has been made responsible for implementing national environmental policy at the local level and coordinate with different stakeholders to

engage in environment-related activities for creating and undertaking environment awareness activities at the local level.

Laws on Resource Efficiency and Pollution Prevention and Management

The EPA/EPR provides for the prevention and control of pollution, prohibiting emission and discharge of pollutants that are harmful to human health and requiring registrations/permits of operations that emit pollutants. The law also provides for the appointment and powers of Environmental Inspectors to enforce the law. The Motor Vehicle and Transport Management Act (1993) and Nepal Vehicle Mass Emission Standard (2012) which prescribes standards for vehicles emissions and fuel. There is a National Ambient Air Quality Standards (NAAQS) which was passed in 2003(**Annex 8**) The Water Resource Act (1992) is a comprehensive law on the development, use and conservation of water resources in Nepal. It requires the conduct of Environmental Assessment before granting license to use water resources for any purpose. The law also requires compliance to quality standards in making use of water resources and prohibits the pollution of water resources. Under the Act are two regulations for drinking water purposes: (i) Water Resources Regulation, 1993, setting out the implementation procedures for the Act; and (ii) the Drinking Water Regulation, 1998, which specifies compliance with the drinking water quality standards and control of water pollution as it affects drinking water. Two guidelines have been issued: Nepal Water Quality Guidelines for the Protection of Aquatic Ecosystem and Nepal's Drinking Water Quality Standards. There are also nine (9) individual industry's effluent standards, and one generic (1) standard. The key gaps include lack of legislation on resource use efficiency. In September 2018, the GoN approved National Energy Efficiency Strategy. However, there is currently no law which compels or encourages by way of incentives, project proponents to implement measures for energy or water consumption efficiency.

Solid Waste Management Act, 2011

The Act makes individual solid waste-producing institutions, such as health institutions and industries themselves responsible for the processing and managing the waste within the set standards. The Act allows industry and health institutions to request the local body to manage the residue left after processing by charging a pre-fixed service fee. Similarly, the Act asks to take all necessary measures to manage such sites to prevent possible impact on the environment and public health and to stop the spread of bad odor while operationalizing transfer centers. The concerned agency authorized to grant permission to establish health

institutions needs to ensure before granting permission that the institution has made appropriate provision for the waste management, says the Act. Construction activities, establishment of water treatment plants, establishment of waste water treatment plants, etc will generate wastes and therefore it is important to review provisions made under this law, plan, design and implement accordingly.

Climate Change Policy 2019

The government of Nepal has recently amended Climate Change Policy 2019 to integrate climate change mitigation and adaptation into policies and programs of central, provincial, and local governments under the federal structure. The policy is guided by the UNFCCC provisions and aim to contribute to socio-economic prosperity of the nation by building climate resilient society by reducing the risk of climate change impacts and supporting and collaborating in the spirits of country's commitments to national and international agreements related to climate change. The policy promotes forest conservation, soil conservation, adaptive water management, energy efficiency and discourages use of GHG emitting fuels, etc. Therefore, project will require to abide by the provisions made in the NAPA, LAPA and CBAPs.

Land Acquisition Act 1977

The Land Acquisition Act 1977 is key legislation applicable to the acquisition of land and other physical assets law of Nepal. The Act guides the compulsory acquisition of land in the country and enables the Government to acquire land for public purposes and provides for fair and just compensation to private landowners. The Land Acquisition Guidelines (1989) together with the guidelines pursuant to Sections 16 and 17 of the Land Acquisition Act provide a detailed process for the acquisition of land for use in government projects which has most of the elements of ESS5, including provisions for the compensation of loses of assets and grievance redress. The laws and guidelines have the following features: (i) assessment of the impacted assets and businesses (ii) valuation of land and asset lost based on market values and (iii) compensation for temporary use of lands by the project which is limited to damage of assets only.

Local Government Operation Act 2017

This Act came into effect in 2017 and has paved a strong legal foundation towards institutionalizing legislative, executive and quasi-judiciary practices of the newly formed

local governments. The legal mechanism was enacted as per the Article 296 (1) of the Constitution of Nepal-2015 so as to leverage local leadership and governance system. The Act has stipulated the arrangements related to authorities, duties and responsibilities of local government, assembly meeting and working system, assembly management procedures, plan formulation and implementation, judicial works, financial jurisdictions, administrative structure and district assembly, among others.

This act describes about the criteria to divide a state into municipalities or rural municipalities and respective rights, duties and responsibilities in different development and conservation sectors. It clarifies the rights of municipalities/ rural municipalities to form local laws, regulations and criteria for conservation of environment protected areas and species; for environmental pollution and hazard control; solid waste management; etc. Since, this act mandated municipalities to manage solid wastes and maintain safer sanitation, it is important to cooperate with concerned municipalities departments to design, develop and implement water treatment and sanitation projects.

Labor Act, 2017

The Act remains a key document governing the regulatory framework for labor in Nepal and ensures non-discrimination in employment and remuneration and establishes minimum wage level. It bars employers to employ workers without a contract and incorporates provisions of public holidays, annual leave, and maternity and paternity leave. As per the law, the employer is obliged to prepare and implement an Occupational Health and Safety Policy and requires the formation of a Health and Safety Committee if the number of workers in more than 20. Similarly, the Act and its rule also ensure an adequate supply of clean and fresh air and light, provision of separate modern toilets for male and female workers and employees, the supply of safe drinking water, provision of appropriate ventilation, lighting, temperature and sound, measures to protect from dust, smoke, fumes and other impurities, and provision of extinguishing a fire.

Nepal fifteenth five years plan

Fifteenth five-year plan of 2019/20-2023/24 has carried the vision of a clean, health, and greenery environment. This can be achieved by setting the goal of pollution control, waste management and plantation of the tree to ensure the right to clean and healthy environment.

Management of all kinds of waste generating from health facility including household, industry has remained under the prime objective of this plan.

National Water Supply and Sanitation Sector Policy 2014

The New Water Supply and Sanitation Policy was promulgated with due respect of two separate Policy documents, namely, i. Rural Water Supply and Sanitation National Policy 2060 (2004) and ii. Urban Water Supply and Sanitation Policy 2066 (2009). The policy was introduced to reduce urban and rural poverty by ensuring equitable socio- economic development, improving health and the quality of life of the people and protection of environment through the provision of sustainable water supply and sanitation services. It focused on ensuring the availability of safe and adequate water supply and sanitation services to all according to the coverage targets with defined service levels. The Policy recognizes that the scope of water and sanitation services extends beyond fulfilling the basic human needs, which aims towards achieving improved quality of life through providing safe, reliable, adequate and enhanced services at affordable prices to all consumers, including poor and marginalized. Compatible infrastructure, appropriate institutional setup, rationalized cost recovery, favorable financing environment, full user participation in decision making and fruitful partnership with the private sector are recognized as core elements towards achieving the sectoral objectives in a sustainable manner. The policy also aims to adopt effective measures to safeguard the environment and emphasizes achieving a balance with other competing uses of water through adoption of demand and supply management measures. Basic level service coverage, Up gradation of service level, Rehabilitation of non-functional schemes, Consumers' involvement in decision making, Accessibility of all to services, Drinking water source protection and conservation, Protection of surface and ground water sources from wastewater pollution, Compliance with environmental protection laws, Use of cost effective and affordable alternative technologies, Strengthening local institutional and Strengthening local capabilities are key area to be addressed with strategic programs.

Social Security Act and Regulation 2018

The Government of Nepal ("GoN") has framed the Contribution Based Social Security Regulations, 2018 (2075) ("Social Security Regulations") by exercising the power conferred to it under Section 69 of the Contribution based Social Security Act ("Social Security Act"). For effective compliance of the act, The Social Security Regulations has been published in Nepal Gazette on November 2018 with immediate effect. The Social Security Regulations

has prescribed certain matters as required by the Social Security Act. Such matters include (a) the procedure for participation in Social Security Schemes (b) registration of the employer and employee with Social Security Fund (c) operation of fund, etc. It has detailed the entitlement for social security and are; (a) Senior citizens, (b) Indigent, (c) Incapacitated and helpless persons, (d) Helpless single women, (e) Citizens with disabilities, (f) Children, (g) Citizens unable to take care themselves with category of allowances to be provided. Detail provision for Offences and Punishment, comprising make complaint, appeal, Punish imposable under the prevailing law. This law deals with the staff (construction workers, supervision consultants, proponent staffs) welfare and social security and therefore important to review during project preparatory phase and follow.

Gender Equality and Social Inclusion Strategy, 2009

The strategy aims to develop policies, plans, and programs to create a favorable environment for integrating GESI in Nepal's sectoral programs and advocates the need to include GESI in development policies along with associated strategies, plans, and required resources. The strategy also seeks to review the existing policy, laws, and guidelines to make them GESI inclusive and asks for necessary policy provisions to include GESI related issues in plans, programs, and budgeting. The strategy also seeks to include GESI related issues in a program implemented by service providers. There is also a need for coordination and participation of organizations dealing with issues of GESI, says the strategy. The strategy urges to establish a GESI unit/desk at different levels of the health sector by improving service delivery mechanisms by service provided for poor, vulnerable, and marginalized groups.

Child Labor (Prohibition and Regulation) Act, 2000

This Act defines a child as a person who has not achieved the age of 14 years and the act bans employing a child below the age of 14 to work as a laborer. However, the law allows limited and selected use of persons between 14-18 as workers but prohibits working in a hazardous work environment. Enterprises are required to obtain approval for employing workers age between 14 to 18 and no child is allowed in work for a period after six o'clock in the evening to six o'clock in the morning, according to the act. The child workers are not allowed to deploy in work for more than 6 hours per day and 30 hours of work per week and are entitled to the leisure of half an hour after working for three consecutive hours in a day. They are entitled to a one-day leave every week. The act has also provisioned a labor officer to inspect an enterprise engaging children.

National Foundation for Development of Indigenous Nationalities Act, 2002

The National Foundation for Development of Indigenous Nationalities Act, 2002 has recognized a total of 59 different nationalities as indigenous nationalities, representing 37.2 percent of the total population in 2011. The Act defines ethnic groups and communities as those having their own mother language and traditional rites and customs, distinct cultural identity, distinct social structure and written or unwritten history that trace their line of descent back to the occupants of territories before they were integrated into Nepal. The majority of the indigenous nationalities socially, economically, politically and educationally marginalized. The act has given significant emphasis on delivering basic services and special attention to the disadvantaged and indigenous people, scheduled occupational castes, and other vulnerable groups.

Labour Rules 2018

The Government of Nepal enacted new Labor Rules 2075 (2018), formulated under the new Labor Act 2074 (2017). The Labor Rules provisioned the labor permit and work permit for foreign nationals to work in Nepal. It has mandated employer which has 20 or more staffs to prepare and implement Health and Safety Policy and also establish a health and safety committee including representatives from workers in the committee. The law also mandates to provide compensation to workers who are victims of workplace accidents. As per the Rule, the labor suppliers must obtain a license from the Ministry, renew their license annually and submit yearly filings at the Ministry.

Health Sector Emergency Response Plan (2020)

The Health Sector Emergency Response Plan (2020) was developed by MoHP Nepal mainly for the management of COVID pandemic. This plan intends to prepare and strengthen the health system response that is capable to minimize the adverse impact of COVID-19 pandemic. Main objectives presented in the Plan are Provide clear policy guidance for timely health system preparedness and readiness to respond to the pandemic; Provide a guiding framework for timely, efficient and effective response to the pandemic; Provide official guidance to prepare and implement specific interventions applicable at all spheres of governments and level of health care delivery, and Support policy makers and managers in exploring the options and making the decisions for resource allocation and management.

Rural Water Supply and Sanitation Sector Strategy (2004)[5]

National Policy on Rural Drinking Water Supply and Sanitation (2004) provides guidance on water and sanitation service provision in rural areas using community led participatory approaches. The policy guided development of community led water supply systems in rural areas, however, it is becoming less relevant to the urban context, particularly around the integration of inputs and local capacity building, and it is silent on the complex operational challenges to be faced by Municipalities in implementing and managing services in urban context.

Nepal Urban Water Supply and Sanitation Sector Policy (2009) [6]

The goal of the National Urban Water Supply and Sanitation Policy is to ensure the socio-economic development, improved health status and quality of life of urban populations, including the poor and marginalized, through the provision of sustainable water supply and sanitation services and protection of the environment. The policy has set eight objectives that include ensuring the availability of basic safe, accessible and adequate water supply and sanitation services to all urban populations for improved quality of life; to promote public private partnership in water supply and sanitation services delivery.

3.3 World Bank Environmental and Social Standards and their Relevance to the Current Project

The World Bank's Environmental and Social Framework (ESF) became effective on October 1, 2018 for all projects receiving World Bank support through Investment Project Financing. This ESMF has been prepared in accordance with the provisions of the ESF. The ESF includes ten Environmental and Social Standards (ESS) that set out the requirements for Borrowers relating to the identification and assessment of environmental and social risks and impacts associated with projects supported by the Bank through Investment Project Financing. Table 4 shows the applicability and overview of the relevance of the ESSs for the project.

[5] Water Supply, sanitation and hygiene related national policy 2078 is under draft stage
[6] Water Supply, sanitation and hygiene related national policy 2078 is under draft stage

Table 3: Applicability of the relevant ESSs for the project

World Bank ESS	Relevant/Not relevant	Overview of relevance of the ESS	Addressing the ESS
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	Relevant	Project activities include water withdrawal, excavation, intake works, and installation of lift pump, water treatment plant and pipe laying works both in rural and urban settings, water reservoirs, sewers, and wastewater treatment plants. These have potential to cause environmental and social risks and impacts. E&S risks and impacts will include minimal loss and degradation of habitat, forest/ trees, potential site specific landslides, soil erosion and sedimentation due to excavation; impacts on water quality, increased dust, noise and ground vibration; generation of excavation and construction spoils and other solid/liquid wastes; traffic and accessibility issues; temporary interruption on water supply and drainage during pipe replacements; and workers' and community health and safety issues. Other social risks and impacts could be from potential land acquisition, Right of Way (RoW) and access issues, influx of labors, community health and safety issues (i.e., HIV, COVID-19), potential SEA/SH issues; and exclusion of indigenous, vulnerable and disadvantaged groups from planning process and project benefits and opportunities. Excavation works may also lead to potential impact on cultural heritage.	An Environmental and Social Management Framework has been drafted to provide procedures in addressing and mitigating these risks. The ESMF defines the E&S management process and procedures including screening, as well as implementation arrangements and grievance management. The ESMF will provide guidance and requirements regarding preparation of the specific E&S instruments, including ESIA, ESMP, Occupational Health and Safety (OHS) plans, Community Health and Safety Plan (CHSP), Cultural Heritage Plan and Chance Finds Procedures, if required. During the drafting stage of this ESMF, not all cultural heritages is identified and documented. However, through a collaborative approach communities will be consulted in identifying cultural heritage sites with local significance/importance and documented and follow CHP-CFP.
ESS 2: Labour and Working Conditions	Relevant	Direct workers, contracted workers, community workers and primary supply workers are expected to be involved in the project. Potential associated labor risks include	Labor Management Procedure (LMP) consistent with National Labor Act 2017 and Labor Rules 2018 and OHS guidelines reflecting Good

World Bank ESS	Relevant/Not relevant	Overview of relevance of the ESS	Addressing the ESS
		labor camp & working conditions, non-payment of wages and benefits, discriminatory employment practices, OH&S, grievances amongst the workers, and SEA/SH.	International Industry Practice (GIIP) has been developed. The LMP incorporates, among others, the aspects of non-discrimination and equal opportunity, Grievance Redress Mechanism (GRM) and OHS protocols (including those working under existing and post COVID-19 situation, using disinfection equipment and chemicals, etc).
ESS 3: Resource Efficiency and Pollution Prevention and Management	Relevant	The project is expected to pose E&S risks from construction-related pollution (e.g. dust and gaseous emissions from heavy equipment, generation of spoils, construction debris, wastewater, spills and accidents involving fuel, oil, lubricants, solvents); chemical use, storage and handling (e.g. chlorine for water treatment and disinfecting effluents); and pollution associated with the operation and maintenance of the water treatment facilities; and use of construction materials such as sand, stone, gravel, and water .	The ESMF includes sections on Pollution Prevention and Management with a focus on those issues which might arise while carrying out project activities. The ESMF recommends specific E&S instrument to be prepared for each infrastructure addressing relevant issues and risks, and providing relevant and specific mitigations The subproject specific EMSPs will include specific measures on pollution prevention to minimize impacts of air and noise pollution, water pollution, surface- and groundwater contamination, and waste minimization. The proponent will ensure the use of grid connected electricity instead of DG with optimum energy use policy to the extent technically and financially feasible. Similarly, for water resource extraction proponent will adopt measures to the extent technically and

World Bank ESS	Relevant/Not relevant	Overview of relevance of the ESS	Addressing the ESS
			financially feasible, that avoid or minimize water usage so that the project's water use does not have significant adverse impacts on communities, other users and environment. Those sub-projects/activities with potentially having significant impacts (High Risk) are ineligible for project funding (Refer Annex 1).
ESS 4: Community Health and Safety	Relevant	Construction activities such as excavation, water pumping and storage facilities/reservoirs, and water & wastewater treatment facilities/plants may have community health and safety implications. The influx of migrant workers may increase the risk of diseases, including COVID-19 and SEA/SH risks and conflict with host communities.	To address environmental risks and impacts that might affect community health and safety, the ESMF includes assessment of work-related health risks including the communicable diseases; road safety, site safety awareness; and labor influx. Site specific mitigations must be presented for minimizing noise, dust and vibration through ESIA and ESMPs. All of these issues will be included in the site-specific ESMPs to be prepared once the investments are identified. A GRM as envisaged in the SEP will be implemented so that the affected community and other stakeholders can lodge their complaints and feedback. In addition, SEA/SH Risk Mitigation Action Plan has been developed to address gender discrimination and abuse.
ESS 5: Land Acquisition, Restrictions on Land Use and	Relevant	The project activities such as construction of reservoirs and water transmission line are likely to lead to land acquisition, resulting in both economic and physical	A Resettlement Policy Framework (RPF) as per the requirements of relevant country's legal laws and regulations and the ESS5 have been

World Bank ESS	Relevant/Not relevant	Overview of relevance of the ESS	Addressing the ESS
Involuntary Resettlement		displacements and, potential disruptive impacts on livelihoods and economic activities. The footprint of these works is not defined yet to determine the exact number of households that will be displaced.	developed to guide the resettlement planning of the project. In addition, a functioning GRM as per ESS10 has been ensured for the impacted people to enable them to lodge their complaints, feedback, and suggestions on the implementation of the resettlement actions.
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant	There is possibility that several of subproject and/ or their components may be located in natural habitats/ forests including community forests, such as intakes for water withdrawals, water transmission pipelines. reservoirs, treatment plants, etc. Water may be withdrawn from stream, springs, rivers including Bheri River. These, during construction or operation, may have impacts on biodiversity, both terrestrial and aquatic.	The ESMF provides exclusion list (ineligibility criteria) and provides guidance, in line with mitigation hierarchy to avoid, minimize, mitigate the adverse impacts on biodiversity and living natural resources compensate. The potential risks and impacts on biodiversity or habitats will be mitigated by use of the guidance provided for planning, design and construction of subproject and by preparing specific ESIA/ESMPs in parallel with the engineering pan and DPR when the specific locations and activities are finalized. Where significant risks and adverse impacts on biodiversity have been identified, the project will be evaluated according to eligibility and projects falling under Category I will not be eligible for financing. For other projects which are eligible, the project will develop and implement Biodiversity Management Plans.

World Bank ESS	Relevant/Not relevant	Overview of relevance of the ESS	Addressing the ESS
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant	There are several groups of indigenous peoples (IP) in the project area who will be involved in project activities including Tharu, Magar, Newar and Gurung as well as various others.	The Indigenous Peoples Planning Framework (IPPF) provides for the development of Indigenous Peoples Plans, as needed, based on the results of the site-specific screening and social assessment.
ESS 8: Cultural Heritage	Relevant	The project is located in Karnali and Sudurpashchim Provinces, which are rich with cultural significance (tangible and intangible cultural heritage). The project impact on these cultural properties cannot be ascertained at this point since specific locations of the subprojects are still to be finalized.	The provision of a chance finds procedure is included in the ESMF and will be part of the mitigation measures to be provided in site-specific ESMPs. During the drafting stage of this ESMF, not all cultural heritages is identified and documented. However, through a collaborative approach community will be consulted in identifying cultural heritage sites with local significance/importance and documented and follow CHP-CFP.
ESS 9: Financial Intermediaries	Not Relevant	FI involvement is envisaged in the project.	N/A
ESS 10: Stakeholder Engagement and Information Disclosure	Relevant	The project will involve a wide range of stakeholders at national, provincial, and local levels, from public, private sectors and local communities. Effective and meaningful engagement and participation of the diverse stakeholder groups identified for the project is critical to its successful implementation and to ensure that mechanisms are in place for information sharing and	A Stakeholder Engagement Plan (SEP) has been developed for effective and meaningful stakeholder engagement and participation which will be implemented throughout the project lifecyle.

World Bank ESS	Relevant/Not relevant	Overview of relevance of the ESS	Addressing the ESS
		addressing complaints and grievances.	

3.4 Gap analysis and corresponding measures

Table 5 describes a gap analysis and measures to bridge the gaps between the ESSs and GoN policy and legal requirements for environmental and social risk management of development projects.

Table 4: Gap Analysis between WB Environmental and Social Standards and GoN Policies

World Bank ESS requirements		Nepal's policy framework and requirements	Gaps between ESSs and GoN & legal and policy requirements	Gap-Bridging Measures
ESS	**Requirements**			
ESS 1: Assessment and management of Environmental and Social Risks and Impacts	ESS 1 requires the Borrower will assess, manage and monitor the environmental and social risks and impacts of the project throughout the project life cycle so as to meet the requirements of the ESSs in a manner and within a timeframe acceptable to the Bank. The Borrower will: (a) Conduct an environmental and social assessment of the proposed project, including stakeholder engagement; (b) Undertake stakeholder engagement and disclose appropriate information in accordance with ESS10; (c) Develop an ESCP, and implement all measures and Actions set out in the legal agreement including the ESCP; and (d) Conduct monitoring and	Environment Protection Act (EPA), 2019; Environment Protection Regulation (EPR), 2020; and; National Environmental Impact Assessment Guidelines, 1993 are legal instruments for the requirements of Environmental and Social Assessment of any development projects.	The Schedules are based on activity type, threshold/size, as well as location. The potential risks associated with the project are omitted in GoN policy. No provision for associate project projects/activities; large projects can be split into smaller projects to avoid full ESIA study. The EA requirement in Nepal is primarily based on project's size, location and financial threshold; irrespective of the level of potential risks. It gives total freedom to proponent to design and implement EA on their own (for example all documents including Scoping, ToR, EIA reports are prepared by proponent and approved by	• Detailed E&S Screening and assessment (by inlcuding associated projects) shall be carried out followed by detailed ESIA/ESMP to bridge the gap between WB and GoN requirements. • The ESMP prepared shall be made integral part of bidding document so that the Contractor (as for provision of services) shall adhere to the provisions prescribed in the ESMP during execution of the project. • Eligibility/ exclusion criteria (Annex 1), and guidance for subproject selection, planning and design following the mitigation hiranchy.

World Bank ESS requirements		Nepal's policy framework and requirements	Gaps between ESSs and GoN & legal and policy requirements	Gap-Bridging Measures
ESS	**Requirements**			
	reporting on the environmental and social performance.		concerned government offices. Experiences have shown that not all projects need for EA is justified based on size, location, thresholds. 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	
ESS 2: Labour and Working Conditions	There are numbers of requirements of ESS2 under the following heading: • Working conditions and management of worker relationships; • Protecting the work force; • Grievance mechanism; • Occupational Health and Safety • Contracted workers; • Community workers; and;	Labor Act (2017) and Labor Rules 2018; and; Child Labor Act (2001) are legal instruments.	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:	• Labour Management Procedures (LMPs) is under draft stage and it will be implemented in the project implementation • Guidelines to be developed for firms on occupational health and safety (OHS) issues including (but not limited to) Covid-19 measures

World Bank ESS requirements		Nepal's policy framework and requirements	Gaps between ESSs and GoN & legal and policy requirements	Gap-Bridging Measures
ESS	**Requirements**			
	• Primary supply workers		OHS Directive for Brick Workers)	
ESS 3: Resource Efficiency and Pollution Prevention and Management	The Borrower shall consider ambient conditions and apply technically and financially feasible resource efficiency and pollution prevention.	EPA (2019), EPR (2020), National Ambient Air Quality Standards (2003), Nepal Vehicle Mass Emission Standard (2012), National Ambient Sound Quality Standard (2012), Standard on Emission of Smoke in Air by New and Existing Diesel Generator (2012), National Water Quality Standard (2008), Tolerance Limits for Industrial Effluents to be discharged into Inland Surface Waters (2003), The Solid Waste Management Act (2011), Solid Waste Management Rule (2013), Water Resources Act (1992),	Lack of suitable enforcement mechanisms for legislation on resource use efficiency in projects	• Resource efficiency and pollution prevention in any project activity need to be emphasized during the design and implementation of the activity. • WBG EHS guidelines or/ National standards (depending on which one is stricter) related to environmental protection and resource efficiency will be complied with by the project.

World Bank ESS requirements		Nepal's policy framework and requirements	Gaps between ESSs and GoN & legal and policy requirements	Gap-Bridging Measures
ESS	**Requirements**			
		Water Resources Rules (1993), Drinking Water Regulation (1998), Drinking Water Quality Standards		
ESS 4: Community Health and Safety	There are numbers of requirements of ESS4 under the following headings: • Community health and safety and • Security personnel	The EPA 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 legislation does not specifically impose requirements for development and infrastructure projects.	• ESIA/ESMPs developed under the project will aim to address all community health and safety issues that arise during execution and operation of the project. .
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	There are number of requirements of ESS 5 under following headings: • General (Eligibility classification; Project design; Compensation and benefits for affected persons; Community	Land Acquisition Act (1977) Guthi Corporation Act (1976) Land Acquisition Guidelines (1989) Land Reform Act (1964)	• Does not require preparation of RAP • Does not allow for PAP consultation in the compensation options • Does not allow non-cash compensation options	• The project shall be required to prepare vulnerability assessment and mitigation plan for the affected people that have impacts on their livelihood after losing the land. • A Resettlement Framework has

World Bank ESS requirements		Nepal's policy framework and requirements	Gaps between ESSs and GoN & legal and policy requirements	Gap-Bridging Measures
ESS	**Requirements**			
	engagement; Grievance mechanism; Planning and implementation); • Displacement (Physical displacement; Economic displacement); • Collaboration with other responsible agencies or sub national jurisdictions; and; • Technical and financial assistance.	Clause 3 of the Land Acquisition Act states that any asset that is required for public purposes shall be acquired by providing compensation. Compensation Fixation Committee shall establish the Compensation rates. Guthi Corporation Act, 2033 (1976). Section 42 of this Act states that Guthi land (religious trust land) acquired for the purpose of the development shall be replaced with other land, than compensated in cash Compensation shall be provided for loss of crop damaged and income	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 • Does not make mention of compensating non-titleholders (tenants, long-term land users, encroachers and squatters).	been prepared to provide guidance for any resettlement activities. • The project shall assist those who have impacts on their livelihoods due to land acquisition by the project including tenants. • The lost assets need to be fully replaced and affected livelihoods restored. • Pragmatic livelihood assistance program shall be designed by the project. • The project shall develop alternative forms of compensation or assistance for adversely affected non-title holders, encroachers and squatters.

World Bank ESS requirements		Nepal's policy framework and requirements	Gaps between ESSs and GoN & legal and policy requirements	Gap-Bridging Measures
ESS	**Requirements**			
		source.		
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	There are number of requirements of ESS 6 under the following headings: • General (Assessment of risks and impacts; • Conservation of biodiversity and habitats; • Habitats are classified as the Modified habitat; Natural habitat; and Critical habitat • Legally protected and internationally recognized areas of high biodiversity value; • Invasive alien species • Sustainable management of living natural resources and primary suppliers	Aquatic Animal Protection Act (1961), National Park and Wildlife Conservation Act (1973), National Park and Wildlife Conservation Regulations (1974), Soil and Watershed Conservation Act (1982), Himalayan National Park Regulation (1979), National Trust for Nature Conservation Act (1983), Forest Act (2019), Conservation Area Management Rules (1996), Buffer Zone Management Rules (1996), Plant Protection Act (2007)	• 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	• All the provisions of relevant laws will be complied with by the project. • A separate Biodiversity Management Plan needs to be developed for project activities that have potential impacts on biodiversity and habitats. However, sub-projects/activities with potential of significant impacts/ High Risk on biodiversity and habitat will be classified as Category I sub-projects and they will not be eligible for project financing (please refer Annex 1- Exclusion List).
ESS 7: Indigenous Peoples/Sub-	There are numbers of requirements of ESS 7 under the following headings:	National Foundation for the Development of Indigenous Nationalities	• The GoN encourages development programs to incorporate income	• An Indigenous People Plan Framework (IPPF) has been prepared to provide guidance to

World Bank ESS requirements		Nepal's policy framework and requirements	Gaps between ESSs and GoN & legal and policy requirements	Gap-Bridging Measures
ESS	**Requirements**			
Saharan African Historically Underserved Traditional Local Communities	• General (Projects designed solely to benefit indigenous peoples/Sub-Saharan African historically underserved traditional local communities; Projects where indigenous peoples/Sub-Saharan African historically underserved traditional local communities are not the sole beneficiaries; Avoidance of adverse impacts; Mitigation and development benefits; Meaningful consultation tailored to indigenous peoples/Sub-Saharan African historically underserved traditional local communities; • Circumstances requiring free, prior and informed consent, FPIC (Impacts on lands and natural resources subject to traditional ownership or under customary use or occupation; Relocation of	Act (2002), Local Self-Governance Act (1999), ILO Convention 169 (2007) The GoN encourages including and considering IPLC's concerns in each and every development and infrastructure programs and formulating a plan or mechanism to incorporate income generation program targeted to IPLC.	generation schemes for IPs. • The provision of FPIC and broad community support in relation to IPs is absent. Nonetheless, the GoN has ratified ILO 169 and the United Nations Declaration of Rights of Indigenous People (UNDRIP). • The GoN is in the process of preparing National Action Plan to implement these international commitments.	mitigate any impacts on IPs. • The project shall seek to maximize the ability of Adivasi/ Janajati to benefit from the project by: a. creating an environment for social inclusion; b. enabling their participation in policy discussions and decision making; c. promoting their culture, language and knowledge through different project activities.

World Bank ESS requirements		Nepal's policy framework and requirements	Gaps between ESSs and GoN & legal and policy requirements	Gap-Bridging Measures
ESS	**Requirements**			
	indigenous peoples/ Sub-Saharan African historically underserved traditional local communities from lands and natural resources subject to traditional ownership or under customary use or occupation; Cultural heritage); Grievance mechanism; and; Indigenous peoples/Sub-Saharan African historically underserved traditional local communities and broader development planning.			
ESS 8: Cultural Heritage	There are numbers of requirements of ESS 8 under the following headings: • General • Stakeholder consultation and identification of cultural heritage (Confidentiality; Stakeholders' access); • Legally protected cultural heritage areas;	• The EPA (2019) and EPR (2020) provision that physical and cultural resources shall not be disturbed or damaged without the prior approval of concerned authority. • Ancient Monument	• 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	• The ESMF has incorporated "Chance Finds" provisions and requirements • ESMPs developed under the project will aim to address any issues of cultural heritage that may be affected by the execution and operation of the project. • During the drafting stage of this ESMF, not all cultural heritage is identified and documented.

World Bank ESS requirements		Nepal's policy framework and requirements	Gaps between ESSs and GoN & legal and policy requirements	Gap-Bridging Measures
ESS	**Requirements**			
	• Provisions for specific types of cultural heritage (Archaeological sites and material; Built heritage; Natural features with cultural significance; Movable cultural heritage); and; • Commercial use of cultural heritage	Act (1956) have provisions on cultural heritage	heritage • Does not provide for adoption of chance find procedures	However, through a collaborative approach community will be consulted in identifying cultural heritage sites with local significance/importance and documented and follow CHP-CFP.
ESS 10: Stakeholder Engagement and Information Disclosure	There are numbers of requirements of ESS 10 under the following headings: • Engagement during project preparation (Stakeholder identification and analysis; Stakeholder Engagement Plan; Information disclosure; Meaningful consultation); • Engagement during project implementation and external reporting; \Grievance mechanism; and; • Organizational capacity and commitment	• Prevailing national polices including EPA 2019 and EPR 2020 has envisaged the stakeholder engagement at different stage of the project design and implementation. Stakeholder consultation, disclosure and grievance hearing system are provisioned.	• 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	• The project has prepared a Stakeholder Engagement Plan (SEP) to ensure that stakeholder engagement activities are effective and meaningful consultation is carried out including guideline for establishing a comprehensive GRM with clear, safe and accessible procedures to identify and respond to grievances, including SEA/SH, cases.

3.5 International Conventions

The relevant international treaties, conventions, and declarations are as follows:

- UN Human Rights Council 2011
- Rio Declaration on Environment and Development,1992
- Declaration of United Nations Conference on the Human Environment 1992
- United Nations Declaration on the Rights of Indigenous Peoples
- ILO Convention 169

3.6 The World Bank Group's Environmental Health and Safety Guidelines

The Environmental, Health and Safety (EHS) Guidelines of the World Bank Group are technical reference documents with general and industry-specific examples of Good International Industry Practice and applied as required by their respective policies and standards. The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs. Application of the EHS Guidelines to existing facilities may involve the establishment of site- specific targets, with an appropriate timetable for achieving them. The applicability of the EHS Guidelines should be tailored to the hazards and risks established for each sub-project based on the results of an environmental assessment and ESMP in which site-specific impact variables identified and mitigation and management defined. . With limited guidelines and work experience on EHS in MWS, the WBG- EHSG provides basis and guidance for addressing and managing health and safety aspects in this project. Some of the applicable guidelines for the project under General Environmental Health and Safety are discussed in Table 4 below:

Table 5: EHS guidelines and applicability

EHS guidelines	Applicability/discussion
EHS 2.7 – Personal Protective Equipment (PPE)	Personal Protective Equipment (PPE) provides additional protection to workers exposed to workplace hazards in conjunction with other facility controls and safety systems. The guideline provides measures on using the PPE effectively for protecting the workers
EHS 3.6 – Disease Prevention	This guidance note provides intervention for the control of the communicable diseases and vector borne diseases at the project level. The recommended interventions include surveillance and active screening and treatment of workers, training health workers, providing health services, educating project personnel and area residents on risks, prevention, and available treatment; monitoring communities during to detect and treat cases and following safety guidelines for the storage, transport, and distribution of pesticides to minimize the potential for misuse, spills, and accidental human exposure etc.

As the country requirements for EHS are poor, the World Bank Group latest EHS Guidelines for Water and Sanitation are applicable and will be used for guidance for the design and operation of Water and Sanitation Projects. However, Project will follow country standards/ requirements, if and when these more stringent.	This guideline includes information relevant to the management of EHS issues associated with Water and Sanitation Projects/facilities. The EHS Guidelines for Water and Sanitation include information relevant to the operation and maintenance of (i) potable water treatment and distribution systems, and (ii) collection of sewage in centralized systems (such as piped sewer collection networks) or decentralized systems (such as septic tanks subsequently serviced by pump trucks) and treatment of collected sewage at centralized facilities. However, it does not include Pit latrines and other decentralized systems that do not require servicing and subsequent treatment of contents at centralized treatment facilities.

3.7 Specific Labour and OHS-related considerations in the context of COVID-19

In the context of COVID-19, special consideration needs to be given with regards to labor procedures including the health and safety of workers, the community members with whom workers come into contact, as well as the management of medical and health care waste, to minimize the risk of COVID-19 transmission amongst workers and with the local communities.

Considerations for workers

The World Bank has developed an Interim Guidance Note on COVID-19 Considerations in Construction/Civil Works Projects, included at Annex 6. Some practical mitigation measures for prevention and response are provided below.

- Provide information on COVID-19: Provide information on good practices for preventing COVID-19 transmission, particularly observing recommendations on social distancing, and training to workers to recognize the symptoms of COVID-19.
- Ask sick or potentially infected workers to stay at home: To prevent potentially affected staff from entering a worksite and infecting co-workers, the project should request workers to stay away from the worksite where they exhibit any COVID-19 symptoms or have been in close contact with a confirmed COVID-19 patient during the past 14 days.

- Cough hygiene: Workers should be instructed to follow cough etiquette to reduce the risk of spreading the virus when coughing or sneezing, which includes covering the mouth when coughing or sneezing with tissue and disposing used tissue into wastebasket, or coughing into elbow or sleeve, cleaning hands after coughing or sneezing preferably by using hand wash or hand sanitizing gel.
- Social distancing: To prevent person-to-person infection, direct contact between workers should be minimized. Where required to work or meet, a safe distance of 2 meters between people should be observed. Workers should be informed about the hazards of close contact, and to promote alternative behaviours such as maintaining safe distances. The contractor may also consider establishing alternative working days or adding shifts to reduce the total number of employees on a work site at a given time.
- Hand washing: the project should promote frequent and thorough water-soap hand washing and provide enough places for workers to wash their hands. If soap and running water are not immediately available, provide alcohol-based hand rubs containing at least 60% alcohol.
- Cleansing and disinfecting: Touched surfaces should be frequently cleaned such as equipment, handrails, toilets etc., and instruct workers to clean equipment/workplaces at the end of a shift.
- Food preparation: Staff in labour camps should help ensure that food served to workers is safe. Measures include not working if they have symptoms; being trained in common food safety practices; required to wash hands regularly; prevent cross contamination caused by people sharing the same serving spoons.
- Air quality measures: Consider air quality control measures particularly for labour camps
- Personal Protective Equipment: People who come into contact with possibly infected workers or with infected materials should use gloves and breathing protection.
- Workers accommodation: Additional measures to those provided above include preventing infected persons from entering workers' accommodation areas, promote, respect and enforce occupancy density limits in worker accommodations, and where new workers arrive from areas with high risk of COVID-19, ensure that these persons are adequately quarantined as per local regulations or recommendations from international organizations.

Chapter 4: Environment and Social Baseline

4.1 Environmental profile

4.1.1 Climate and Precipitation/Meteorology

Rapid changes in altitude and aspect along the latitude, creates a wide range of climatic conditions in Nepal. The country experiences five types of major climatic conditions, depending on the altitude, landscape and topography which includes sub-tropical, warm temperate, cool temperate, alpine and arctic. The High Himalayan region is always below freezing whereas the Terai and the low valleys are always warm. The temperature in Nepal varies mainly with topographic variations along south-north direction. Temperatures are lowest during winter and remain hot in the pre-monsoon period. In Terai, temperatures can go up to 44º C in summer and fall to 5º C in winter. The corresponding temperatures for hill and mountain areas are 41º C and 30º C respectively in summer and 3º C and far below 0º C respectively in winter.

Table 6: Types of Climate by Physiographic Zone of Nepal

Physiographic Zone	**Surface area (%)**	**Elevation (m)**	**Type of Climate**	**Mean of temperate (^{0}C)**
High Himalaya	23	above 5000	Tundra-type and Arctic	< 10
High Mountain	20	4000-5000	Alpine	
		3000-4000	Sub-alpine	10-15
Mid-Hills	30	2000-3000	Cool temperate monsoon	
		1000-2000	Warm temperate monsoon	15-20
Lowlands Terai and	27	500-1000	Hot monsoon and Subtropical	
Siwalik Hills		below 500	Hot monsoon and Tropical	> 20

Source: Environmental Statistics of Nepal 2011, CBS, 2013

***Rainfall*:** The annual mean precipitation in the country is 1500 mm most of which (80%) occurs during Monsoon season (June – September). The monsoon enters Nepal from the east which receives the first rain; the west gets rain about a week later. The western part receives comparatively less rain than central and eastern parts. Most of the eastern and central hilly areas receive 1500 – 2500 mm; the west gets 1000 – 1500 mm. Seasonal distribution of precipitation varies from east to west. The seasonal distribution of precipitation is shown in Table 6.

Table 7: Seasonal rainfall distribution

Region	Pre-monsoon	Monsoon	Post-monsoon	Winter
Terai	4–11%	80–98%	2–7%	2–5%
Hill	2–20%	79–92%	1–11%	2–9%
Mountain	8–24%	72–80%	1–9%	4–17%

Source: Pariyar (2008)

***Karnali Province*:** Karnali is the largest province in Nepal with an area of 27,984 km2. The province is surrounded by Gandaki Province in the east, Lumbini Province in south-east and south, Sudurpashchim Province in the west, and Tibet Autonomous Region of China in the north. There are 10 districts, 25 municipalities and 54 rural municipalities in the province. The province does not contain any fertile land of the plain Terai and is covered by high mountains and mid-hills region of Nepal. Mt. Kanjirowa (6612 m), Mt. Kanti (6859 m), Mt. Gorakh (6088 m) and Mt. Changla (6563 m) are remarkable peaks of the province. Situated within the province is Rara National Park containing Rara Lake, the largest lake in Nepal, and Shey-Foksundo National Park containing Shey-Foksundo Lake. The province also includes the Karnali River, the largest river in the province and is also the longest river in Nepal. The Seti River and the Bheri River are the two major tributaries of the Karnali River. The project area delineation is far from these national parks and lakes. Birendranagar is a gateway to major tourist attractions mentioned above in the province. These spots are in mountain terrain and far away from project area. However, improved water supply services and proper sanitation facilities in Birendranagar (Surkhet) will attract more tourist facilities like hotels and restaurants, thus supporting more local tourism and more employment opportunities.

***Sudurpaschim Province*:** Sudurpashchim Province is located between 800 03' and 81025' East longitude and 28022' and 30009' North latitude. It covers 15,539 square kilometers, or 13.27 percent of the country's total area. The Himalayas cover 40.6 percent of the land. Mountains cover 34.54 percent of the land, while Terai or plain lands cover 24.86 percent of the province. It is bounded on the west and south by India, on the north by China and the Humla district of Karnali Province, and on the east by Surkhet, Dailekh, Kalikot, and Mugu of Karnali Province and Bardiya of Lumbini Province. Topographically, the province is divided into four major regions, beginning with the high Himalayan region, followed by the Mahabharat region, the mid mountains, and the flat lands of Terai in the south. Api Himal is the Province's highest peak (7132 m) while Kailali district has the lowest elevation of 109

meters. In the Terai region, there are two districts: Kanchanpur and Kailali and four mountain districts are Doti, Dadeldhura, Baitadi, and Achham and three districts; Darchula, Bajhang and Bajura lie in Himalayan region. Administratively, there are 9 Districts in addition to the topographical divisions. According to the new constitutional provision, there are 88 local governments with 734 wards, including 1 Sub Metropolitan City, 33 Municipalities, and 54 Rural-municipalities.

Climate of the Project Area

Surkhet Valley The climate of the Surkhet valley is sub-tropical. The average maximum temperatures during summer fluctuates between 29° C & 33° C and minimum temperature in winter ranges from 10° C to 18° C. The relative humidity is in the range of 84 % to 87 %. The average annual rainfall is estimated at approximately 1500mm per year.

Dipayal Silgadhi The climate is warm and temperate in Dipayal Silgadhi. In winter, there is much less rainfall than in summer. The temperature here averages 18.4 °C with maximum temperature being 30º C and minimum 15º C. Dipayal Silgadhi's annual precipitation is 1347 mm and the rainfall occurs during June to September. The relative humidity is in the range of 58% to 83%. The average annual rainfall is 2611 mm.

Table 8: Rainfall record of project area (mm)

S.N	Station	Year				
		2013	2014	2015	2016	2017
1	Chisapani Bazar	1832.2	1391.6	1429.3	1710.7	1367.5
2	Dipayal, Doti	1085.5	911	888.2	1124.4	957.3
3.	Salyan Bazar	1001.5	1161.4	721.4	891.1	782

Source: Environment Statistics of Nepal 2019

4.1.2 Topography/Land cover/Land use pattern

Nepal is located between 260 20' 53" N to 300 26' 51" N latitude and 800 03' 30" E to 880 12' 05" E longitude. Nepal is predominantly a mountainous country characterized by fragile and young geology, unstable slopes and high topographical variations. There are five physiographic regions in Nepal (Figure 1) based on geology and geomorphology (LRMP, 1986). These are: Terai, Churia, Middle Mountains, High Mountains and High Himal. With an area of 147,181 sq. km, of which Terai, which is the northern extension of the Indo-Gangetic plains comprises 14%, Churia hills 12%, mid-hills (Mahabharat) 30%, high

mountains 20% and high Himalaya 24% area. About 14% of the country's land area is permanently covered with snow. Earthquakes of major consequence are reported in Nepal in an average of every 75 years.

Of the total land area of the country 21% is used for agriculture while forest including shrubs occupies 39.6%. Similarly, the grassland and pasture covers 12%, water bodies (2.6%) and uncultivated agriculture land occupy 7.5 % of the total land area. Other land use that includes basically the rock, land covered with snow etc. absorbs 17.8% (Table 3.14).

Table 9: Land use Pattern of Nepal (2011)

SN	Use	Area (,000 ha)	%
1	Agriculture land Cultivated	3,091	21.0
2	Agriculture land Un Cultivated	1,030	7.0
3	Forest (including Shrub 1560)	5,828	39.6
4	Grassland and pasture	1,766	12.0
5	Water	383	2.6
6	Others	2,620	17.8
	Total	**14,718**	100.0

Source: MoA 2011

Surkhet Valley: Surkhet Valley is one of the Inner Terai Valleys of Nepal. It borders, Achham district of Sudurpashchim, Dailekh and Jajarkot districts to the north, Salyan district to the east, Banke and Bardiya districts of Lumbini and Kailali of Sudurpaschim to the south, and Doti district of Sudurpaschim to the west. The project area is composed of fluvio-lacustrine sediments (sand, silt, clay, cobbles, and pebbles) deposited from the northern and southern parts of Siwalik Hills. Hard rocks in the region are northern and southern parts of Siwalik Hills. Hard rocks in the region are comprised of sedimentary, meta-sedimentary, and metamorphic rock.

Over the 27 years of observation, the predominant Land Use Land Cover (LULC) changes in Surkhet have been (a) the rapid increase in urban cover after 2001, and more gradual increase in shrub lands; (b) the simultaneous losses of cultivated lands, as well as the steady but lesser decline in forest cover. Birendranagar was declared the capital of Karnali Province. Hence, its recent history of urbanization is expected to continue as new governmental investments in economic and infrastructure development attract additional migrants. A ring road around the city, currently under construction, is expected to enhance the industrial, commercial, and development activities and thus to provoke urbanization and LULC change widely in the near

future (Rijal, S., Rimal, B., Sloan, S., 2018). The land use pattern of Surkhet valley has been given in the table below.

Dipayal Silgadi: The project area in Dipayal Silgudi of Doti district lies about 17 km from Khaptad National Park, separated by mountain terrain that is in the middle mountain region, also known as Mahabharat range. Elevation ranges between 800 m to 2520 m amsl in the core project area. The project area shows mild steep hill slopes. The river catchment area is covered by natural forest i.e. large trees, herbs and bushes in steep as well as flat hills. There is no landslide-affected area. The project area passes through 36.90% cultivation land, 30.92% forest land, 24.99% shrub, 3.24% grassland, 2.61% sand, 1.32% river/ streams and 0.03% barren land

***Salyan District*:** Although Salyan is considered a hilly district, its southwest salient is actually outside the Pahari-inhabited hill region, in the lower Siwalik Hills that are more an extension of the Terai. The Babai River flows through the south-western Siwaliks section after draining Dang Valley. A tributary Sharad Khola drains the eastern half of Salyan's hill region—including the district center, then exits these hills by cutting through the Mahabharat Range to its confluence with the Babai. The western half of Salyan's hill region is drained by the Bheri.

Kailali District: The total area of Kailali district is 3235 sq. Km. (323,500 ha). The district lies from 109 meters to 1950 meters above sea level. The Chure mountain range, its hilly terrain and the bhavar range in the north is weak and vulnerable. The southern region has a complex river flow system of about 4,893 km, whose large part is irrigated by the catchment area of Mohana and Karnali rivers. Mohana river flows from the north through the southeast, while the Karnali River flows from the north to the south, bordering Kailali and Bardiya. In the district there is a complex flow system of 5965 km of other long and small rivers.

Table 10: Land use Pattern of Project area

S.N.	District	Total Forest Area	Shrub	Agricultural land/ grass	Water bodies	Barren land	Snow	Others	Total
1	Surkhet	157687	33269	48653	1899	7556	0	0	249064
2	Doti	141848	17277	44839	311	2049	10	0	20633
3	Salyan	143786	2610	36419	526	7337	0	0	190678

4	Kailali	169708	14761	129769	2330	4715	0	0	321283

Source: Environment Statistics of Nepal 2013

4.1.3 Water resources

Rivers of Nepal can be broadly classified into three types, in accordance to their origins: The first category comprises of the four main river systems of the country: Koshi, Gandaki, Karnali and Mahakali river systems, all of them originating from glaciers and snow-fed lakes. Rivers of the second category originate from Mahabharat range which includes Babai, West Rapti, Bagmati, Kamala, Kankai and Mechi etc. Streams and rivulets originating mostly from the Chure hills make up the third category; these rivers cause flash floods during monsoon rains and remain without any flow or very little flow during the dry season.

***Karnali Province*:** The Karnali is Nepal's longest and largest river and with its tributaries Seti river and Bheri river, it drains most of the Far West of Nepal. Karnali basin comprises 1,459 glaciers and 742 glacial lakes with Nepal. Karnali basin receives about 80% of precipitation during summer monsoon; while the region suffers winter drought most frequently. The Karnali province has an extensive network of water tributaries that feed mainly three rivers: Karnali, Bheri and Babai. . Some of the notable lakes are: Baraha Tal, the largest lake in Surkhet district; Kupinde lake, located at approximately 11 km west of Khalanga, the district headquarters of Salyan district, the lake is the largest lake of Salyan district; Jumli Pokhari is situated at an elevation of 1800 m in Musikot Municipality, Rukum West; Shyarpu Lake is the largest lake of Rukum West. A total of 10 wetlands of Nepal has been listed in the Ramsar site and Karnali province covers 2 out of 10 Ramsar sites of Nepal: Phokshundo Lake and Rara Lake. Both of them are situated within the national parks.

***Sudurpaschim Province*:** The water resources are abundant in Sudurpaschim Province with major rivers Seti and Mahakali. Rivers such as the Chameliya, Budhi Ganga, Dar Ganga, Surnaya, Dhikgadh, Hopari Gadh, Rangoon, Doteli Gadh, Spal Gadh, Mohana, and others flow through the province's various districts. Some of the province's major lakes include Ghodaghodi Lake in Kailali District, Jhilmila and Vedkot Lake in Kanchanpur District, Aadital in Dadeldhura District, Chatiwan Lake in Doti District, and Khaptad Lake.

The present source is river discharge as well as under-ground water for Surkhet valley. The total dry season flow from river and ground water is about 8064 cum/d

Table 11: Water Supply situation of Surkhet valley

S.N	Source	Location	Present feeding Rate(lpm)	Operating hour(Hrs)	Production Per day(cum/d)
1	Jhupra Khola	Jhupra river at North-East of Surkhet valley	2700	24	3888
2	Khari Khola	Khari river at Northeast of Surkhet valley	1800	24	2592
3	Itram river	Itram river in Surkhet Valley	600	24	864
4	Khorke River	Khorke river in Surkhet Valley	300	24	432
5	Bulbule Sumpwell	Bulbule lake	300	16	288
	Total				8064

Source: DPR of Surkhet valley Brihat pumping

4.1.4 Air quality

The project area lack ambient air quality monitoring data based on anthropogenic activities reveals that the ambient air quality of the area is within the thresholds of the National Ambient air Quality Standards (2003). The forest fires in the dry season (February/April) in the region, however, are reported to deteriorate the air quality of the region, particularly, concentration of the suspended particulate matters imparting poor visibility. Baseline air quality monitoring of the key project development sites (Intake, RVT, Distribution Line, and Transmission Line) prior to the start of the construction work, however, is needed for the comparative assessment during the active construction period.

4.1.5 Water quality

Present water supply facility in Birendranagar Municipality mostly constitutes private shallow hand pumps. The majority of households have pump installed inside their compound. Few households have public hand pumps built by VDCs and NGOs. Due to high concentration of iron in ground water, the water extracted from the hand pumps are almost red in colour so most of the people use natural filtration techniques at their homes. National Drinking Water Quality Standard is presented in Annex 9.

Table 12: Water quality of major rivers during dry season of Karnali and Sudurpaschim province

Location/river	pH	TDS (mg/l)	DO(mg/l)	BOD (mg/l)
Seti at Ramghat	8.2	222	9.3	2
Karnali at Chisapani	7.8	264	10.5	1.5
Mahakali at Pancheshwor	8.8	110	5	2
WHO guideline	6.5-8.5	100	>5.0	3

Source: CBS 2011

4.1.6 Solid waste

Based on the study conducted by ADB on solid waste management status of Nepal in 58 municipalities in 2012, it is estimated that waste from households in general contributes about 50%–75% of the total MSW generated. Thus, the average MSW generation was found to be 317 g/capita/day. Using these per capita waste generation rates and the population in 2011, the total MSW generation of the 58 municipalities was estimated at about 1,435 tons/day and 524,000 tons/year. The analysis of household waste composition indicated that the highest waste category was organic waste with 66%, followed by plastics with 12%, and paper and paper products with 9%.

As per the study conducted in the project area, in Birendranagar municipality, highest waste category was organic waste with 73.95% followed by plastics with 11.06% and paper and paper product with 10.15%. Similarly in Dipayal Silugadi Municipality highest category was organic waste 43.64% followed by plastics with 15.14% and paper and paper product with 9.49%.

Table 13: Solid Waste Composition of Project area

S.N	Municipality	Organic waste	plastics	Paper and paper product	glass	metal	textile	Rubber and leather	other
1	Birendranagar	73.95	11.06	10.15	0.94	1.08	0.76	0.06	2.00
2	Sharda Municipality								
3	Dipayal Silgadi Municipality	43.64	15.14	9.49	19.02	3.83	5.66	2.69	0.52

4.1.7 Health and sanitation

According to Health service availability and readiness in seven province of Nepal and further analysis of 2015 Nepal Health facility survey report, the health situation in Nepal shows that the country has made encouraging progress on improving the overall health outcomes of its citizens. In particular, Nepal has made impressive progress toward the Millennium Development Goal (MDG) targets for child survival (target 4) and maternal health (target 5) (NPC, 2013). A clear indicator of this progress is the increase in life expectancy at birth, which rose to around 67 years in 2011 compared with 50 years in 1981, when maternal and child mortality were high (CBS, 2014). The substantial improvement is the result of effective community-based health interventions such as the birth preparedness package, the Aama Surakshya Program, family planning programs, basic and comprehensive emergency

obstetric and neonatal care, safe abortion services, nutrition initiatives (vitamin A, breastfeeding, complementary feeding), integrated management of newborn and childhood illness, the National Immunization Program, and other promotive, preventive, and curative measures. Population growth has slowed, literacy levels have improved, and there has been continuing improvement in the gross domestic product (GDP).

As per the report in the project area in Sudurpaschim province, there are altogether 14 hospitals, 16 primary health care centers and 378 health care centers. In Karnali province altogether 2 district level hospital, 2 primary health care center and 67 health care center and 1 urban health care center and 2 private hospital.

The sanitation situation of Birendranagar town is moderately satisfactory. The main commercial area of Birendranagar VDC is Birendranagar bazaar located in ward no 5. Most of the households in the commercial area have toilet facilities. Only 66.3% of the household have sanitation facilities; some with flush latrine, ordinary pit latrine and vented pit latrine. There is only one public toilet located along the East-West highway near bus stand at town core area of the Birendranagar Bazaar.

Table 14: Health Care Facilities in Karnali and Sudurpaschim province

S.N	Municipality/Rural Municipality	Facility Type					
		Zonal Hospital	District Level Hospital	Primary Health Care Center	Health Post	Urban Health Center	Stand alone HTCs
1	Karnali		2	2	67	1	
2	Sudurpaschim			16	378		

(Source: Nepal Health Facility Survey 2015)

4.1.8 Forest biodiversity and national protected areas

As per the State of Nepal's Forest report published by Ministry of Forest and Environment, forest occupies a total of 5.96 million ha which is 40.36% of the total area of the country. Other Wooded Land (OWL) covers 0.65 million ha (4.38%). Forest and OWL together represent 44.74% of the total area of the country. 2. Out of the total area of Forest, 82.68% (4.93 million ha) lies outside Protected Areas and 17.32% (1.03 million ha) inside Protected Areas. Within the Protected Areas, Core Areas and Buffer Zone contain 0.79 and 0.24 million ha of Forest, respectively. 3. Out of the total area of Forest, 37.80% lies in Middle Mountains physiographic region, 32.25% in High Mountains and High Himal, 23.04% in Churia and

6.90% in Terai. In case of OWL, Terai, Churia, Middle Mountains, and High Mountains and High Himal physiographic regions share 1.47%, 3.50%, 9.61% and 85.42%, respectively.

Nepal's forests are broadly divided into two ownership categories: national and private. National forests are further categorized into: (1) government-managed forests; (2) community forests; (3) leasehold forests; (4) religious forests; and (5) protected forests. Community, leasehold and religious forests are managed by local communities or user groups, while government-managed and protected forests are directly administered and protected by government agencies. Private forests are managed by individual households.

On average, forest land has decreased at a rate of 1.7 percent annually. Nepal ranks 25th position in terms of biodiversity, with 11 bio-climatic zones, 118 ecosystems and 35 natural forests. Sixteen protected areas including nine national parks, three conservation areas, three wildlife reserves, and one hunting reserve. Six buffer zones have been established for the protection of flora and fauna. The protected areas make up approximately 17 percent of the country's total area.

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Karnali province consists of five ecoregions and 21 forest types. More than half of the province land surface is covered by vegetation, which includes forest (30%), shrubland (3%) and grassland 18%. Chir pine forest, hemlock forest, fir forest, blue pine forest, spruce forest, birch forest and deodar forest are typical in Karnali province. Forest coverage and biodiversity in the proposed two provinces is abundant. In the Karnali Province, altogether 1,183,400 ha (38.77 percent) of land is covered by forest. Two famous National Parks, namely Shey Phoksundo National Park and Rara National Park, are located within the Province, but significant distance away from the project area, separated by mountain/ hilly terrain. These protected areas including the buffer zone covers 17.23% area of Karnali province. There are no protected areas around Birendranagar municipality

In Sudurpaschim province, the province's major protected areas are Shuklaphata National Park, Khaptad National Park, and Api Nampa Conservation Area. The project area is far from these protected areas.

4.1.9 Slope Instabilities

Surkhet district is susceptible to landslide and erosion, particularly from water erosion. Soil erosion rate is also quite high in different ecological belts. Short and steep slopes of the Siwalik hill system because of their geological makeup as well as the inherent tectonic dynamism are highly fragile and yield to the agents of erosion. Landforms of the Siwalik hill are, in general, considered as unstable. The land instability increases when the terrain is intervened for infrastructure developments such as construction of intake, reservoir, distribution, transmission line etc. Major cause that leads to the land instability in the Siwalik hill slope is striping of the vegetation cover and the modification of natural drainage systems. Apart from minor landslides, mass movement in the Siwalik Hill System is a common phenomenon because of the geological make up and tectonic dynamism of the area. Vegetation cover also influence the small scale land slips. The areas with scarce or no vegetation are seen to yield to erosion and land slips in the monsoon season. Siwalik range of Surkhet has erosion rate of 20,000 ton/sq.km/year (Table 16).

In August, 2014 heavy rain caused several landslide and flood throughout the country. Surkhet was also impacted during the incident. The communication network and electricity supply were greatly restricted due to falling of electricity and telecommunication poles, highway linking Nepalgunj to Surkhet and Surkhet to the neighbouring district had been blocked due to landslide and flood. And further flood had swept away 5 suspension bridges in Surkhet that caused challenges for local people for daily movement.

Table 15: Soil Erosion Rate at selected area of Nepal

Area	Location and characteristics	Land use	Erosion rate (ton/sq.km/yr)
Siwalik Range	Far Western Nepal, South aspect sand stone foot hills of Surkhet	I. Degraded land	2000
		II. Degraded forest, gullied land	4000
		III. Severely degraded heavily grazed forest, gullied land	20000

Source: Environmental statistics 2011; CBS 2013

No any significant landslide, slope instability and soil erosion found in the project area. Site specific data will be added during the preparation of ESIA.

4.1.10 Floods

Rugged topography, weak geological formations, active seismic conditions, occasional glacier lake outburst, concentrated monsoon rains and unscientific land utilization are some of the major reasons for water-induced disaster in Nepal (DWIDP, 2013). Nepal has very high risk of floods. The flood history of 1993 floods in Central Nepal, 2008 Koshi embankment breach floods, and the 2013, 2014 and 2017 floods in the mid- and far-western regions caused not only immense loss to both human life and property but also had a devastating impact on development. The desinventar database from (1971-2016) shows that a total of 4,160 flood events were recorded during 45-year human losses with damages are common to all provinces in Nepal shows that the number of events has been recorded highest in province 2 26.47 % whereas Karnali province have comparatively low (4.83%).

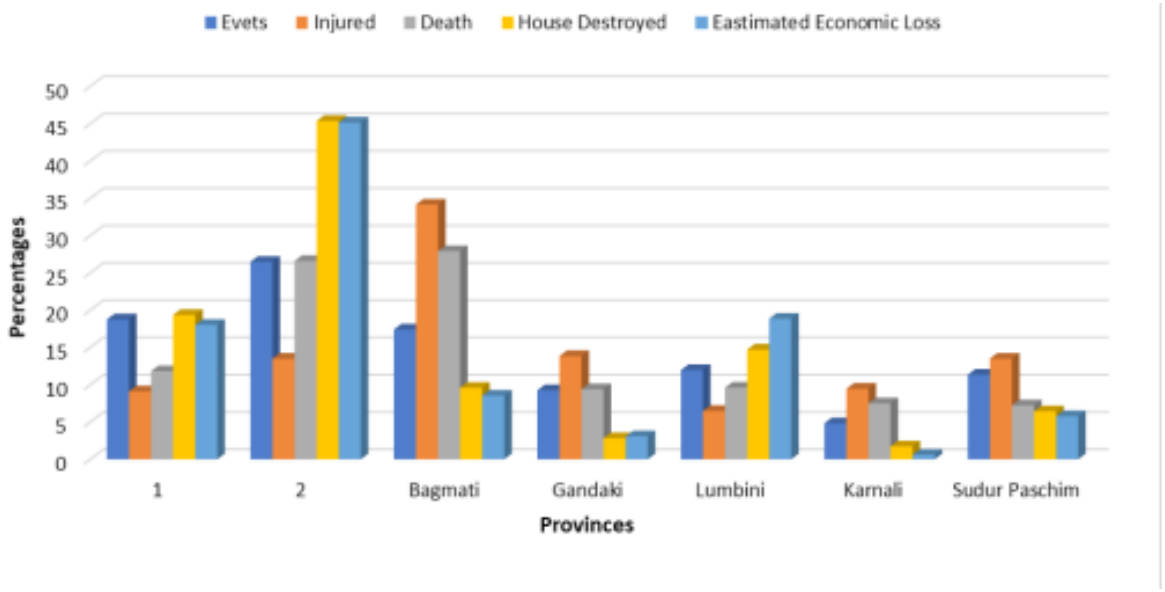

Figure 1: Number of event that has been record in different province

Surkhet district is affected annually by monsoonal flood events, the impacts of which have been increasingly devastating in recent decades. During August, 2014, more than 12,385 people from 2327 families were displaced, 1581 houses were washed away, 301 houses were damaged, 15 government schools were destroyed, and 31 more were damaged, resulting in the economic loss of NRs 6 billion. Additionally, 411 irrigation projects, 99 drinking water schemes, 11 child development centers, and 663 ha of forest were swept away. Latikoili, Ghatgaun, Satakhani, Chinchhu, Lekhparajul, Hariharpur, Babiyahaur, Tatapani, Taranga, Dharapani, and Kunathari settlements were the most affected areas. Birendranagar city was particularly highly affected by the flooding on Khorke River and Itram River. This 2014 flood not only impacted the settlements and cultivated area, but also claimed human lives.

4.2 Socioeconomic Profile

4.2.1 Demography

The population of Nepal stands at 26,494,504 with a population growth rate of 1.35 percent per annum, according to the CBS Population Census 2011. Similarly, total number of households in the country is 5,427,302 with 5,423,297 individual and 4,005 institutional households. Terai constitutes 50.27% (13,318,705) of the total population while Hill and Mountain constitutes 43% (11,394,007) and 6.73% (1,781,792) respectively. Population density (average number of population per square kilometer) at the national level is 180 compared to 157 in 2001. Female headed households in the country have increased by about 11% from 14.87% in 2001 to 25.73% in 2011.

Table 16: Population distribution of Karnali and Sudurpaschim Province

District and Type of Local Level	Household	Population Total	Male	Female
Karnali Province				
Municipality	155,748	774,316	373,610	400,706
Gaun Palika	142,426	780,926	380,331	400,595
Institutional	185	15,176	13,982	1,194
Sudurpaschim Province				
Sub-Metropolitan City	29,143	147,741	73,462	74,279
Municipality	255,278	1,355,814	641,811	714,003
Gaun Palika	185,282	1,027,433	483,053	544,380
Institutional	268	21,529	19,561	1,968

Source: CBS 2011

Table 17: Basic Demographic feature of the project area

Demographic Features	Birendra nagar Surkhet	Doti	Salyan	Joshipur Rural Municipality	Bardagoria Rural Municipality	Janaki Rural Municipality Kailali	Sharda nagar Municipality Salyan
Total Population	100458	211746	242444	36459	***32683***	48540	33730
Male	48771	97252	115969	18625	15653	22956	15661
Female	51687	114494	126475	17834	17030	25574	18069
Sex Ratio	93.41	84.94	91.69	95.75	91.91	90.7	91.69
Total HH	72,863	41440	46556	6392	5703	9051	46556
Average HH size	4.81	5.11	5.21	5.71	5.73	5.35	5.21

Source: Population Census 2011, Central Bureau of Statistics

4.2.2 Ethnicity and Social Structure

Khas and Arya is the largest ethno-linguistic indigenous group in Karnali province. Khas/Chettri is the largest Native Indigenous group among the Khas and Arya in the province, making up about 41.46% of the population. Other Khas and Arya groups like Kami, Thakuri, Hill Brahman, Damai, Sarki and Sanyasi make up 15.78%, 10.20%, 8.26%, 3.96%, 2.62% and 1.68% of the population respectively. The largest non-Khas Arya group is the Magars who make up 9.80% of the population. Tamang (0.88%) and Gurung (0.70%) are other Janajati groups in the province with a significant population.

The Khas/Chhetri is the largest Native Indigenous group, making up 44.09% of the population in Sudurpaschim province. The Tharu are the second largest, making up 17.15%. Other Khas groups including Hill Brahmin, Kami, Thakuri, Damai, Sarki, Lohar and Sanyasi make up 11.90%, 7.22%, 4.40%, 2.56%, 1.67%, 1.17% and 1.01% of the population. There are some Magars (2.18%) as well.

Table 18: Caste disaggregate data of Birendranagar Municipality

Caste/Ethnicity (2011)	**Population**	**% of total population of Birendranagar Municipality**
Chhetri	27,075	27.0
Indigenous Populations (IPs)	22,715	22.6
Brahman - Hill/Terai	20,713	20.6
Dalits	18,961	18.9
Thakuri	6,263	6.2
Sanyasi/Dasnami	2,554	2.5
Musalman (Muslim)	1,653	1.6
Madheshsi	287	0.3
Others	237	0.2
Total	**100,458**	

Source: Population Census 2011, Central Bureau of Statistics

Table 19: Caste disaggregate data of Sharda Municipality

Caste/Ethnicity (2011)	**Population**	**% of total population of Sharada Municipality**
Chhetri	21,127	62.6
Dalits	4,460	13.2
Indigenous Populations (IPs)	3,207	9.5
Sanyasi/Dasnami	2,761	8.2
Brahman – Hill	1,003	3.0
Thakuri	970	2.9
Others	153	0.5
Musalman (Muslim)	49	0.1
Total	**33,730**	

Source: Population Census 2011, Central Bureau of Statistics

Table 20: Caste disaggregate data of Joshipur Rural Municipality

Caste/Ethnicity (2011)	Population	% of total population of Joshipur Rural Municipality
Indigenous Populations (IPs)	29,355	80.5
Chhetri	3,167	8.7
Dalits	1,766	4.8
Brahman - Hill	1,059	2.9
Thakuri	556	1.5
Musalman (Muslim)	370	1.0
Madeshsi	125	0.3
Others	61	0.2
Total	**36,459**	

Source: Population Census 2011, Central Bureau of Statistics

Table 21: Caste disaggregate data of Janaki Rural Municipality

Caste/Ethnicity (2011)	Population	% of total population of Janaki Rural Municipality
Indigenous Populations (IPs)	30,253	62.3
Dalits	5,532	11.4
Brahman - Hill	4,887	10.1
Chhetri	4,762	9.8
Sanyasi/Dasnami	1,501	3.1
Madhesi	795	1.6
Sanyasi/Dasnami	394	0.8
Musalman (Muslim)	330	0.7
Others	86	0.2
Total	**48,540**	

Source: Population Census 2011, Central Bureau of Statistics

4.2.3 Labor and Working Conditions

According to study conducted by ILO on Nepal labor market update on 2014 over the last decade, economic growth in Nepal has been relatively low (in comparison to other low income countries). The main labor market challenges in Nepal stem from the slow pace of economic development: almost three-quarters of workers continue to earn a living in the agricultural sector. Thus, the vast majority of workers are informally employed. Due to the lack of employment opportunities in the domestic labor market, labor migration is the main option for thousands of young Nepalese entering the labor market every year. Looking at records of the Department of Foreign Employment, the number of labor migrants given permits increased from just 35,543 in 2000/01 to 527,814 in 2013/14.

Table 22: Key labor market indicators by sex and province

Province	Working-age population	Employed	Unemployed	Not in the labor force	Labor force
Karnali	1163000	288000	31000	843000	319000
Male	486000	184000	24000	278000	208000
Female	676000	105000	7000	565000	111000
Sudurpaschim	1883000	455000	59000	1370000	513000

Male	728000	294000	38000	396000	332000
Female	1155000	161000	21000	974000	181000

Source: Report on the Nepal Labor Force Survey 2017/18

4.2.4 Land Tenure and Ownership

The following tenure systems exist in Nepal: (i) Raikar or private land with absolute ownership which may be leased or mortgaged; (ii) Public and government land; and, (iii) Guthi or trust land is land which is set aside by individuals and the State for religious and philanthropic institutions such as temples and schools and often is framed by tenants.

The cash or in-kind incomes from farming such lands are used to finance religious and social functions. Land under tenancy, both pure and mixed, constitutes about 10 percent of the total farmland. But the actual incidence of tenancy is much higher due to the presence of informal or unregistered tenants.

4.2.5 Human Development

Nepal's national HDI score stood at 0.587 in 2019, which puts the country in the medium human development category. Its score in urban areas (0.647) surpasses that of rural areas (0.561) with a large urban-rural gap (Figure 2.1). Higher per capita income and better access to education and health services in urban areas explain such striking disparities. The HDI value also varies across provinces. As expected, Bagmati province scores the highest (0.66), followed by Gandaki province (0.62). Province 2 scores the lowest (0.51) followed by Karnali (0.538).

Table 23: Human Development Index of Different Provinces

S.N.	Provinces	HDI at national and sub-national levels
1.	Nepal	0.587
2.	Province 1	0.58
3.	Province 2	0.51
4.	Bagmati	0.661
5.	Gandaki	0.618
6.	Lumbini	0.563
7.	Karnali	0.538
8.	Sudurpaschim	0.547

(Source: UNDP Human Development Report 2020)

4.2.6 OHS and labor working condition

Nepal lacks adequate government policies, laws and management initiatives to address occupational health and safety (OHS) issues. The Labor Act 1992 and Labor Rules1993 did not adequately address current OHS problems faced by workers nor did it sufficiently provide

any standard procedure or system to ensure their good health and safety at workplaces. Presently, it is estimated that 11,779 thousand Nepali aged 15 year and more are engaged in one or the other occupation in Nepal. Among tem, 74% are engaged in agriculture and forestry sector where as the rest 26% are in non-agriculture sector (CBS, 2009). It is estimated that each year approximately 20,000 workers suffer from accidents at workplace which lead to about 200 lives lost in Nepal (Pun, 2011).

There is provision of medical insurance and accident insurance in the Labor Act, 2017. Other OHS related provisions included in the Labor Act 2017 are preparation of Safety and Health Policy applicable to each workplace, formation of Safety and Health Committee where 20 or more workers are engaged in any workplace, appropriate safety and health arrangement, disseminating necessary notice, information, and training related to safety, prevention of communicable diseases by preventing workers from joining their regular duty until the treatment is completed, providing expenses for the investigation and treatment of any work-related diseases. COVID-19 Epidemic and the Systematic Captivity (lockdown) Criteria for Public health, 2077 recently approved highlights the public health criteria, rules and regulations to be followed in all institutions and workplaces, such as the need for social distancing, workplace safety, wearing of masks, and frequent hand washing or application of sanitizer where hand washing facilities unavailable.

4.2.7 Archaeological, Historical and Cultural Sites

Surkhet is home to a large and important 12th century Buddhist temple, marked by the remains of the temple at Kakre bihar located on the summit of the hill that dominates the centre of the valley. The carved stones and bronze statues reflect the images of Buddha, and many Hindu gods and goddesses including Saraswati and Ganesh which shows that the people of the region practiced Hinduism along with Buddhism.

Other archaeological remains found in the Surkhet valley includes a series of mounds located in the modern settlement of Birendranagar, in which fragments of bricks are visible. It has been suggested that these date from the 13th century A.D.

Deauti Bajai is a Hindu temple in Birendranagar. Its history is closely associated with the people of Raji society; historically, only the people belonging to the Raji society used to pray in this temple. It is a national heritage site, and the government and municipality are trying to develop and renovate this temple.

Kumakh hill is the highest hill in Salyan District. This hill is also the pilgrimage site for many Hindu devotees. The name of the temple is Siddheswari Mandir which is dedicated to Lord Shiva. Khairabang Temple, at 1600 feet above sea level, this shrine is located in Sarada Municipality. Those devotees who wish to be free of wrath, greed, desire, and envy are supposed to come here. Thousands of devotees assemble twice a year to offer an animal as a sacrifice to Goddess Bhawani Bhuwaneswari.

Dilpeshwar Math, established by King Dilip, the ancestor of Lord Rama and the Shaileshwari temple in Silgadhi, which is situated on the Chandangiri hill in the Manas Khand of Skadpuran of Dipayal Silgadhi, is considered important from historical and religious aspect.

Chapter 5: Potential environmental and social risks and impacts and mitigation measures

5.1 Prevailing environmental and social issues

Proposed project will be implemented in Birendranagar Municipality in Surkhet district, Dipayal- Silgadhi Municipality in Doti district, Shrada Municipality in Salyan district and three rural municipalities of Kalali district. Birendranagar and Dipayal-silgadhi are close to tributaries of Karnali River namely Bheri and Seti (West Seti). Main stem of the Karnali River System within Nepal is pristine and freely flowing[7] from Tibet to the India border where a barrage is built.

Surface water in urban areas is highly polluted by direct discharge of domestic and industrial wastes from carpet washing and dyeing, leather processing and tanning, foam, plastic, and nutrients from agrochemicals in rural areas. Rivers of Kathmandu Valley and many other towns like Birgunj have become biologically dead. Wetlands including ponds and lakes in the town of Janakpur and other towns have become highly contaminated. Water in Terai is contaminated by Arsenic in the range of more than 10-50 µg/l (WHO threshold is 10 µg/l) exposing 2 million population.

Article 30 of Constitution of Nepal 2015[8] stipulated *right to live in a clean and healthy environment* as the fundamental right of people of this country. Further in Article 35 Right relating to health, stipulated that in Sub-Article (4) *every citizen shall have the right of access to clean drinking water and sanitation*.

Nepal internalized the Sustainable Development Goals (SDGs) and mainstreamed these through the 15th Development Plan (2019/20-2023/24). In order to achieve all SDGs Nepal needs, support in finance, technology and capacity building[9]. Set in the national aspiration through the Constitution of Nepal and international commitment to meet the SDGs, the proposed project is very timely and highly relevant to get access to the clean drinking water by Karnali and Sudurpaschim Province people who have been historically left behind from the mainstream national development pathway. Therefore, meeting the Proposed Project Development Objectives (PDO) to *i) strengthen sector institutional capacity for water supply*

[7] Karnali River Management Framework 2019. Available in http://www.nrct.org.np/index.php/karnali-river-corridor-management-project-krcmp/

[8] The Constitution of Nepal 2015. Available to download from Constitution of Nepal 2072 full english.pdf (mohp.gov.np)

[9] Voluntary National Review 2020. Available in Nepal .:. Sustainable Development Knowledge Platform (un.org)

service delivery in selected local governments under the federal systems set forth in Nepal's 2015 constitution, and ii) increase access to improved and climate resilient water supply and sanitation in participating local governments, will positively contribute to the local people's access to safe drinking water and sanitation and hence improving their health.

5.2 Project activities that have potential E&S impact

This chapter deals with the environmental and social risks, potential impacts and mitigation measures. The initial environmental due diligence conducted classified the project as the *Substantial Risk Project*. The project includes four major components as explained in Chapter 2. Anticipated key potential impacts in the project are due to the physical construction works. And bulk of construction work is within component 2. Components 1 and 3 has less environmental footprint and includes measures to augment the beneficial environmental and social impacts. The expected sub-project types under component 2 are rural gravity water supply (spring source, stream source); rural groundwater supply scheme; urban water supply scheme (with pumping station); wastewater treatment facilities. In some places these will be newly installed and at other locations existing facilities will be rehabilitated. These subprojects will have structures like side intake; pumping station, water transmission lines, water reservoirs, sewer lines, water treatment plants, etc. Potential infrastructure subprojects under the project are

- Construction of river intakes; including potential of pumping system in Bheri River for augmenting water to Birendranagar
- Intakes for spring and streams (rural water schemes, gravity system)
- Groundwater pumping for rural community water schemes (in Teri area, Kailali)
- Construction of reservoirs
- Construction of water treatment plant
- Construction of water transmission lines (system)
- Sewer lines
- Construction of faecal sludge and wastewater treatment facilities
- Construction of water quality testing infrastructure (laboratories at Provincial levels and selected municipalities to support water quality monitoring)
- Small scale/ localized construction works related to building resilience through Integrated Watershed Management

While developing these structures, key construction activities involve: site clearance including forest/vegetation clearance, cutting of trees; excavation works, roadside cuttings for water transmission lines, sewer lines; cut and fill of soil; quarry and borrow pits for

construction materials; use of heavy equipment; workers camp site, facilities and supplies management, etc.

The major environmental concerns due to the project include loss and degradation of forests including community forests, landslides, and soil erosions related risks when excavation is needed at hilly fragile slopes, dusts and noise at construction sites, vibration during construction; exposure of workers to occupational hazards and incidents; and pollution from construction and other wastes generated by the project. Other risks include increased traffic movement and congestion in localized rural environments which may cause accidents. The operation of water and wastewater treatment facilities may also pose additional risks and impacts in the form of odor and noise from operations of equipment, sludge production and disposal as well as occupational health and safety hazards including chemical handling. The project, depending on location and service area of specific scheme, envision use of various sources of water including local springs, and streams as well as Bheri River and ground water in the case of rural water scheme in the Tarai (plain) area. Some of these water sources may also serves other purposes. Hence, feasibility and planning of each scheme will consider the various competitive uses of water avoiding water-use conflict.

The details of interventions and scope of construction work is still in early stage. For each intervention, Environmental and Social assessment will require and sub-project level ESMPs will be prepared[10]. Here potential risks and impacts for each component in their respective project life cycle (i.e., pre-construction, construction, and operation phases) are discussed in tables below. These tables have to be read together with Table 2: Applicability of the relevant ESSs for the project for the anticipated specific ESS requirements. For sub-projects category and criteria and requirements please refer to Table 28: Environmental and Social Assessments and Plans for different Categories of Activities, and in Table 29: Stages of Subproject Development & E&S Activities and Requirements.

[10] Detailed impact assessment of each sub-project will be carried out through ESIA, ESMP, EIA, IEE, BES (as applicable)

Pre-construction stage

Table 24: Environmental and Social Risks, Issues, Impacts and Mitigation Measures during Pre-construction

Potential Activities	E&S Potential Impacts and Risks	Proposed Mitigation Measures
Site clearance for construction works, workers camp, materials and equipment yards etc. for the subproject specific activities	Temporary use of private or public land having different land use Failure to obtain necessary consents, permits, No Objections (NOs), can result in design revisions and/or stoppage of works. Labor camp not in place prior to construction	• Obtain all of the necessary consents, permits, NOs, prior to start of civil works. • Develop necessary alternatives designs/programs for avoiding the impact on resources. • Acknowledge in writing and provide report on compliance of all obtained consents, permits, clearance, NOs etc. • Acquire only designated (non-forest/degraded land) and required land • Ensure that workers camp sites with all basic needs (lights, water, sanitation, proper ventilation) at designated area is in place
Upgrading/maintenance of existing utilities	Disruption of public services	• Identify and include locations and operators of these utilities in the sub project specific design documents to prevent unnecessary disruption of services during construction. • Prepare a contingency plan to include actions to be undertaken in case of unintentional interruption of services.
Preparation of environmental and social instruments	Impacts due to subprojects/activities if not properly assessed	• Ensure that all construction will be carried out in compliance with the requirements stated in Chapter 6 comprising screening, site-specific ESIA/ESMPs as per ESMF. • Ensure that the environmental and social impacts are assessed and evaluated and appropriate mitigation/ management plans including the monitoring tools, reporting mechanisms with timeline are prepared • Implement LMP, RPF, IPPF etc. as required

		• Ensure that additional management plans (BMP etc) are prepared. if required • Ensure that sub-project specific ESIAs/ESMPs include proper guidance for contractors to prepare their specific contractor ESMPs, OHS plans, emergency plans, etc.
Sub project specific ESIA/ESMP Implementation	If E&S unit is not established and adequate training is not provided to the team, there is a possibility of the ESIA/ESMP and other specific plans (RAP, BMP etc) not being implemented efficiently and accurately, leading to adverse impacts to environment, workers and community	• Strengthening of E&S system with specified ToR, resources and training with due assessment as explained in chapter 8. • Ensure that personnel at PMU and sub project level are trained in ESIA/ESMP implementation, including standard operating procedures (SOP).
Information disclosure and consultations	Lack of involvement of stakeholders, including both beneficiaries and the people impacted by the project during the preparation phase of the project Impacts on women and vulnerable communities such as Dalits, landless, and Indigenous People in terms of accessibility, affordability, and access to project related information Resistance from locals on site demarcation	• Ensure all stakeholders are informed and consulted during sub project preparation • Ensure SEP is implemented properly • Ensure participation of IPs, women, Dalits and vulnerable group in sub project specific E&S instrument preparation • Qualified Human resources to handle the environmental and social issues are in place • Trainings on OHS, Community Health Safety, COVID safety and protocol in local languages.

Construction Stage

Table 25: Environmental and Social Risks and Impacts during construction and Mitigation Measures

Potential Activities	E&S Potential Impacts and Risks	Proposed Mitigation Measures
Construction of river intake; pumping system in Bheri River	These activities will have potential impacts on: • Water Quality degradation, water quantity reduction and changes in velocity of water course • Air, noise and Vibrations causing pollution • Slope instabilities, landslides, erosions, riverbank cutting • Impact on aquatic and terrestrial flora and fauna • Possible impact on Fishing • Possible impact on rafting • Impacts due to erosion • Impacts due to haphazard disposal of construction wastes and campsite wastes • Occupational health and safety impacts	• Construction of weir, river diversion work is avoided • No heavy equipment's are allowed to enter into river channel • ESIA/ESMP, Biodiversity assessment (including assessment of impact of pumping machinery/noise on wild flora and fauna; installation of fish barriers so that they are not attracted towards the inlet) shall be carried out, • Any obstruction or disturbances in water channel may have impacts on aquatic animals and their habitat, therefore, if any such activities are required then it is recommended for a CIA study. • Labour Management Procedures are in place • OHS plans, Community Health and Safety Plan (CHSP), Cultural Heritage Plan and Chance Finds Procedures are in place as required • Implementation of SEP • GRM is in place
Construction of reservoirs	• Construction of reservoir in community forest area may affect terrestrial flora and fauna • Impact due to alteration of ecosystem services (fuel woods, fodder, any water sources for drinking or	• Proper site selection to be carried out with minimum forest land clearance • ESIA, ESMPs, Biodiversity Assessment etc to be carried out as

Potential Activities	E&S Potential Impacts and Risks	Proposed Mitigation Measures
	irrigation, etc) to locals, marginalized communities and disadvantage groups • Erosion of top soil, landslides and slope instability due to excavation works • Air, noise and Vibrations causing pollution • Occupational health and safety impacts • Campsite Solid waste impacts • Possible Flooding and impacts on drainage system • Increase in disaster risk • Land use changes and loss of agricultural land • Impacts/issues related to stone quarrying, sand extraction etc. • Traffic disruption/ congestions • Obstruction to access and movement • Impacts from Construction debris • Possible resettlement including loss of livelihoods • Possible Loss of or disruption in access to land or ecosystem services or common property	required • Top soil is separately stored, and reused/reapplied after the completion of works to restore the area • SEP, GRM to be implemented • Labour Management Procedures are in place • OHS plans, Community Health and Safety Plan (CHSP), Cultural Heritage Plan and Chance Finds Procedures are in place as required
Construction of water treatment plant	• Impacts due to possible habitat degradation, fragmentation, loss to flora and fauna • Impact due to lack of awareness on using the safety gears, PPEs for their OHS by construction workers • • Impacts due to possible use of chemicals • Impacts due to campsite solid waste • Water use and Pollution • Erosion of top soil, landslides and slope instability due to excavation works • Air, noise and Vibrations causing pollution • Possible resettlement including loss of livelihoods • Possible loss of or disruption in access to land or ecosystem services or common property	• Proper Site selection to avoid habitat degradation • ESIA, ESMPs, Biodiversity Assessment etc, as required are in place • Top soil is separately stored, and reused/reapplied after the completion of works to restore the area • SEP, GRM to be implemented • Labour Management Procedures are in place • OHS plans, Community Health and Safety Plan (CHSP), Cultural Heritage Plan and Chance Finds Procedures are in place as required

Potential Activities	E&S Potential Impacts and Risks	Proposed Mitigation Measures
Construction of water transmission lines (system)	• Traffic disruption/ congestions • Obstruction to access and movement • Degradation/damage/disruption to utilities such as water supply, telephone/underground cables, sewer, footpath, trails, etc. • Construction of transmission line in community forest area may affect terrestrial flora and fauna • Erosion of top soil, landslides and slope instability due to excavation works • Air, noise and Vibrations causing pollution • Impact due to lack of awareness on using the safety gears, PPEs for their OHS by construction workers • Possible loss of or disruption in access to land or ecosystem services or common property	• ESIA, ESMPs, Biodiversity Assessment etc., as required are in place • Look for possible alternatives to avoid densely forested areas • Laying of transmission line should be carried out in degraded forest areas to the extent possible • Regular spraying water in dust pollution prone areas to supress dust level • Follow mitigation hierarchy • Public consultation prior to work and implementation of SEP • GRM in place • Early information to public and traffic management plan, quick restoration of utilities • Labour Management Procedures are in place • Traffic Management Plan, OHS plans, Community Health and Safety Plan (CHSP), Cultural Heritage Plan and Chance Finds Procedures are in place as required
Construction of fecal sludge and wastewater treatment facilities including both sewer systems, Fecal Sludge Treatment Plants (FSTPs) and on-site sanitation.	• Most/all construction related risks/issues/impacts as above • Opposition, resistance from local people • Impacts due to obstruction in public common goods, like roads, shifting of utilities like electricity poles, telephone, internet cables, drinking water pipelines • Flooding and temporary pond during rainy season	• ESIA/ESMP of sub-projects are carried out, as required • Ensure that all stakeholders are informed and consulted during sub project site selection • Early information to public and accelerated implementation

Potential Activities	E&S Potential Impacts and Risks	Proposed Mitigation Measures
	• Haphazard disposal and burning of solid waste from workers' camps • Conflicts between workers and locals • Impact on community health and safety due to exposure to construction materials, chemicals, movement of vehicles, disease vectors from workers camps	• Implementation of SEP, GRM and LMP • OHS plans, Community Health and Safety Plan (CHSP etc are in place as required
Construction and rehabilitation of water supply schemes and sanitation facilities in selected rural municipalities of Karnali and Sudurpaschim Provinces	• Loss of trees and vegetation cover and associated biodiversity • Contamination of surface or ground water quality during boring/ well construction • Impact on availability of water after abstraction of water for the sub-project or drying up of water supply due to over-extraction • Generation of muck/excavated material, other debris and its disposal • Air and water quality deterioration due to dust generation and vehicular emissions during transportation, loading /unloading of construction materials and construction work • Soil erosion, Contamination of water resource due to silt runoff during trenching • Generation of noise due to excavation, other construction works, movement of vehicle and construction equipment • Traffic congestion and disruption to local access due to construction, operation- maintenance work and excavation • Temporary disturbance to household water supply • Impact on religious/cultural properties, utilities • Temporary flooding of adjacent areas due to accidental leakages/bursts • Acquisition of land requirement for water treatment plant • Potential threat to safety of inlet structures, due to flooding and wash outs.	• ESIA /ESMP of sub-projects are carried out as required • Top soil is separately stored, and reused/reapplied after the completion of works to restore the area • Ensure in design that proper drainage management is there in and around every structures/components. • Traffic Management Plan, OHS plans, Community Health and Safety Plan (CHSP), following WBG EHS Guidelines; Cultural Heritage Plan and Chance Finds Procedures are in place, • Implementation of SEP, GRM and LMP

Potential Activities	E&S Potential Impacts and Risks	Proposed Mitigation Measures
Construction of water quality testing infrastructure (laboratories at Provincial levels and selected municipalities to support water quality monitoring); and operationalization of a national water quality surveillance and governance system and integrated MIS. Declare municipalities as 'safe water zones'.	• Environmental and Social risks/ impacts associated with civil works like constructing a building • Impacts due to noise, dust and vibrations creating nuisance to surrounding communities • Impacts due to use of materials containing following • Possible use of hazardous chemicals/materials Impact on community health and safety due to exposure to construction materials, chemicals etc	• ESIA/ESMP of sub-project carried out, as required • Follow Building Code developed by the line authority (DUDBC) • Procurement plan shall avoid purchase and use of potentially hazardous chemicals/materials • Scheduling of work, equipment maintenance to lessen noise/vibration • Use of proper safety gears to deal with dismantling of existing structures during the rehabilitations • OHS plans, Community Health and Safety Plan (CHSP) etc, following WBG EHS Guidelines in place as required • Implementation of SEP, GRM and LMP
Building Resilience through Integrated Watershed Management	• Possible impact on soil and landscape • Possible impacts on biodiversity due to watershed augmentation activities • Possible impact due to selection of species for plantation and slope stabilization	• ESIA of sub-project will be carried out, as required • Preparation of additional plans as envisaged by the ESMF and sub-project specific ESIA • Temporary storage of top soil, recommended species from biodiversity Assessment to be planted for compensatory plantation • Adoption of nature based solutions on controlling gully erosions and protections • Ensure that all stakeholders are informed and consulted during sub project site selection

Operation Stage

Table 26: Environmental and Social Risks and Impacts during Operation and Mitigation Measures

Potential Activities & Locations	Risks, Issues, Impacts	Mitigation Measures
	Operation	
• Operation of river intake in Bheri River bank • Operation of Pumping system in Bheri River for augmenting water to Birendranagar • Operation of intakes for spring and streams (rural water schemes, gravity system) • Operation of groundwater pumping for rural community water schemes (in Terai area, Kailali) • Operation of reservoirs • Operation of water treatment plant • Operation of water transmission lines (system) • Operation of sewer lines • Operation of fecal sludge and wastewater treatment facilities	• Improper handling of chemicals (leachate, disinfecting chemicals, etc) and accidental leakage of chemicals • Land subsidence due to excessive ground water extraction • Increased pressure on public goods and services due to influx of migrants • Delivery of unsafe water during maintenance work • Management of municipal sewerage due to increased supply of water • Management of increasing volume of sludge from water treatment plant • Risks of flooding during the rainy season and contamination of nearby land, water bodies • Bad smell, noise, insects and other diseases vectors will affect in land and property value of the impact zone • Mixing of hospital waste, industrial waste into the sewers will increase the risk of poor performance of the plant, workers and staffs are exposed to high risks of disease vectors • Poor management of sludge will affect the land and water bodies nearby. • Proper handling of chemicals, wastes and safety issues • Impact due to improper handling of chemicals • Impact due to poor sludge management	• Ensure that mitigation options in ESIA/ESMP and specific management plans (if any) are implemented • Prohibition on throwing out medical and industrial wastes into the sewer system • Depending on the chemical content in wastewater, sludge; making manures from the sludge, exploring opportunities for biogas plant, application of treated wastewater in irrigations will help close the waste management loop instead of shifting problem from one location to other. Further this will minimise the GHG emission footprint. • Establishment of proper communication about the water quality to the users • Ensure that operation phase SEP measures are implemented
Water quality testing facilities Installation of water quality testing labs	• Impacts due to improper handling of chemicals, wastes and safety issues	Preparation and implementation of Laboratory Operation Manual
Building Resilience through Integrated Watershed Management:	• Impacts will be mostly beneficial	• Improved Upstream/Downstream water quality and environmental

Potential Activities & Locations	Risks, Issues, Impacts Operation	Mitigation Measures
		flow • Adaptation and mitigation measure against the potential climate related hazards including droughts, floods and landslides • Project positively contributing on employment generation, improved water table, soil fertility and enhance agricultural productions adaptation to climate related hazards, improved water quality, water conservation ponds at headwaters

Chapter 6: Environmental and Social Risk Management Procedures

This section sets out a detailed procedure for the environment and social risk management process to be followed during the implementation of the project activities. The E&S procedures ensure effective integration of the environment and social aspects into subproject design and implementation to strengthen social and environmental risk management and determine the appropriate instrument for addressing the risks. The procedure ensures the compliance of systematic criteria to identify the level of processes involved in environmental assessment, their sequence to conduct the studies for various components/phases of the project, including legal requirements and implications

The Project Management Unit (PMU)at DWSS and Municipal PIU will manage environmental and social risks and impacts of the project throughout its life cycle and in a systematic manner, proportionate to the nature and scale of the project and the potential risks and impacts. The ESMF includes environmental and social guidance including criteria for site selection, planning and design as well as provides for environmental and social screening of all activities that will be carried out, as a first step, to categorize them. Then, conducting environmental and social assessments of the activities using appropriate tools and documenting the results and the mitigation measures to be implemented to manage their adverse environmental and social impacts. The tools to be used for the environmental and social assessment of activities depends upon the category of the subprojects as well as the legal requirements of the country and the ESF and ESSs.

6.1 Environmental and Social Guidance for site selection, planning and design of subproject

- Sites of subproject or subproject components should avoid using the forest areas or other habitat to the extent possible. When avoidance is not feasible, subprojects or subproject components should be sited on lands already converted or degraded or disturbed or close to settlement with risk of human pressure/ encroachment. Location of subproject or subproject components in critical natural habitat is not eligible (see Annex 1: Exclusion list). In the event, subproject or subproject component need to be sited on the natural or modified habitat, subproject must include acceptable mitigation measures including compensatory measures and enhancement measures following appropriate level of assessment of risks and impacts.

- Linear infrastructure such as water pipeline to follow or use road RoW to the extent possible
- If a forest area is required for the development works, alternative analysis must be carried out during the ESIA
- Water intakes at surface water sources (river, streams) to have side intakes, in one bank of river or stream with no dam or barrage or weir or other structure across the full width of the stream or river that may create a barrier for movement of fishes or aquatic life
- Proposed water source should not have unresolved conflict due to competing water uses and/or water right
- Prior to selection of ground water source (shallow or deep aquifer), arsenic content in the ground water quality must be tested to ensure there is no risk of adverse impacts of arsenic in the water and water quality meets the required standards.
- Water quality, particularly biological water quality parameters (e-coli etc) must be tested to ensure that the spring or stream sources proposed for the community water supply scheme meet the drinking water quality standard.
- As part of planning and design of a subproject, there should be an analysis of the options for locations/ sites of the subproject or subproject components considering environmental and social risks and impacts, including loss and degradation of forests/ habitats/ biodiversity, landslides & soil erosion, floods, etc
- Subproject or subproject components should be located adequately away from cultural sites

The sub-project will follow the mitigation hierarchy mentioned in Sub-chapter 6.5 while planning the sub-projects. Further to these mitigation hierarchy, the project will follow the following design guidelines and exclusion list presented in Annex 1.

6.2 Environmental and Social Screening

Environmental and social screening is a step for initial assessment of the environmental and social impacts and risks of project activities. Each proposed activity is first screened to understand potential social and environmental risks, impacts, and concerns, and help to determine the extent and depth of environmental and social due diligence required. The

process of screening identifies the key aspects that may need to be further examined and managed.

1. Objectives of the environmental and social screening process are:

i. To screen the eligibility of the activities against the Exclusion list in **Annex 1**
ii. To preliminarily assess/screen the environmental and social risks and impacts of the proposed activities, assign environmental category and determine applicable Environmental and Social Standards (ESSs) based on the outcomes of the screening; and;
iii. To determine the scope of the assessments and specific instruments/plans to be prepared based on the outcomes of the screening or the level of environmental and social risks and impacts.

This section describes the screening process to determine: (a) the potential environmental and social impacts of an activity; (b) the category of that activity based on the environmental and social factors and, (c) the activity-specific action plan that needs to be prepared as part of activity preparation and planning and prior to its approval or implementation.

6.3 Screening of Subproject

Every proposed sub project will be subjected to an environmental and social screening process before it is selected for implementation, complying with national regulatory requirements, for example, Nepal's EPA 2019 and EPR 2020, as well as the World Bank's ESSs. An environmental and social screening checklist has been developed for the project to be used during screening, please refer to Annex12.

Implementing Municipalities with support from PMU are responsible for environmental and social screening of each subproject and the screening reports will be reviewed and approved by the PMU at DWSS. As the sub projects will be implemented at municipal level, clear guidance will be provided by the PMU to the municipalities to ensure that screening takes place to categorize activities and that all concerned local stakeholders are consulted and involved in the screening process.

To fulfil the satisfactory requirement of the environmental and social study of the respective Subproject/activity pertaining to the national legal provisions, sub project proponents shall refer to the EPR (2020) Schedules 1, 2 and 3, and the relevant guidelines issued by MoFE. The E&S screening report shall be approved by the Environment and Social safeguard section of PMU subject to the prior concurrence with WB.

6.3 Category of Sub-projects

Categorization of subproject activity is essential for early understanding of the type, nature and scale of any impacts. The results of the screening form the basis for assigning the environmental and social risk category of activities and informs decisions on the extent and depth of environmental and social due diligence that will be undertaken. The process of screening identifies the key aspects that may need to be further examined and managed. Activity categorization is essential for early understanding of the type, nature and scale of any impacts.

Category I ineligible sub-project (activities) are for interventions that will not be supported by the Project. See **Annex 1** for this exclusion list.

Category II sub-project are those with significant adverse environmental and/or social impacts that are limited to actual site of the activity and its immediate surroundings and which can be addressed through readily known or readily available mitigation measures. Those activities that are eligible for project support may require an Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA) as per the government regulations. To meet ESS requirements, Category II activities will require preparation of ESIA. If E&S screening indicates physical displacement, preparation of RAPs will also be required. IP issues identified during the screening will be addressed through support measures suggested in the site level IPPs. Other plans may also be required, as determined by E&S Screening e.g. Biodiversity Management Plans. Stakeholder engagement activities will be required in all cases. The safeguard documents for such activities will be reviewed by the PMU and will be submitted to the World Bank for review, no-objection and/or clearance. E&S risk as well as level of assessments required will be agreed with the World Bank.

Category III sub-project are those for which there is a 'moderate risk of impact' which requires preparation of ESMPs to meet ESS requirements. A Brief Environmental Study (BES) may be required to meet the government regulations. An activity is classed as Category III if its potential adverse environmental or social impacts on human and/or on the environment are less adverse than those of Category II activities. Impacts will be limited to a specific site, will be reversible and mitigation measures will be known or can easily be designed.

Category IV sub-project are those that have minimal or no adverse environmental and/or social impacts. For these activities, further environmental and social assessment beyond

initial screening is not required. The screening report for a Category IV activity will recommend mitigations measures for the minor issues/impacts identified. This may be in the form of a good practice code for activity implementation (to be developed by PMU/Municipalities).

Where the ESIA identifies potential risks and impacts on biodiversity or habitats, the project will mitigate those risks by following the mitigation hierarchy and good practices in the preparation of site-specific ESMPs. But where significant risks to and adverse impacts on biodiversity have been identified, a separate Biodiversity Management Plan may be prepared and implemented for the sub-project.

Subproject Category and Relevant Documents

Table 27: Environmental and Social Assessments and Plans for different Categories of Activities

Category of Sub-Project	**Is E&S and Social Impact Assessment Required? (beyond initial screening)** ***WB Requirement***	**Is E&S Impact Assessment Required? (beyond initial screening)** ***National Requirement***	**ESMP required?**	**Comments**
Category I	Not supported	Not supported	Not supported	Not supported
Category II	Yes ESIA	Yes, either IEE or EIA	Yes	May also require an IPP, RAP, ESMPs or other type of specialized management plan (depending on likely impacts).
Category III	ESMP	Brief Environmental Study may be required in some cases	Yes	May also require a RAP, ESMPs and/or other Plans (depending on likely impacts).
Category IV	No	No	No	Use code of practice to mitigate adverse impacts during implementation.

6.4 Environmental and Social Assessment of Sub-Projects

If a sub project falls into Category II, an environmental and social assessment (ESA) will be carried out to assess the environmental and social risks and impacts of the sub-project throughout the project life-cycle. A sample outline of contents of ESIA is presented in the Appendix 6. The assessment will be proportionate to the potential risks and impacts of the

sub-project and will assess, in an integrated way, all relevant direct, indirect and cumulative environmental and social risks and impacts of the activity including those specifically identified in ESSs 2–8 and 10. The environmental and social assessment will apply a mitigation hierarchy, which will:

i. Anticipate and avoid risks and impacts;
ii. Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels;
iii. Once risks and impacts have been minimized or reduced, mitigate; and;
iv. Where significant residual impacts remain, compensate for or offset them, where technically and financially feasible.

Upon the outcome of screening and once the risk level or Category of subproject is determined, one or combination of different tools, appropriate to the nature and scale of the subproject and proportionate to the level of environmental and social risks and impacts, can be used for the environmental and social assessment of the sub-projects. Some of the environmental and social assessment tools that may be used at subproject level include ESIA, ESMPs, cumulative impact assessment, and social conflict analysis.

In determining the environmental study requirements of the Subproject as per Nepal's legal requirements, the project proponent should refer to the EPR (2020) Schedules 1, 2 and 3, and the relevant guidelines issued by MoFE.

The assessment will be carried out to assess the risks or negative impacts of the sub-projects that may have on the physical, biological, and socio-economic and cultural environment and to determine measures for avoiding, mitigating, or offsetting such undesired effects. The assessment will inform decision-makers about the potential E&S impacts of the proposed sub-projects and to suggest and document appropriate and reasonable mitigation measures to mitigate and/or minimize the adverse impacts so that the project can be implemented in an environmentally and socially acceptable manner. The assessment will demonstrate the mitigation hierarchy and will recommend site-specific measures for sensitive receptors. The site-specific measures will be reflected in the detailed engineering design, including technical specifications. The environmental and social guidance, such as avoiding using forest areas or other habitat to the extent possible (and where this is not possible, use already converted or degraded area and location of any subproject or subproject component in critical natural

habitat is not eligible), provided in the ESMF will be used during subproject's site selection, planning and design.

Once the sub-project is identified, the PMU and the implementing municipality will carry out the screening to ensure eligibility for funding. The sub-projects with the potential for causing high environmental and social risks will be screened out. The proponent, PMU and/or implementing municipality will prepare a Terms of Reference (TOR) for the preparation of Environmental and Social Assessment reports including ESMPs ensuring integration of the ESF requirements. The TOR will then be submitted to the concerned agencies for approval. A consultant will then be hired to undertake the E&S assessment in accordance with the approved TOR. If required, RAPs, BMPs, Emergency Response Plan etc will be prepared simultaneously with the Environmental and Social Assessment report including the sub-project specific ESMPs.

The PMU will ensure that all the impacts identified in the environmental and social assessment have been assessed and relevant mitigation measures are adequately provided in the ESMPs and in additional E&S plans, if any. All subprojects E&S assessments shall be reviewed by the PMU E&S Specialists before submitting to the concerned agencies for no objection and/or approval.

The E&S procedures ensure effective integration of the environment and social aspects into subproject design and implementation to strengthen social and environmental risk management and determine the appropriate instrument for addressing the risks. The E& S Specialists of the PMU and E&S personnel from participating municipalities will work together with the design teams for integrating E&S measures in project design. The PMU will ensure that the E&S requirements have been incorporated in the Detail Project Report (DPR) as well as in the bidding and contract documents. This will be reviewed and confirmed by the environmental and social specialists. No sub-project will commence before the required E&S instruments needed for the sub-project are prepared and relevant clearances from the GoN and/ or WB on those E&S instruments are received. The bidding process will start only after the E&S specifications are integrated in the respective sub-project bidding documents. The enforcement, monitoring and compliance check will be carried out by the E&S Specialists during the construction (contract award and commencement of works) and by the local WASH units during operation and maintenance of the project.

Environmental and Social Management Plans

Environmental and social screening of the sub-project will determine whether ESIAs with ESMPs or only ESMPs are required (see Table 28). Category III sub-project will require only stand-alone ESMPs or environmental and social mitigation measures. The ESMPs shall identify feasible and cost-effective measures that may reduce potentially significant adverse environmental and social impacts adequately. The plans also include compensatory measures if mitigation measures are not feasible, cost-effective, or sufficient. The ESMPs will:

- Identify and summarize all anticipated significant adverse environmental and social impacts;
- Describe with technical details each mitigation measure, including the type of impact to which it relates and the conditions under which it is required e.g. continuously or in the event of contingencies, together with designs, equipment descriptions, and operating procedures, as appropriate;
- Provide linkage with any other mitigation plans, e.g. for BMP, RAP or IPP required for the project;
- Determine the monitoring objectives and specify the type of monitoring, with linkages to the mitigation measures described in the plans. The monitoring section of the ESMP will provide (i) a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions, and (ii) monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and provide information on the progress and results of mitigation;
- Provide a specific description of institutional arrangements; who is responsible for carrying out the mitigation and monitoring measures;
- Provide (a) an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans, and (b) the capital and recurrent cost estimates and sources of funds for implementing the ESMP for all three aspects of the program: mitigation, monitoring, and capacity development.
- If required, BMP, RAPs and IPPs shall be prepared simultaneously with the ESIA or ESMP.

The implementation of mitigation measures outlined in ESMPs shall start with process of procurement of concerned works and services. The PMU will ensure that all works contracts will include the ESMPs, and that the cost of implementing the ESMPs will be identified as an item in the Bill of Quantities (BoQ) for the respective contracts of physical interventions for implementing the ESMP. Further, contract documents need to comply with the provision of OHS and Labour Management Procedures, and other precautionary measures for preventing SEA/SH and prohibiting child labour. The key steps for managing any potential adverse impacts of any activity are presented in following table

Table 28 : Stages of Subproject Development & E&S Activities and Requirements

Stage in subproject cycle	Step in assessment process	Required Document
Subproject Identification	Environmental and social screening to determine key risks and impacts Field verification if feasible	Environmental and Social Screening Form / Report
Subproject planning and design (for activities that do not require assessment and only require Guidance)	Consultation with key stakeholders Preparation of Guidance Follow environmental guidance and criteria (Section 6.1) during subproject site selection, planning and design of subproject Ensure integration of guidance into bidding documents	Site specific good practice guidance
Subproject planning and design (for activities that require assessment and preparation of ESMPs to meet ESS requirements)	Prepare ToR to carry out ESIA and/or ESMP and other mitigation plans; ToRs should be approved by the WB. Assessment of the E&S impacts and mitigation measures ESIA/ESMP preparation	ESIA/ESMP, RAP, IPP, BMP as required
Subproject review and approval	Review and approval of reports: Review reports to assess if all possible issues have been adequately addressed to facilitate the decision-making process; decide if project should proceed, or if further alternatives must be examined or be abandoned.	ESIA/ESMP, BMP (if any) IPP (if any) or RAP (if any)
Procurement of works and services	Integrate ESMP, other management plans (e.g. RAP), Code of Conduct into bidding documents if works are to be carried out by contractors	ESIA/ESMP, BMP (if any) IPP (if any) or RAP (if any) Bidding document

Implementation/Construction	Orient/train contractor and other workers/field staff on ESMP requirements Supervise, monitor and report on ESMP compliance Take corrective action where needed	Compliance Monitoring Report
Completion and Operation	Post construction maintenance and operation in line with ESMP	Compliance Monitoring Report

6.5 Cumulative Impact Assessment of Surkhet Valley Watershed

During project implementation, if the environmental and social screening and assessments foresee cumulative risks of the project activities in and around the Surkhet Valley, a Cumulative Impact Assessment (CIA) may also be needed to be carried out to covering watershed- level aspects and considering relevant existing, planned, and reasonably foreseeable development activities within appropriate geographical boundary, e.g. Surkhet Valley including the surrounding watershed of Bheri River and its tributaries. PMU/PSC will organise a meeting with WB team in the early stage of project implementation, in order to decide the need and scope of cumulative Impact Assessment. A stakeholder workshop may also be organized in the process. Should CIA be needed, this will largely be based on analysis of secondary information with limited field work, stakeholder consultations, visioning exercise and long-term sustainability consideration. Some specific/ thematic and focussed analysis, based on the secondary information, may be carried out such as biodiversity, water availability/ balance, landslides, floods, etc) to feed into the CIA The CIA shall consider cumulative impacts that are recognized as important on the basis of scientific concerns and/or reflect the concerns of project-affected parties, and assess potential accumulated impacts over selected Valued Environmental Components (VECs) and propose appropriate mitigation measures. IFC's cumulative Impact Assessment and Management document (IFC CIA handbook 2013) will be the guiding document to prepare the CIA. It includes six steps for the assessment: Step 1 Scoping Phase 1 (VECs, Spatial and Temporal Boundaries); Step 2 Scoping Phase 2 (Other Activities and Environmental Drivers); Step 3 Establish Information on Baseline Status of VECs; Step 4 Assess Cumulative Impacts on VECs; Step 5 Assess Significance of Predicted Cumulative Impacts; Step 6 Manage Cumulative Impacts (Design and Implementation). Based on these six step approach, please refer Annex 7 for an indicative TOR of CIA.

Chapter 7: Stakeholder Engagement and Disclosure

7.1 Objectives

This chapter describes stakeholder engagement that has been designed to achieve effective stakeholder involvement and to promote better understanding of project goals and activities among the stakeholders. The project aims to deploy the following principles while undertaking consultations:

- Promotion of easiest means and modes of communication
- Openness to the true state and plan of the project
- Ensuring effective and deep-rooted involvement of all stakeholders in the preparation and implementation of the project
- Applying strategies and techniques that provide prompt and adequate opportunities for all stakeholders to get involved in the project; and
- Evaluating the effectiveness of the engagement plan against the expected outcomes.

7.2 Stakeholder Identification and Categorization

Regarding the key stakeholders – both affected and interested parties - that have been identified, and will be informed and consulted about the project, including individuals, institutions, interest groups, and local communities. Indigenous people as well as vulnerable and disadvantaged groups in the project locations have also been identified, recognizing existing limitations on the ability of such groups to access relevant project information and the opportunities that may come through the project. These stakeholders were identified using the following criteria:

- **Dependency:** individuals or groups significantly dependent on the project or ongoing operations, and who stands a chance of being further affected by the proposed project in economic, financial, or utility terms.
- **Representation:** Individuals or groups with the right to be represented in the project or ongoing operations, and this right is legitimated through legislation, custom and/or cultural specifics.
- **Influence:** Individuals or groups who may be able to substantially influence the project planning, implementation, or ongoing operations.
- **Liability:** Project implementation or ongoing operations may result in legal, financial, or other liabilities of the project to a social group.

- **Partnership:** There are opportunities for building partnerships between the project and a given social group in the framework of the project implementation or ongoing operations.
- **Expressed interest:** A social group and/or individual may express interest in a project or ongoing operations, and this group is not necessarily directly affected by the planned or current activities

Stakeholder are categorized as

- Project-affected and beneficiary parties: They include individuals, groups, and entities within the project's area of Influence that may be directly impacted by the project activities e.g. indigenous and vulnerable groups such as Dalits, elderly, physically and mentally disabled persons, landless people, single mothers, adolescent girls, minority communities, and the children,
- Interested parties: These include Government officials (elected and non-elected), regulatory, and permit awarding agencies at the federal, provincial, and local levels, Leaders of informal or traditional community institutions such as women groups, Dalits Samaj, water consumer groups, village councils, NGOs and CBOs at national, provincial, and local levels on the welfare and rights of indigenous people and vulnerable groups such as Dalits and other minorities, gender/GBV issues
- Other Interested Parties: These include I/NGO, Development Partners, contractor, subcontractor, service provider, media, province level- (social development ministry, Economic Affairs and Planning Ministry, Planning Commission, Ministry of Industry, Tourism, Forest and Environment) and District Forest Office, Provincial and local level NGOs, Right Groups, Activists, Provincial and local level NGOs, Right Groups, Activists, FM Radios, print and digital portals, television channels, IEC materials, pamphlets, Infrastructure Development and District Road Office

7.3 Strategic engagement with vulnerable groups

Poor and vulnerable groups (VGs) are targeted under the project, specifically under Component 2; however there is a substantial risk that the poor and vulnerable aren't adequately included in project benefits. These vulnerable groups include the elderly, disabled, IDPs/refugees, indigenous groups, sexual/gender/ethnic and religious minorities, and those living in remote hard to reach areas.

7.4 Stakeholder Engagement Strategy

Based on Sub project categorization SEP will provide the engagement strategy. An example is shown in Table below.

Table 29: Stakeholder Engagement Strategy

Stakeholder	Engagement Strategy
Project affected and beneficiaries parties	• Identify stakeholders in this group • Maintain contact details of the individuals/institutions categorized in the group and update it regularly • Maintain regular and close contacts • Organize pre-informed quarterly consultation meeting • Provide updates about the project including the past and upcoming ones
Interested parties	• Regular contacts with individuals/institutions categorized in the group • Response when quarries and concerns are raised • Organize pre-informed half-yearly consultation meeting • Provide updates about the project including the past and upcoming ones • Organize household visits to Dalits, female-headed households, people with disability and elderly with mobility difficulties, and households of minority religious groups to ensure they are aware of project developments. • In case of language issue, organize consultations in local IPs language to that they understand the project activities and able to provide comments, feedback, and raise grievances. • Make sure that vulnerable and IP groups are adequately informed about the consultations at least one week before the scheduled date • Organize FDGs to understand their peculiar risks and concerns
Other Interested Parties	• Maintain close contact with individuals/institutions categorized in the group and update it regularly • Ensure consultations are organized in appropriate manner and make sure time and location of consultation are appropriate to their needs.

7.5 Engagement Tools

In order to engage the stakeholder effectively throughout the project lifecycle, the project aims to use various tools. Tools will be implemented with the potential COVID 19 restrictions (refer **Annex 2**) that are applicable at the time being adhered to. These tools will not be used for all stakeholder groups, but one or more may be used for a stakeholder group depending on their needs and requirements:

Engagement during preparation:

- Group consultation
- Training, seminar, and workshop
- Electronic publications
- Information leaflets and brochures

- Cluster meetings with provincial authorities
- Face-to-face or virtual meetings, webinars
- Telephone calls, emails, and SMS
- Information boards, leaflets, and brochures
- Regularly updated project information on the MoWs/ DWSSM website
- Periodic small group meetings with vulnerable and IP groups
- Regular contacts with the representatives of IP and vulnerable groups through phone calls, emails, text messages

Engagement during project implementation:

- Sharing project update and reports through emails and meetings
- Electronic publications as well as dissemination of hard copies
- Virtual/face-to-face consultations provincial authorities, with local municipalities and ward offices
- Information boards, project websites, project leaflets and brochures
- Periodic face-to-face/virtual meeting with project stakeholders
- Distribution of electronic publications, and Dissemination of hard copies (Information will be provided in Nepali and local languages
- Public notices
- Press releases in the local media and on the project website
- Airing messages through community radio,
- Periodic small group meetings with vulnerable and IP groups by adopting COVID protocols
- Regular contacts through electronic means, such as phone calls, and emails, text messages
- Information sharing from local level offices

7.6 Proposed Strategy for Information Disclosure

All relevant documents of the project, including the ESMF, RPF, IPPF, SEP, ESCP, and ESRS, among others, will be disclosed and made accessible to all stakeholders. The information will be disclosed through all possible means, ranging from face-to-face and virtual consultations with the project stakeholders, distribution of hard copies, posters, leaflets, and brochures, through social media, DWSSM and project website and local media so that the documents are accessible to all project beneficiaries of the project, including those

in residing in the remote areas. Please refer section 4.3 of SEP for proposed strategy for information disclosure.

7.7 Stakeholder Engagement Strategy During COVID-19 Crisis

Given the COVID-19 pandemic, which has greatly limited people's movements and ability to gather, specific and targeted approaches will be necessarily adapted to ensure that all the project stakeholders, including the vulnerable and marginalized groups, have meaningful participation in the decision making and implementation of the activities. The SEP also includes considerations for virtual consultations, in a manner consistent with the World Bank technical guidance on "Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints on conducting public meetings" when and where face to face consultations are not feasible. The different engagement methods have been proposed taking into account the continued risk of the infectious disease. The project will adopt the following approach to minimize the risk:

1 Review the infectious disease situation in the project area and the measures taken by the government to contain the disease
2 Review the existing approach and methodology for engagement activities
3 Avoid face-face-meeting where possible
4 Where direct engagement with stakeholders is required, consider direct communication such phone calls or other online platforms
5 Where face-to-face meeting becomes necessary, adhere strictly to the health guidelines and the protocols issued by the government, WHO and the World Bank
6 Ensure that all standard hygienic behaviors, such as social distancing, use of facemask and hand washing, among other are followed
7 Ensure that all the project associated staff understand a new set of social behavior and good hygiene practices as prescribed by COVID-19 guidelines and all consultations is preceded with the procedures of articulating hygiene practices.

7.8 Summary of Previous Stakeholder Engagement Activities

Preliminary consultations have carried out engagements with various key institutional and community stakeholders including federal government ministries, authorities of provincial and municipal authorities, Water Supply Users Committees, Divisional Forest Authorities, and Forest User Groups. Through these engagements, the government disclose early project concepts and objectives, noted their ideas, suggestions and concerns which are being used to

inform the project design. Given the prolonging COVID-19 situation and the restrictions on travel and public gathering, the PMU was unable to share the draft of the SEP with wider stakeholders and get their feedback. However, the PMU is committed to sharing the draft SEP with the identified stakeholders of the sub-projects and making appropriate revisions based on feedback and concerns, if needed, before the implementation of the project. In addition, the PMU will also consult with the vulnerable groups, such as Dalit and IP communities to apprise them about the SEP, incorporate their appropriate concerns and feedback and engage them in the process of implementing the ESMF and the SEP. Please refer Table 2.1 of SEP for detailed information on the previous stakeholder engagement activities.

7.9 Grievance Redressal Mechanism (GRM)

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

7.9.1 Objectives of the GRM

The main objectives of the project GRM are to:

- Provide affected people with avenues for lodging complaints or resolve any dispute that may arise during the course of the implementation of the project
- Ensure that appropriate and mutually acceptable redress actions are identified and implemented to the satisfaction of complainants
- Avoids the need to resort to judicial proceedings (at least at first); and,

In the case of indigenous people, the project will ensure that there are culturally appropriate and accessible means by which IPs can lodge complaints for redress, taking into account their customary dispute settlement mechanisms.

7.9.2 Grievance implementation procedure

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

- Means and ways to inform and educate stakeholders about GRM procedures

- Receive, register, and acknowledge the grievance.
- Review and investigate the grievance
- Develop resolution or escalate the grievance
- Report back on the grievance, and
- Implement, monitor, and evaluate the functioning of the GRM.

7.9.3 Grievance Redressal Mechanism (GRM) System

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

Level 1: This is based at the project locations in the participating municipalities and will serve as entry points for all complaints related to the project. Once the grievance is registered, it would come into the Level 1 of the GRM system. The Level 1 GRM committee will be led by the Chief of the existing Water Supply Users Committees (and later WASH Units when constituted) at the partnering municipalities and supported by the E&S staff and a technical engineer at the municipalities. Together, these officials constitute the members of the four-member local level GRM committee. If required, the Level 1 GRM committee may seek support from the Judicial Committee (section 5.6 provides more information about the committee) at the local level.

Level 2: If the complainant rejects the resolution of Level 1 or the GRM Committee remains unable to make any resolution within the stipulated time, the grievance will be scaled up to level 2 of the GRM system. The Level 2 GRM committee, which will be based in the PMU of the DoWSSM, will be headed by the chief of the PMU, and supported by the Social Development Specialist at the PMU and another person assigned by the PUM head. The three-member committee can seek supports from other experts or institutions in course of investigating and resolving complaints.

If the complainants remain unsatisfied or reject the resolution provided by the Level 3 GRM, they will be advised to seek recourse through the courts or any formal system available.

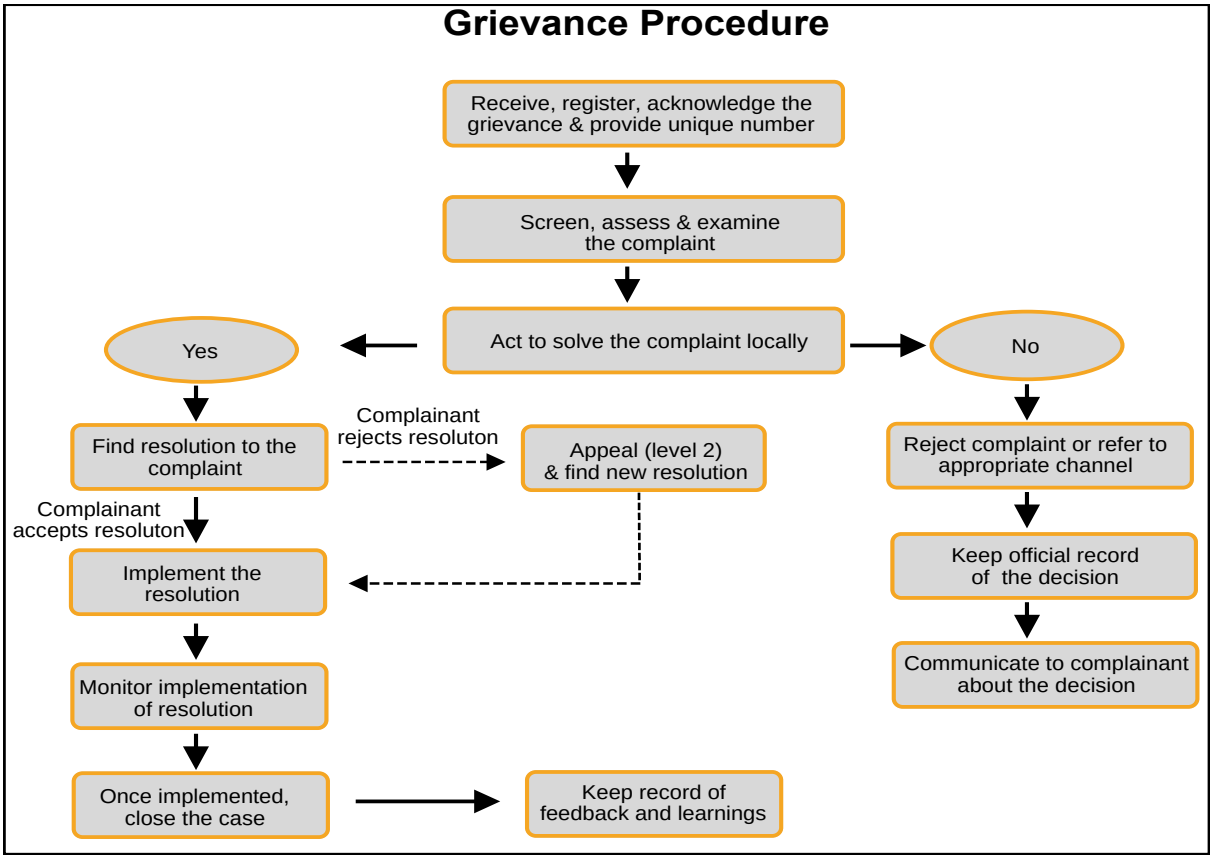

Figure 2: GRM System

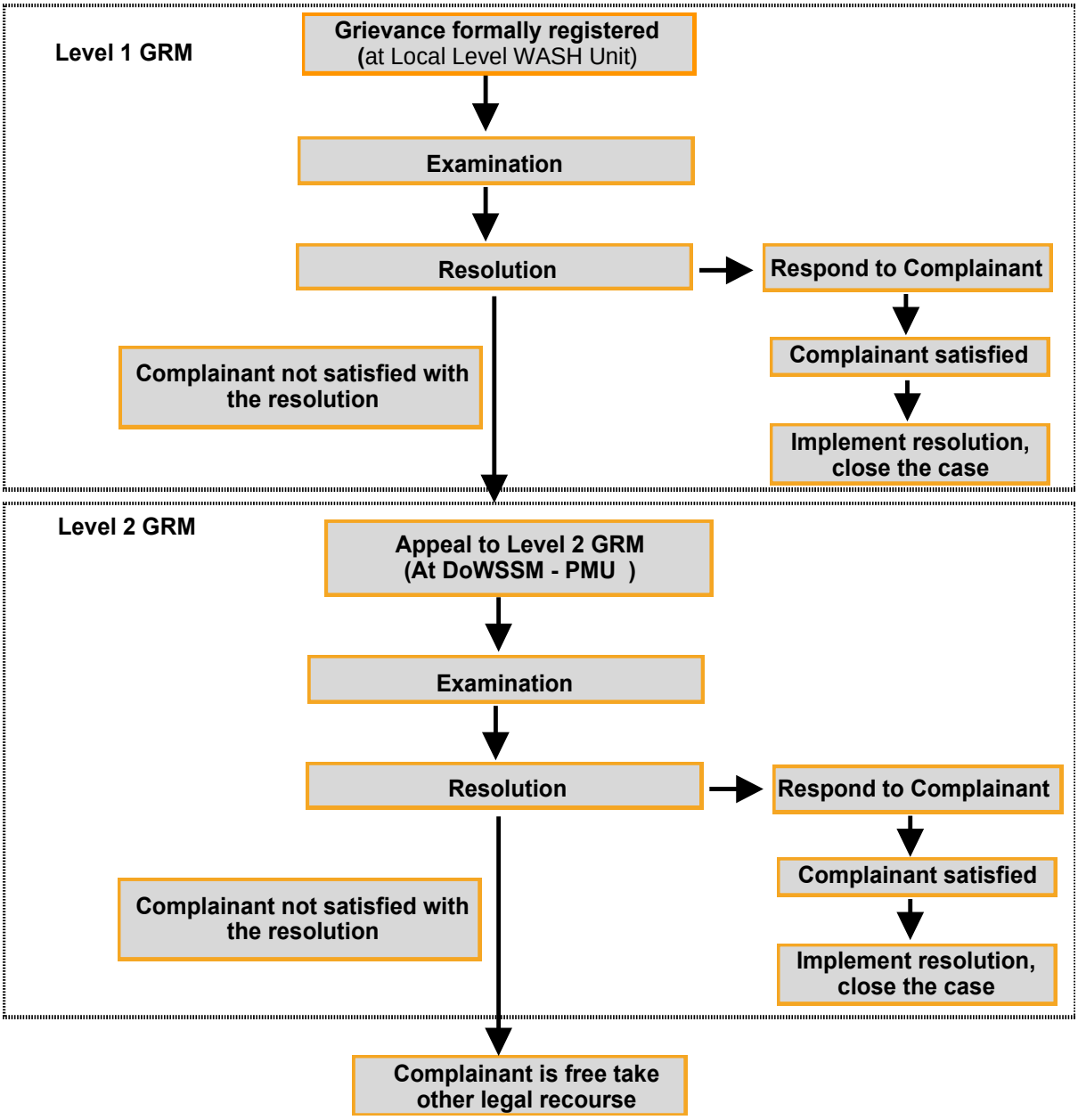

Figure 3: Key steps and procedures

7.9.4 GRM in COVID-19 Crisis

In addition to the standard approach of handling and processing the grievances and complaints, due to the continued threat of COVID-19, the project will deploy modern means and tools to allow stakeholders to officially file complaints and grievances against the project activities. In addition to the project website and social media platforms that will enable the complainants to directly upload their complaints and grievances, the project will deploy a system that will allow the complainant to register grievances by directly making a call to social Safeguard specialists at the PMU. Moreover, the project will explore an option to introduce a digital grievance filing system through which complaints can be filed through the

internet into a designated webpage of the project. Once the complaint or grievance is received through the website, social media, or direct calls, the E&S Safeguard specialists at the PMU will forward them to the concerned E&S staff at the participating municipalities and the staff will ensure the registration of such complaints or grievances into the GRM system as explained Section 5.3. In addition to the registration, the E&S staff at the LL will also maintain a grievance registry and will officially close the grievance once it is solved by using the forms given in Appendix 3.

7.9.5 Use of the Existing Dispute Resolution Systems

In addition to the GRM system explained above, the project will also explore the possibilities of seeking support from the existing system at the local levels in course of resolving the project-related grievances. Article 117 of the Constitution of Nepal, promulgated in 2015, prescribed a three-member Judicial Committee at the local level coordinated by its Vice-Chairperson in the case of a Rural Municipality and by its Deputy Mayor in the case of a Municipality, to settle disputes under their respective jurisdictions in accordance with the law. The Local Government Operation Act, 2017 provides the operational guidance and scope of work of the Judicial Committee.

7.9.6 Grievances about GBV

The existing GRM put in place for the project will also be used for addressing GBV and SEA/SH-related issues and the PMU at the DoWSSM will oversee GBV related complaints. The project will place its uppermost priority on handling and managing the GBV related grievance by maintaining full confidentiality of the survivor The PMU will put in place necessary mechanisms for confidential reporting with safe and ethical documentation of GBV issues at the canter and local level. The first responders of the grievances in relation to GBV will be the E&S staff of the participating municipalities and the staff will be trained on managing and handling such grievances. GBV referral pathway will be established and communicated to both PMU at the DoWSSM and local level. Further, the GRM will also put in place a systematic to immediately notify both the PMU and the World Bank of any GBV complaints, with the consent of the survivor. As per the requirement of the World Bank, the PMU, in support of the World Bank, will prepare and implement the SEA/SH Action Plan before the implementation of the project.

Chapter 8: Project Implementation Arrangements, Responsibilities and Capacity Building

8.1 Overall project management and coordination

Federal level: The project will have an Intergovernmental Project Steering Committee (PSC) led by the secretary of the Ministry of Water Supplies (MoWS) at the Federal level and one of the major tasks of the committee will be to ensure collaboration and coordination between the three tiers of government and other key stakeholders. Similarly, there will be a Project Management Unit (PMU) at the DWSSM and the PMU will be tasked with overall financial management and reporting along with channeling the resources to the implementing agencies at the participating municipalities and will also is responsible for the implementation of Component 1. In addition to a Social Safeguard Specialist, the PMU has recruited an Environment Safeguard Specialist (ESS), who assumes overall responsibility for effective implementation of the ESMF, monitoring, consultation activities, and reporting quarterly on the implementation of the ESMF to the World Bank and DoWSSM. The ESS Specialist will be assisted by a Social Safeguard Specialist to ensure an effective implementation of ESMF. Looking at the complexity and high risk work, environmental and social mobilizes are proposed for Birendranagar PIU. They will help in day to day oversight and monitoring during implementation, thus ensuring compliance.

Provincial Level: There will be an Intergovernmental Project Steering Committees (PSCs) at the provincial level with representation from federal, provincial and all participating municipalities. Provincial Ministries of Physical Infrastructure and Urban Development will be responsible for providing technical supports to municipalities for the implementation of Components 2 and 3. The Soil Conservation and Watershed Management Office of the Karnali province will provide technical support on watershed management and conservation activities under Component 3.

Participating municipalities: The Municipal Social Development unit (and later the WASH units yet to be established) will be responsible for the implementation of consultation activities, managing project-related complaints and grievances, and supporting community mobilization efforts of the project. Existing staff at the Environment section will be trained by the World Bank, and units without staff will be supported by the project to recruit dedicated E&S staff to be responsible for the implementation of the project-specific ESIA and other E&S safeguard instruments. In effect, the E&S staff at the participating

municipality will be responsible for managing E&S issues of the project at the participating municipalities, with technical support and guidance from the E&S specialists at the PMU. The E&S staff in support of the current heads of the various Water Supply Users Committees (and later WASH units when established) chiefs will be responsible for providing monthly ESMF implementation and status reports to the E&S safeguard specialist at the DoWSSW. The organizational structure will be reviewed periodically to ensure the effectiveness of SEP implementation

Organogram of E& S activities related to the project

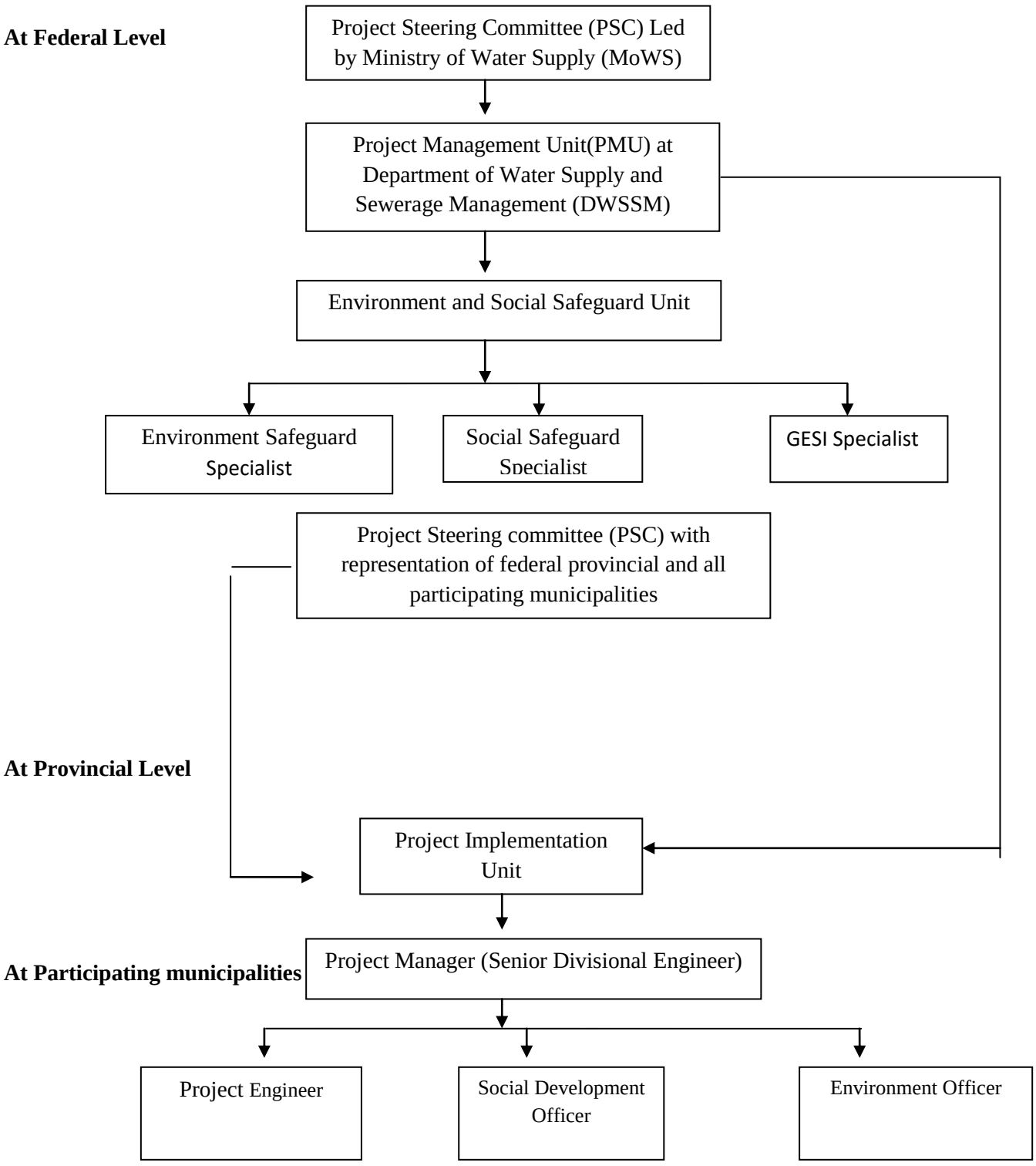

Figure 4: Organogram of E & S activities related to the project

8.2 Responsibility for Implementing and Monitoring the ESMF

The Environment Safeguard Specialist, Social Development Specialist in the PMU will be the focal points for environmental and social matters and will be responsible for implementing and monitoring the ESMF, and other relevant management documents including the ESIA, ESMP, at the Federal Level. At the Province level, this responsibility will lie with the Province level PSCs. At Participating municipalities E& S Staff will be responsible for the implementation of ESMF. List of Expert will be required for the implementation of ESMF is shown in Table 31.

Table 30: List of expert/ professional needed for the implementation of the ESMF

At Federal Level		
S.N	**Designation**	**Station**
1	Environment Safeguard Specialist	PMU
2	Social Development Specialist	PMU
3	Gender Equity and Social Inclusion (GESI) Specialist	PMU
At Participating municipalities		
S.N	**Designation**	**Station**
1	Environment Officer	Participating Municipality
2	Social Development Officer	Participating Municipality
3	Environmental and Social Mobilisers (2 PP, only for PIU Birendranagar)	Birendranagar Municipality

Table 31: Roles and Responsibility of Related Units/Agencies and individual

Key units/agencies	Roles and responsibilities
Project Steering Committee (PSC)	• Ensuring collaboration and coordination between the three tiers of government and other key stakeholders.
PMU (DWSSM-based)	• Ensuring necessary financial and human resources at all levels for preparation of E & S instrument and effective implementation of E&S management plans including IPP, RAP, LMP etc • Ensuring the project activities as per the various guidelines and directives issued by the government and other related organizations, including COVID-19 management protocols.
Province level Intergovernmental Project Steering Committees (PSCs)	• Liaising with PMU staff to support and monitor participating municipalities' activities. • Monitor progress of project activities in the field.
Provincial Ministries of Physical Infrastructure	• Providing technical backstopping and support to municipalities for the implementation of Components 2 and 3, taking into consideration community concerns

Development	
Environment and Social Development Units at Municipal Assemblies (and later WASH units when constituted)	• Prepare ESIA, ESMP, IPP, RAP, LMP in coordination with PMU and monitor the activities during the implementation phase
Host/Local community	• Participate in consultations and information disclosure programs • Provide feedback on project related documents disclosed for public scrutiny

Table 32: Roles and Responsibilities of Individual/expert

Key staff/expert	Responsibilities
Project manager (PMU- DWSSM)	• Responsible for monitoring and supervising the overall implementation of Environment and Social Safeguard documents, including managing financial resources and supporting logistics, and preparing and disseminating quarterly ESMF implementation reports.
E&S Safeguards specialist (PMU- DWSSM)	• Coordinate and oversee E&S activities required under the project. • Review (and where required, conduct) environmental and social screening conducted by the participating municipalities. • Facilitate the preparation of environmental and social instruments, such as ESMPs. • Prepare quarterly ESMF/ESMP monitoring and compliance/implementation reports. • Communicate with the World Bank on environmental and social-related matters. • Design and deliver relevant capacity building and training, including on the World Bank ESS's, to effectively implement the ESMF to relevant project staff and stakeholders. • Ensure the implementation of environmental and social management plans, and functioning of the Grievance Redress Mechanism (GRM). • Address E&S risks and impacts including monitoring of the implementation of all E&S instruments, community health and safety measures. • As per the SEP, ensure the implementation of periodic stakeholder consultations, information disclosure and addressing feedback received from stakeholders. • Liaise with other government and non-government agencies at

	the federal, provincial and Local Government to implement the ESMF and other management documents including the ESCP and SEP
E&S Staff (Participating Municipalities)	• Ensure implementation of the ESMF/ESIA and other E&S safeguard instruments at the participating municipalities' project activity. • Undertake environmental and social screening of potential subprojects and determine level of assessment required such as EIA/IEE, ESMP • Implement and monitor the mitigation measures as envisaged by the EMSP. • Organize periodic consultations with the project stakeholders including strategic engagement with the vulnerable groups. • Ensure regular dissemination of project-related information at the participating municipalities. • Ensure smooth functioning of the GRM system. • Support the PMU in reporting and implementation of the ESMF, ESCP and SEP. • Provide project related information and data to province level coordination for the purpose of monitoring project activities. • Liaise with local government and provincial-level governments and other agencies on the issues related to implementing the ESMF/ESIA and SEP. • Organize capacity building and training for the participating municipalities' staff.

8.3 Capacity of DWSSM and other agencies in the implementing of ESMF

Nepal has promulgated the EPA and EPR in 1997 and these legal instruments are pioneer in gifting the world, community led successful conservation programs like ACAP, MBCP, etc. however, these instruments and their successive amendments and replacements (EPA-2019, EPR-2020) are still struggling to establish and integrate environmental thinking in main governance stream in the country. One of the key failure is the delay in recruitment and mobilization of environmental inspectors in each districts (77 districts). The enforcement and compliance check of these legal instruments was largely dependent on these inspectors, after more than 20 years, it is still not fulfilled. Today, the onus of approving environmental assessment and checking compliance of major development works in the country is with MoFE and its department DOE with limited human resources. It does not have other

functional units, neither in other ministries nor in Provincial ministries and local municipalities.

Karnali and Sudurpaschim Province recently enacted the provincial EPA and EPR. However, these provincial legal tools are silent on implementation aspects, monitoring aspects, these are not clear on roles and responsibilities. At municipal level, there are provisions of environmental person but these are mostly defacto solid waste management focal person with no any environmental background.

At all three (federal, provincial, and local) levels, there is inadequate knowledge, skill and resources to satisfy the mandatory environment and social safeguard requirement of the World Bank. As NWGIP is the first endeavor of DWSSM to work with the World Bank as an implementing agency, DWSSM does not have an elaborate knowledge and skills required during the operation of an ESMF. Though there is a dedicated Sewerage Management and Environmental Sanitation Section existing in the DWSSM, it only looks after onsite and offsite sanitation sectors and there is no designated position for looking after other environment and social safeguard issues. Similarly, ESMF is an entirely new approach for the participating municipalities, rural municipalities as well and they do not have sufficient experience and capacity to deal with environment and social issues. Hence, intensive capacity building and training will be inevitable to carry out effective implementation of the project.

Thus, throughout its different phases, the project will finance and carry out capacity building programs at federal PMUs and participating municipalities PIUs, in coordination with different government agencies. These programs will help to strengthen environment and social aspect of the project thereby minimizing the adverse impacts and comply with the applicable rules and regulations of the GoN. Under the proposed capacity building activities, the PMU and the municipal-PIU, and the E&S consultants, will receive trainings on the World Bank ESSs including on ESMF implementation. In addition, contractors associated with the project including their workforce will train on ESMF compliance and OHS considerations. The project shall provide the following training to the E&S Specialists and focal persons as well as key personnel in the PMU and municipality:

- Familiarization Training for the ESMF, RPF, SEP and IPPF etc to be held at the start of the project implementation;
- Familiarization Training on the World Bank ESF;
- Training on preparation of the ESIA, RAP and IPP

- Training on Nepal Labour Act, focusing on worker's rights and Occupational Health and Safety Standards;
- Training on the project's Grievance Redress Mechanism.

After conducting the above-stated training and orientation activities, the PMU in support of the World Bank will undertake an in-depth assessment of the capacity of the participating municipality in implementing the ESMF/ESIS and other E&S safeguard instruments. The PMU may explore the possibility of the hiring dedicated E&S consulting services for selected participating municipalities for a specific time-period, if the assessments inform the requirements of such supports.

Table 33: Planning for Capacity Building Training

Training program	Targeted Audience	Conducted by	No. of training program
WB ESSs including implementation of the ESMF, management procedures, consultation and GRM, monitoring and reporting, OHS	PMU, Provincial project monitoring agent and LG-PMU	World Bank	One training program as soon as the E&S staff is onboard Refresher after one year or as needed
WB ESSs and implementation of E&S management plans	Staff of municipalities including Contractor and consultants' team	PMU	First session prior to the execution of the project and there after yearly
Training on OHS and SEA/SH	PMU staff, Staff of executing agency at the municipality	Consultant	Two training sessions during project life cycle
Training on stakeholder engagement and GRM management	Municipal Staff	PMU	Two training sessions during project life cycle

Chapter 9: Monitoring, Supervision and Reporting

9.1 Monitoring and Supervision System

Environmental and Social Risk Management as a part of the contract

The environmental and social safeguard requirements and documents including assessments, management frameworks, management plans, action plans, checklists, indicators, etc. and all recommended management, mitigation and augmenting measures will be integrated in to the design of the project and it is binding to all parties. This will enhance the mitigation measures in terms of specific mitigation design, cost estimation of the mitigation measures and specific implementation criteria. Integration of mitigation measures in the design phase will help in strengthening the benefits and sustainability of the project. The design and development contracts will include at least the following commitments:

- Design, construct, operate, maintain and monitor the subprojects in compliance with the specified applicable E&S requirements.
- Implement the environmental and social mitigation measures specified in the IEE/ESIA-ESMP prepared based on ESMF, including all conditions stipulated in the ESMP and other relevant plans prepared based on the process of identification of E&S risks and impacts pursuant provisions to the ESMF, GoN requirements, World Bank's ESF and applicable ESSs . The project sponsor will also ensure that adequate E&S contracts are included in their bidding and legal documentation with contractors, vendors and suppliers, as needed.
- Use all reasonable efforts to ensure that the environmental and social performance of the subproject is in compliance with the applicable E&S requirements during implementation, including E&S monitoring.
- Provide periodic E&S performance reporting (monthly, quarterly, semi-annual, and annual) to the PMU - and the World Bank according to an agreed template within a specified timeframe.

The tender instruction to bidders will explicitly mention the site-specific mitigation measures to be performed, the materials to be used, the specified and excluded sites for material retrieval, labor camp specifications, arrangements, labor influx management and waste management and disposal areas, as well other site-specific environmental and social requirements. Such a definition would clearly exhibit the cost requirement to undertake

mitigation measures, which otherwise might be lost as the bidders in an attempt to be more competitive may not include the price realistic enough to fund mitigation measures and other protection measures.

The project contractor, vendors and suppliers will be bound by the parameters of contractual clauses which will be identified through ESIA studies pertaining to specific mitigation measures in the subproject. Measures will be taken to ensure that the contractor is aware and understand the respective contractual clauses and obligations. The final acceptance of the completed works will not occur until the environmental and social clauses have been satisfactorily implemented. Role of contractors will be to ensure compliance with ESMP/ESIA/ ESMF, if any sub-contractors will be hired. Lead contractors are responsible for all their subcontractors work and they must adhere to all environmental safeguard measures including ESMP/ESIA/ESMF. Zero tolerance for child/forced labor, gender- based violence, community H&S, equal wages, labor camp standards for contractors/subcontractors, will be well- articulated and communicated to the laborers and others.

Contractor will demonstrate its commitment towards environmental and social safeguard by submitting an environmental and social management plan and submitted to the respective PIU within XX days of contract signing. This applies to subcontractors too. The subcontractors report to the main contractor regarding their E&S compliances on regular basis.

Contract Monitoring

Contract monitoring is a major part of the ESMF to ensure its goals and objectives are adequately met. The environmental and social safeguards implementation will be monitored internally and externally. The safeguards staff (E&S) within Municipalities (PIUs), Design and Supervision Consultants (DSCs)/Construction Supervision Consultants (CSCs), and PMU will monitor the project site in the Pre- construction, construction and operational phase of project to ensure that all environmental and social issues related to each subprojects are well addressed and comply with the requirements mentioned in ESMF. Due to limited capacity of MWS and lack of experience to work with the World Bank's Environmental and Social Framework, PMU will hire environmental and social experts who will technically support PMU and monitor the environmental and social safeguard implementation measures. The PIU/DSC/CSC team will prepare monthly, quarterly progress reports and submit them to

PMU/PCO. PMU/PCO will prepare semi-annual monitoring reports (covering all sub-projects under bidding/construction/operation) and submit to the World Bank. Capacity development training needs on E&S implementation will be assessed and provided to respective PIUs. The reports will cover ESMF/ESIA/ESMP implementation, focusing on compliance and any needed corrective actions. As mentioned earlier, public consultation will be conducted as necessary during preconstruction, construction, operation phases. Required human resources, key units, involved organizations and their roles and responsibilities are presented in the table 31, 32 and 33

9.2 Project level Monitoring and Supervision

A PMU will be established in Ministry of Water Supply under DWSSM and will be the lead agency responsible for operationalizing the project, for managing day-to-day operations, for putting in place required operational set up, conducting monitoring of the project activities and disseminating periodic monitoring and other assessment reports associated with the project. Among other staffs, the PMU will include an environmental specialist, social development specialist, and a Gender/GBV Specialist. The PMU may consist of government employees or contractual staff selected competitively and paid through the project (detail in Chapter 8). Due to limited capacity of MWS and lack of experience to work with the World Bank's Environmental and Social Framework, PMU will hire environmental and social experts who will technically support PMU and monitor the environmental and social safeguard implementation measures.

9.3 Local Level Supervision

Selected Municipalities and Rural Municipalities are main implementing agencies of this project and they are the Project Implementation Units (PIUs). Among others an environmental and social staff will be in the team to look after the environmental and social aspects and later they will become part of WASH units in the respective municipalities. PIUs through DSC/CSCs will be responsible for the implementation of the project activities at the local level and monitoring and evaluation of the project activities. PIU safeguard staffs are to be supported and monitored by the Project and provincial team. The PMU will provide technical assistance support in all aspects of project activities.

9.4 Provincial Level Monitoring

In the previous District level government structure, there used to be a Water Resource Committee (*Jilla Jal Shrot Samittee*) which was formed including most of line offices of

concerned ministries at district level and lead by CDO/LDO. This committee was active in allocating, prioritizing water resource and coordination among line agencies and recommending concerned ministry for licensing or other development activities. In the current governance structure, this committee is almost no existing. Therefore, at the provincial level, there is a need of province level coordination through a line ministry to support monitoring and coordination activities across sectors, and technically backstopping local governments.

9.5 Key Monitoring indicators

Table 34: Key Monitoring Indicators

Components	**Source/Indicator**
Physical Environment	
Geography	• Geographical information of project area • Location, physiography, geology, slope and elevation, drainage pattern, seismology, topography, landslide prone zones, flood plain. • Contour map, flood passages and information on high levels flood periodicity as available data
Weather and Long term climatological profile of the project area	• Climatology data, Temperature (max/min), precipitation, record of natural calamity
Land Use	• Land Use pattern of Impact area including service areas and Project affected Area (PA) • Cadastral map/land ownership document/record of RoW and topographic and GIS maps of PA
Ambient Air	• Baseline condition of Ambient Air Quality • PM10, PM2.5, SOx, NOx, CO, Emission sources, etc.
Ambient Noise	• Ambient Noise Level through primary 24hr Monitoring • Day and night time noise level • Inventory of sensitive receptors like school, college, hospital etc. in the immediate impact area
Water	• Information on ground water and surface water resources • Hydrogeology and ground water availability • Surface water resources in the PA including tentative capacity, use and its distance from project site • Quality monitoring and inventory of Surface water resources • Information on Ground water table • Ground and surface water quality of the PA, (if it is to be used as source)
Soil	• Nature of soil • Nature of soil and fertility in the PA • Nature and type of soil
Natural Disasters	• Threat from Natural Disaster • Records on natural calamity like earthquake, GLOF, flood, drought, famine, epidemic, wildfire etc. in the project area supported with local consultation • Land slide prone /geologically unstable slope areas with respect to GPS Coordinate

	• Debris Disposal Site Identification of debris disposal site, if the pipe to be laid is more than 500 mm diameter • Tentative site for disposal of dismantled/construction debris may be identified
Biological Environment	
Felling of Trees and clearance of Vegetation Cover	• Trees falling within ROW • Listing of species, girth size of affected trees and poles with location • Information of endemic, endangered, medicinal, protected species • List of affected protected tree species
Forest Area	• Acquisition of forest land for the project • Legal status of forest land proposed for acquisition • Block/compartment number of the area concerned • Extent of Forest area to be acquired • Delineation of affected forest area on map (Cadastral Map preferably) • Threat to associated biodiversity (flora and fauna) • Information of endemic, endangered, medicinal, protected species (flora and fauna)
Protected Area/Ecologically Sensitive Areas/ Ramsar Sites/Important Bird Areas	• Ecological condition of Project Affected Area • Information on presence of Protected Area (National Parks, Wildlife Reserve, Hunting Reserve, Conservation Areas, Buffer Zones) / site of ecological importance like nesting, breeding ground, Important Bird Areas, Ramsar Sites, Wildlife Corridor/Migration Route, Forest Areas, any site of national/international importance etc. within PA. Information should include GIS Map showing distance of Protected Area site from project site, its ecological condition and biodiversity
	• Record of local extinction of any species or declining species (population decreasing day by day) • Biodiversity Floral & Faunal Community of PA • Floral and faunal community of PA • Biodiversity of aquatic system in case its within PA • Endangered/vulnerable/rare/critically endangered species as per IUCN red list

9.6 External ESMF Monitoring and Reporting

An external ESMF monitoring will be conducted thrice during project implementation – after first year of implementation, at mid-term and during the final year of project implementation - to ensure that all E&S issues are being properly addressed and that mitigation measures are being implemented as envisaged by the ESMF. The external ESMF monitoring will be able to identify and recommend any amendments to the approach embodied in this ESMF to improve its effectiveness. The external monitoring will be done by an independent body procured by the PMU, external to the project, who is neither a beneficiary nor part of the project management and implementation structure. The external monitoring will also validate

and check the internal, project level monitoring systems. It will also ensure that the project's GRM system to address complaints is functioning effectively. Some site visits will be required by the external monitors to determine the situation on the ground and to check on the measures that have been applied. The external monitoring reports will be shared simultaneously with the World Bank and PMU. E&S regular monitoring reports during the project implementation will provide information on key environmental and social aspects of the project activities and on the effectiveness of ESMF and ESMPs. Such information will allow the PMU and the World Bank to evaluate the success of measures to mitigate adverse impacts within the project and allow corrective actions to be identified and taken.

List of Annexes

Annex 1: Exclusion List

The following type of activities will not be supported by the Project

Activities that contravene Nepal's obligations under its international agreements

- Activities that convert or degrade critical natural habitats
- Activities that are proposed to take place inside legally protected areas including National Parks, wilddlife reserve, and their buffer zones
- Activities involving harmful or exploitative forms of forced labor and/or harmful child labor
- Activities that would cause dislocation, modification, or restriction of access to cultural heritage sites, and pose adverse impacts to cultural and heritage sites;

Considering the nature of the project and the environmental and social issues connected with it, the exclusion list also includes the following activities:

- Activities that require extraction and distribution of water from the National Parks and protected areas[11]
- Extraction and distribution of ground water contaning Arsenic and other hazardous chemicals
- Construction of barrier for aquatic fauna that would affect their migration
- Construction activities in the river section where thre are presence of aquatic species of concern
- Activities that will discharge harmful liquid waste (for example leachate, disinfecting chemicals) directly into the river systems
- Activities that require obtaining FPIC from IPs.
- Extraction of surface water that may substantially reduce downstream flow quantity, degrade water quality or significantly alter the velocity.
- Use of water source that has unresolved social conflict over it (e.g. competing demand or right over it etc)
- Extraction of ground water in ground water stressed area adversely affecting existing users source and livelihood in potential project affected area

[11] This will not restrict extraction of water from the river/spring outside the protected area boundary, If the river/stream is originating inside a protected area and flows outside, the water can be extracted from outside.

Annex 2: ESF/safeguards Interim Note

COVID-19 considerations in construction/civil works projects

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

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

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

Annex 3: Test Report Sample for Gravity Scheme

Name of Scheme:	Type of Source:
Name of Water Source:	Name of Support Organization:
District:	Name of VDC:
Ward No:	Sample Code:
Date of Analysis	

SN	Parameters	Units	Test Methods	NDWQS	Results
a.	**Physical Parameters**				
1	pH	-		6.5 – 8.5	
2	Taste & odor				
3	Conductivity	µS/cm		1500	
4	Turbidity	NTU		5(10)	
5	Color	Hazen		5(15)	
6	Total dissolved solids	mg/L		1000	
b.	**Chemical Parameters**				
7	Iron	mg/L		0.3(3)	
8	Calcium	mg/L		200	
10	Fluoride	mg/L		0.05	
11	Ammonia as (NH_3)	mg/L		1.5	
12	Nitrate as (NO_3-N)	mg/L		10	
13	Chloride as (Cl)	mg/L		250	
14	Total Alkalinity	mg/L		-	
15	Total Hardness as ($CaCO_3$)	mg/L		500	
16	Manganese (Mn)	mg/L		0.2	
c.	**Bacteriological Parameter**				
17	Total Coliform	CFU/100 ml		Nil	
18	E Coli	CFU/100 ml		Nil	

Source: National Drinking Water Quality Standard, 2062

Annex 4: Test Report Sample for Ground Water Scheme

Name of Scheme:	Type of Source:
Name of Water Source:	Name of Support Organization:
District:	Name of VDC:
Ward No:	Sample Code:
Date of Analysis	

SN	Parameters	Units	Test Methods	NDWQS	Results
a.	**Physical Parameters**				
1	pH	-		6.5 – 8.5	
2	Taste & odor				
3	Conductivity	µS/cm		1500	
4	Turbidity	NTU		5(10)	
5	Color	Hazen		5(15)	
6	Total dissolved solids	mg/L		1000	
b.	**Chemical Parameters**				
7	Iron	mg/L		0.3(3)	
8	Calcium	mg/L		200	
10	Fluoride	mg/L		0.05	
11	Ammonia as (NH_3)	mg/L		1.5	
12	Nitrate as (NO_3-N)	mg/L		10	
13	Chloride as (Cl)	mg/L		250	
14	Total Alkalinity	mg/L		-	
15	Total Hardness as ($CaCO_3$)	mg/L		500	
16	Manganese (Mn)	mg/L		0.2	
17	Arsenic (As)	mg/L		0.05	
c.	**Bacteriological Parameter**				
18	Total Coliform	CFU/100 ml		Nil	
19	E Coli	CFU/100 ml		Nil	

Source: National Drinking Water Quality Standard, 2062

Annex 5: Tolerance limit of different industrial effluent discharged into inland surface water

Table 7.2.12 : Tolerance Limits for Different Industrial Effluents Discharged into Inland Surface Water

S.N.	Characteristics	Land Surface Water	Public Sewerage	Inland Surface Water
1	Total Suspended solids, mg/l, Max	30-200	600	50
2	Particle size of total suspended particles	Shall pass 850-micron sieve		Shall pass 850-micron sieve
3	pH value	5.5-9.0	5.5-9.0	5.5-9.0
4	Temperature, ^{0}C , Max	Shall not exceed 40 degree C in any section of the stream within 15 meters downstream from the effluent outlet.	45	Shall not exceed 40 degree C in any section of the stream within 15 meters downstream from the effluent outlet.
5	Total Chromium, mg/l, Max	-	2	
6	Sulphates (SO_4), mg/l, Max		500	
7	Total Dissolved Solids, mg/l, Max	-	2100	
8	Biochemical oxygen demand (BOD) for 5 days at 20 degree C, mg/l, Max	50	400	50
9	Oils and grease, mg/l, max	10	50	10
10	Phenolic compounds, mg/l, max	1	10	1
11	Cynides (as CN), mg/l, max	0.2	2	0.2
12	Sulphides (as S), mg/l, max	2	2	2
13	Radioactive materials			
	a. Alpha emitters, c/ml, max	10^{-7}		10^{-7}
	b. Beta emitters, c/ml, max	10^{-8}		10^{-8}
14	Insecticides	absent	absent	absent
15	Total residual chlorine, mg/l	1		1
16	Fluorides (as F), mg/l, max	2	10	2
17	Arsenic (as AS), mg/l, max	0.2	1	0.2
18	Cadmium (as Cd), mg/l, max	2	2	2
19	Hexavalent chromium (as Cr,) mg/l max	0.1		0.1
20	Copper (as Cu), mg/l, max	3	3	3
21	Lead (as pb), mg/l, max	0.1	0.1	0.1
22	Nickel (as Ni), mg/l, max	3	3	3
23	Selenium (as Se), mg/l, max	0.05	0.05	0.05

Annex 6: Sample Outline of ESIA

Indicative Outline of the ESIA and Brief Descriptions

Executive Summary

This should be stand alone and concisely provide a good summary of the project, the policy and regulatory frameworks, summary of consultations with key stakeholders, summary key baseline information relevant to analysis of key impacts, summary of cumulative and key and site-specific impacts, summary of key measures to address site-specific impacts, implementation arrangements for the ESMP including gender and GBV action plan with estimated budget. The ES should be accompanied by a good and readable map showing the main corridor and the two new alignments and locations of ancillary facilities.

Chapter 1: Project Description

This should clearly but concisely describe the project (e.g., how long and wide is the proposed project, how many bridges will be constructed and how long, how long are the slope protection works and what types, what are the ancillary facilities and where, existing right of way in case of liner infrastructure/ water pipelines, or area already under occupation by the subproject proponent, etc.

Chapter 2: Legal and Institutional Framework

This will be the Policy and Regulatory Framework, which should include relevant national laws and regulations, the World Bank's ESF and ES Standards, World Bank Group EHS Guidelines and Industry Sector Guidelines for Roads and Construction Material Extraction and relevant international treaties and protocols. It should also include relevant laws, regulations and institutions on labor & working conditions and health & safety, and also include assessment of the laws, regulations and institutions from gender lens.

Chapter 3: ESIA Approach and Methodology

The chapter will provide a summary of the main approach and methodology used in the baseline data collection and assessment.

Chapter 4: Baseline Environmental and Social Conditions/Baseline Data

The baseline physical, biological, chemical, socio-economic, cultural information, public utilities including disadvantaged and vulnerable groups and gender development and GBV issues, will be presented in this Chapter with labor working condition differently. This chapter will also present any sensitive areas (e.g., critical habitats, natural habitats, wildlife corridor, cultural heritage, etc.) found along the corridor and the results of the critical habitat assessment, including list of critically endangered, endangered, threatened, vulnerable, etc. species.

Chapter 5: Stakeholder Engagement and Public Consultations (Identification and Mapping)

It should summarize the consultation processes, dates of consultations, who were consulted, issues raised and how issues are and will be addressed by the project.

Chapter 6: Environmental and Social Risks and Impacts

This Chapter should present the key Risks and Impacts of the project assessed in terms of their scale (low, moderate, substantial, high) and rationale/justifications. This chapter may also cover relevant cumulative impacts.

Chapter 7: Environmental and Social Management Plan

This will be the ESMP, which should demonstrate the mitigation hierarchy and cover both generic construction measures for noise, dust, pollution, etc. and site-specific measures for sensitive receptors, monitoring, including grievance redress. Site-specific measures should be reflected in the detailed engineering design, including technical specifications (e.g., what types of slope protection and stabilization measures? What type of Wildlife protection measures, etc.) There is a need to provide technical specifications for site-specific measures as far as possible, slope stabilization and protection measures.

Chapter 8: Analysis of Alternatives

This will be the Analysis of Alternatives, which would include site options, construction Techniques; traffic management, without project scenario, etc.

Chapter 9: Institutional Arrangements

This will be the Implementation Arrangements for the ESMP, which will include E&S capacity assessment and staffing of the project owner, CSC and contractors based on the assessment.

Below is an outline of EIA generally followed as per the EPA/ EPR of Nepal:

ABBREVIATION AND ACRONYM

EXECUTIVE SUMMARY IN NEPALI

EXECUTIVE SUMMARY

CHAPTER 1 NAME AND ADDRESS OF THE INSTITUTION PREPARING THE REPORT

1.1 NAME OF THE PROPOSAL AND BRIEF INTRODUCTION

1.2 NAME AND ADDRESS OF THE PROPONENT

1.3 NAME AND ADDRESS OF INSTITUTE PREPARING THE REPORT

1.4 ESIA STUDY TEAM AND DECLARATION

1.5 ORGANIZATION OF THE ESIA STUDY REPORT

CHAPTER 2 SUMMARY OF THE PROPOSAL

2.1 INTRODUCTION

2.1.1 General Project Background

2.1.2 Need of the project

2.1.3 Salient Features of the Project

2.2 PROJECT LOCATION

2.2.1 Existing Condition of the Project Site

2.2.2 Other Infrastructures in use

2.3 PROJECT AREA DELINEATION

2.3.1 Direct Impact Area (DIA)

Annex 7: Terms of Reference (ToR) for Cumulative Impact Assessment (CIA)

1. Cumulative Impact Assessment Framework
   Follow the IFC CIA handbook
2. Step 1 - Scoping Phase 1
   - 2.1 Selection of VECs
   - 2.2 Spatial Boundaries
   - 2.3 Temporal Boundaries
3. Step 2 - Scoping Phase 2
   - 3.1 Other Sectoral Activities
   - 3.2 Environmental Drivers
4. Step 3 - Establish Information on Baseline Status of VECs
5. Step 4 - Assess Cumulative Impacts on VECs
6. Step 5 - Assess Significance of Predicted Cumulative Impacts
   - 6.1 Thresholds
   - 6.2 Acceptable Change
7. Step 6 - Management of Cumulative Impacts (Design and Implementation)
   - 7.1 Management Actions
   - 7.2 Monitoring
   - 7.3 Stakeholder engagement and consultation
8. Conclusion and Limitations of CIA

Annex 8: National Ambient Air quality standard of Nepal

Table 7.2.1 : National Ambient Air Quality Standards for Nepal, 2012

Parameters	Units	Averaging Time	Concentration in Ambient Air, maximum	Test Methods
TSP (Total SuspendedParticulates)	µg/m³	Annual	-	
		24-hours*	230	High Volumne Sampling and Gravimetric Analysis
PM10	µg/m³	Annual	-	
		24-hours*	120	High Volume Sampler and Gravimetric Analysis, TOEM,Beta Attenuation
Sulphur Dioxide	µg/m³	Annual**	50	Ultraviolet Fluorescence,Waste & Gaeke method
		24-hours*	70	Same as annual
Nitrogen Dioxide	µg/m³	Annual	40	Chemiluminescence
		24-hours*	80	Same as annual
Carbon Monoxide	µg/m³	8 hours*	10,000	Non dispersive Infra Red spectrophotometer(NDIR)
Lead	µg/m³	Annual**	0.5	High volume sampling, followed by atomic absorption spectrometry
Benzene	µg/m³	Annual**	5	Gas chrometographic Technique
PM2.5	µg/m3	24-hours*	40	PM2.5 sampling gravimetric analysis
Ozone	µg/m3	8 hours*	157	UV spectrophotometer

** 24 & 8 hourly values shall be met 95% of the time in a year. 18 days per calendar year the standard may be exceeded but not on two consecutive days.*

*** The above indicators are prepared by the 104 data taken yearly averagein a fixed location in one week by observing two times in 24 hours*

Annex 9: National Drinking Water Quality Standard

(A) National Drinking Water Quality Standard

S.N.	Category	Parameters	Units	Concentration Limits	Remark
1	Physical	Turbidity	NTU	5 (10)	
2		pH		6.5-8.5*	
3		Color	TCU	5 (15)	
4		Taste and Odor		Non-objectionable	
5		TDS	mg/L	1000	
6		Electrical conductivity (EC)	µs/cm	1500	
7	Chemical	Iron	mg/L	0.3 (3)	
8		Manganese	mg/L	0.2	
9		Arsenic	mg/L	0.05	
10		Cadmium	mg/L	0.003	
11		Chromium	mg/L	0.05	
12		Cyanide	mg/L	0.07	
13		Fluoride	mg/L	0.5 -1.5*	
14		Lead	mg/L	0.01	
15		Ammonia	mg/L	1.5	
16		Chloride	mg/L	250	
17		Sulphate	mg/L	250	
18		Nitrate	mg/L	50	
19		Copper	mg/L	1	
20		Total Hardness	mg/L as $CaCo_3$	500	
21		Calcium	mg/l	200	
22		Zinc	mg/L	3	
23		Mercury	mg/L	0.001	
24		Aluminum	mg/L	0.2	
25		Residual Chlorine	mg/L	0.1-0.2*	in systems using chlorination
26	Microbiological	E. Coli	MPN/100 ml	0	
27		Total Coliform	MPN/100 ml	0 in 95% samples	

* These values show lower and upper limits

( ) Values in parenthesis refers the acceptable values only when alternative is not available.

National Drinking Water Quality Standards and Directives, 2005

Annex 10: Frequency of monitoring of urban water supply system

Table 1: Frequency of Monitoring for Urban Water Supply System

S.N.	Category	Parameters	Monitoring frequency
1	Physical	Turbidity	Daily
2		pH	Daily
3		Color	Daily
4		Taste and Odor	Daily
5		EC	Monthly
6		TDS	Quarterly
7	Chemical	Residual Chlorine	Daily
8		Ammonia	Monthly
9		Chloride	Monthly
10		Nitrate	Monthly
11		Total Hardness	Monthly
12		Calcium	Monthly
13		Iron	Yearly
14		Manganese	Yearly
15		Sulphate	Yearly
16		Arsenic	Yearly
17		Cadmium	Yearly
18		Copper	Yearly
19		Fluoride	Yearly
20		Cyanide	Yearly
21		Lead	Yearly
22		Chromium	Yearly
23		Zinc	Yearly
24		Mercury	Yearly
25		Aluminum	Yearly
26	Microbiological	E. coli	Monthly
27		Total coliform	Monthly

Annex 11: Frequency of sampling and analysis

Table 2: Minimum Frequency of Sampling and Analysis

Source and mode of supply	Minimum frequency of sampling and analysis		Remarks
	Bacteriological	Physical/Chemical	
Open wells for community supply	Sanitary protection measures; bacterial testing only if situation demands	Once initially for community wells	Pollution usually expected to occur
Covered dug wells and shallow tube wells with hand pumps	Sanitary protection measures; bacterial testing only if situation demands	Once initially, thereafter as situation demands	Situations requiring testing: change in environmental conditions, outbreak of waterborne diseases or increase in incidence of waterborne diseases
Deep tube wells with hand pumps	Once initially, thereafter as situation demands	Once initially, thereafter as situation demands	Situations requiring testing: change in environmental conditions, outbreak of waterborne diseases or increase in incidence of waterborne diseases
Protected springs	Once initially, thereafter as situation demands	Periodically for residual chlorine if water was contaminated and has been disinfected	Situations requiring testing: change in environmental conditions, outbreak of waterborne diseases or increase in incidence of waterborne diseases

20. Tasks to be performed prior to surveillance:

In order to make surveillance simple, following tasks should be performed prior to surveillance.

1. Make an inventory of existing water supply schemes with population coverage, scheme types/sizes/condition, location specifics etc.

Annex 12: Environment and Social Screening checklist
Nepal Water Governance and Infrastructure Project

Environmental and Social Screening Form

This checklist is generic and designed as guide for identifying and environmental and social risks and impacts of proposed project activities, construction, and operation.

(A) Project Background

1.	Name of Proposed sub-project	
2.	Location	Municipality/ Rural Municipality: _____ Ward No: _____ District: _____ Province: _____ Geographical coordinates: _____ Altitude: _____
3.	Major planned works, land required (in m2)	
4.	Project's boundaries in four directions and the area of influence	
5.	Brief description of the project based on the location, terrain & immediate surroundings	
6.	Other relevant information	

(B) Environmental and Social Screening

SN	Screening checklist	Yes	No	Comments Provide information/justification either for "Yes" or "No" if applicable
	Project's site information			
1.	Is the sub-project site adjacent to or within any of the following sensitive receptors?			
	i. Natural habitats and/or legally protected areas (national park, wetlands, forests, estuary, buffer zones, nature reserves)			
	ii. Cultural heritage site (e.g. temples and sacred sites)			
	iii. Recreation or public gathering site			
	iv. Aesthetically important sites			

SN	Screening checklist	Yes	No	Comments Provide information/justification either for "Yes" or "No" if applicable
	v. Located near the main settlement and market places. If "Yes" provide name of the settlement and marketplace, and brief description with estimated number of HHs			
	vi. Is there any history of flood/river cutting / landslides at the site or surrounding areas?			
	vii. Is there any public infrastructure (school, hospital, health post) in the surrounding area of the project site? If yes, provide brief descriptions.			
	viii. Are canals and irrigation systems present in proximity to sub-project site?			
	ix. Are there any exiting water sources near or within the site that may be impacted by the project?			
	x. Briefly describe the existing use of land in the surrounding area of the proposed site, nature (slope and facing)			
	xi. Is the sub-project site accessible by road through the year? Description of condition of road/track (blacktop, fair weather, etc.) or needs to construct a new road, total length, nearest road head, etc.			
	xii. Is the proposed site is being used by locals to access to other places or public resources such as forests, rivers, water sources, cultural and religious heritages/temples?			
	xiii. Will the construction activities cause any damage to the existing local roads?			
General				

SN	Screening checklist	Yes	No	Comments Provide information/justification either for "Yes" or "No" if applicable
1	Does the Subproject contravene Nepal's obligations under its international agreements?			
2	Impacts on natural resources that constitute livelihoods of the community (e.g., water resources, drinking water supply system, forest resources, fishing, grazing, or hunting grounds)?			
3	Are any of the following activities planned within the Project area? • Earthworks, • Excavations/topsoil removal, • Borrow areas, • Stockpiles, • Storage facilities (e.g. tanks, silos).			
4	Will natural resources (e.g. timber; water, sand, quarries) within the sub-project area be used for construction activities in a significant quantity?			
5	Is there potential for landslide and soil erosion impacts during construction or operation of the project?			
6	If yes, please provide the following information: History of natural calamities in or surrounding areas of the proposed site (Dates, level of impacts in terms of loss of lives and property and mitigation measures applied so far and their impacts)			
7	Changes in drainage patterns and resulting effects due to construction of project components and access roads?			
8	Loss or destruction of unique or aesthetically valuable land or natural resources			

SN	Screening checklist	Yes	No	Comments Provide information/justification either for "Yes" or "No" if applicable
	Labor and working conditions			
1.	How many workers are likely to be hired for the proposed works? How many workers are estimated to be women?			
2.	Will the project draw on migrant workers?			
3.	How many workers are estimated to be hired directly from the project area?			
4.	Of the total workers, how many are estimated to be	Skilled: _____ Semiskilled: _____ Unskilled: _____ Engineers: _____ Technician/overseer: _____ Security guards: _____ Others: _____		
5.	In terms of the categorization of the sub-project workers as the World Bank's ESF, how many of them will be	Direct workers: _____ Contracted workers: _____ Primary suppliers' workers: _____ Community workers: _____		
6.	Will there be a labor camp? Or any form of accommodation for workers	On their own (In the host community): _____ In a labor camp to be managed/constructed by project: _____		
7.	If the sub-project is planning to manage/construct a labor camp, provide the information on	Probable location (s) of labor camp: _____ Status of basic facilities (power, water etc.): _____		
8.	Does the sub-project have policies and provisions in the project for all types of project workers?			
9.	Does the sub-project plan to maintain and regularly update a labor registry throughout the project lifecycle?			
10.	Is there a policy that ensures nondiscrimination in wages and other facilities?			

SN	Screening checklist	Yes	No	Comments Provide information/justification either for "Yes" or "No" if applicable
11.	Does the Project ensure that all persons working for the project are above minimum age as per national laws?			
12.	Does the Project ensure it will abide by the national standards working hour rules and overtime?			
13.	Does the sub-project have plans to provide orientation to migrant workers about national labor laws, local tradition, culture, costumes, norms, and values?			
14.	Will heavy machinery (e.g. excavators, cranes, trucks, jack-hammers) be used for construction activities?			
15.	Will the Project activities involve the handling of hazardous materials/contaminants?			
16.	Will the Project activities involve the handling of risky electrical equipment?			
17.	Is there any safety concern to women once the migrant workers arrive in sub-project site?			
18.	Does the sub-project plan to provide orientation to workers about the national laws and project policies on GBV & SEA/SH?			
19.	Does the sub-project plan to provide orientation to workers about the risks of communicable diseases such as STDs?			
20.	Does the sub-project plan to provide orientation to workers about COVID-19 related national and WHO protocols?			
21.	Is there any history of conflict between the migrant workers and the local in any infrastructure projects in the local area?			
22.	Is there any possibility of conflicts between migrant workers and the local community?			
Resource Efficiency and Pollution Prevention and Management				

SN	Screening checklist	Yes	No	Comments Provide information/justification either for “Yes” or “No” if applicable
1	Will construction activities result in production of waste that needs special treatment or disposal measures? If “Yes”, describe types and expected amount of waste, if known at the time of screening?			
2	Will the sub-project generate substantial amount of wastewater (liquid waste) during construction and operation?			
3	Will it create dust pollution around the sites?			
4	Will be the subproject generate substantial amount of air emission during construction and operation?			
5	Will the sub-project create noise/vibration beyond the level permitted by the law?			
6	If the sub-project plans to transport, storage, and use and/or disposal of materials that may create physical, chemical, and biological hazards? If “Yes”, please mention			
7	Will it temporarily stop or impact/pollute the water supply and sanitation system in and around the site?			
8	Will there be any solid waste generated by sub-project that needs to be transported off-site for reuse, recycle or disposal of?			
9	Will any liquid waste, or an item containing liquids (including oils), needs to be transported off-site for reuse, recycle or disposal of?			
10	Will any explosive and hazardous chemicals be used within the project?			
11	Will building materials containing asbestos be removed/disposed of?			

SN	Screening checklist	Yes	No	Comments Provide information/justification either for "Yes" or "No" if applicable
1	Will any building materials be removed/disposed of that are coated with lead-based paint?			
1	Will mercury-containing devices (switches, gauges, thermostats) be removed/disposed?			
1	Will any building materials be removed/disposed of that contain lead, silver or chrome?			
1	Will the sub-project use batteries (lead-acid or nickel-cadmium) as its components?			
1	If "Yes", please briefly explain how the Project plans safe transportation, storage and use and disposal of hazardous materials.			
1	Will sub-project activities involve GHG emissions?			
1	If "Yes", please provide description of the activities that will contribute to the GHG emission.			
Potential Community and Occupational Health and Safety Impacts				
1.	Are there any community health and safety risks due to the use of equipment, machinery, or the activities at the sub-project?			
2.	Will the construction works disturb the normal functioning of other commercial/community/residential activities? If "Yes", please mention the activities and period of disturbance.			
3.	Are there any potential impacts to public health and safety due to changes in the landscape for sub-project?			

SN	Screening checklist	Yes	No	Comments Provide information/justification either for "Yes" or "No" if applicable
4.	Are there any risks to community safety due to accidental and natural hazards during sub-project construction and operation?			
5.	Is there any possibility of traffic congestion or rise in road accident in the project area due to project activities?			
6.	Is there any provision to control possible trespassing of non-project staff on the project site during construction and operation?			
7.	Does the sub-project plan to provide orientation to surrounding communities about the risks of communicable diseases and COVID-19?			
Land Acquisition and involuntary resettlement				
1.	Will there be permanent land acquisition for the sub-project?			
2.	If "Yes", please provide information about the types of land that will be acquired. Private land Forest land Government/Public land			
3.	If the sub-project is planning to acquire private land, please provide information about the process of acquisition Voluntary donation Involuntary acquisition Negotiation			
4.	Will there be a temporary land acquisition for the sub-project?			
5.	If "Yes", please provide information about the types of land that will be temporarily acquired.			

SN	Screening checklist	Yes	No	Comments Provide information/justification either for “Yes” or “No” if applicable
6.	Will there be a loss of productive land?			
7.	Will there be any physical/economic displacement and impact on livelihoods?			
8.	Is there any household that needs relocation?			
9.	If there is any physical/economic displacement, please provide information on How many people/families will be displaced? What will be the scale of economic displacement? What will be the scale of impact on livelihoods of impacted people/families? How the project does plans to help the impacted people/families restore their livelihoods?			
10.	Is there any impact on house or structures built on the land to be used for the project?			
11.	If yes, please provide details of such structures. (floor area, height, materials used in floor, wall and roof)			
12.	Is there any possibility of complaints/lawsuits claiming that land acquisition didn’t happen as per law of the country?			
13.	Apart from compensation, does the sub-project plans to provide additional supports to impacted person/family?			
14.	Will there be any adverse impact on non-titleholders including loss of shelter and livelihood?			

SN	Screening checklist	Yes	No	Comments Provide information/justification either for "Yes" or "No" if applicable
15.	Will land acquisition result in loss of income loss of access to common property resources?			
Biodiversity Conservation and Sustainable Management of Living Natural Resources				
1.	Is the Subproject going to encroach into national parks of protected area, including their buffer zone?			
2.	Is the Subproject going to convert or degrade critical natural habitats?			
3.	Will there be forest loss in terms of area (if yes, type of forest: National Forest, Community Forest, and Private Forest etc.?) Will it lead to loss of forest species (provide details of the loss of listed species according to national and international – specifically IUCN - classifications), if known at the time of screening?			
4.	Will there be a need to remove trees to clear project sites? If "Yes", please provide brief information, including species and numbers to the extent possible at the time of screening.			
5.	Is the loss of Non-Timber Forest Products (NTFP) possible? If so, provide the details if known at the time of screening.			
6.	Is there presence of wildlife around the sub project area?			
7.	If yes, provide information of the type of wildlife, if known at the time of screening? (Provide details of listed wild life and avi-faunal species according to national and international – specifically IUCN - classifications, if known at the time of screening).			

SN	Screening checklist	Yes	No	Comments Provide information/justification either for "Yes" or "No" if applicable
8.	Will there be any barrier to migratory birds or land animals by the construction of this project?			
9.	Will the sub-project affect the aquatic fauna of river system and/or springs?			
10.	If yes, provide the details of the river/spring and existing fauna, if known at the time of screening?			
11.	Will the subproject involve draining or conversion of any wetland?			
12.	Other potential biodiversity impacts (specify)?			
Indigenous and vulnerable People				
1.	Are there any indigenous people among the identified project-affected people?			
2.	If "Yes", please mention the type of project-related impact to the indigenous people.			
3.	Are indigenous people losing their land? If "Yes", please mention how many households.			
4.	Are indigenous people being displaced? If "Yes", please mention how many households.			
5.	Are any cultural heritages belonging to the indigenous communities being impacted by the project? If "Yes", please provide brief information about such impacts.			
6.	Is there a need of a FPIC?			
7.	Are there any vulnerable people, such as Dalits, religious minorities, landless, people with disabilities/chronic disease,			

SN	Screening checklist	Yes	No	Comments Provide information/justification either for "Yes" or "No" if applicable
	women-headed households and elderly households among project-affected people? If "Yes", please mention how many such households are among the project-affected people.			
8.	Are any vulnerable people losing their land?			
9.	Are any vulnerable people being physically displacement?			
Cultural Heritage				
1.	Does the proposed site or surrounding area host any cultural and religious heritages/temples/structures?			
2.	Will the sub-project cause encroachment on historical/cultural/religious areas?			
3.	Will there be any adverse impacts on cultural heritage due to sub-project activities?			
4.	If "Yes", please explain briefly			
5.	Does the proposed site or surrounding area host any cultural or religious event/ gathering?			
6.	If "Yes", please provide a brief description of the event			
7.	Does the proposed site provide access to any cultural/ religious heritages or temples or sites?			
Stakeholder engagement				
8.	Have the stakeholders of the sub-project been identified?			
9.	If "Yes", please name them along with their level of influence and interest in the sub-project			

SN	Screening checklist	Yes	No	Comments Provide information/justification either for "Yes" or "No" if applicable
10.	Have the stakeholders been categorized in terms of gender, age, and ethnicity?			
11.	Major issues raised by the stakeholders during the initial consultation?			
12.	What are the main sources of information for the stakeholders? [Hint: radio, TV, newspapers]			
13.	Is there is social institution/practice for community consultation on common issues in the area?			
14.	Is there any social/religious/cultural institution or practices for local dispute settlements?			
15.	Are there any youth clubs, women groups or NGOs active in the project area and in the district? If "Yes" please provide top five such clubs/groups/	NGOs youth clubs, women groups and contact number 1. 2.		
Contextual risk				
1.	Is there any history of community conflict in the sub-project area?			
2.	Is there any history of protests against infrastructure projects in the area?			
3.	Provide a brief description about nature of crimes, if any, observed in the project area in last two years. [Hint: Source of information local police station]			
4.	Which political parties won the last local election? [Municipal and the ward of the project site]			
5.	Which political parties won the last parliamentary election from the			

SN	Screening checklist	Yes	No	Comments Provide information/justification either for “Yes” or “No” if applicable
	constituency of the project site?			
6.	What are the major economic activities in the municipality? [Hint: Occupation, local exports, etc.]			
7.	Please name the major industries/institutions located in the municipality.			
8.	Which are the major market centers in the sub-project area and how far are they?			
9.	Is there a board community support for the sub-project? [Hint: Community perception based on stakeholder consultation]			
10.	Is there support from the local municipality for the project?			

Screening Team			**Screening Date:**
	Name	**Contact Number**	**Signature**
Team leader			
Environmental expert			
Social expert			
Gender expert			
Other team members			

Annex 13: Photograph of different structures

Photo 1: Intake of Sudurpaschim province WSS implemented by RVWRMP

Photo 2: RVT of Kaski WSS implemented by RWSSFDB

Photo 3: Tap stand of gravity scheme at Palpa implemented by RWSSFDB

Photo 4: Pipeline trench of Rolpa WSS implemented by RWSSFDB

Photo 5: Reservoir tank of surface lift WSS implemented by RWSSFDB

Photo 6: Overhead tank of Terai district WSS implemented by RWSSFDB

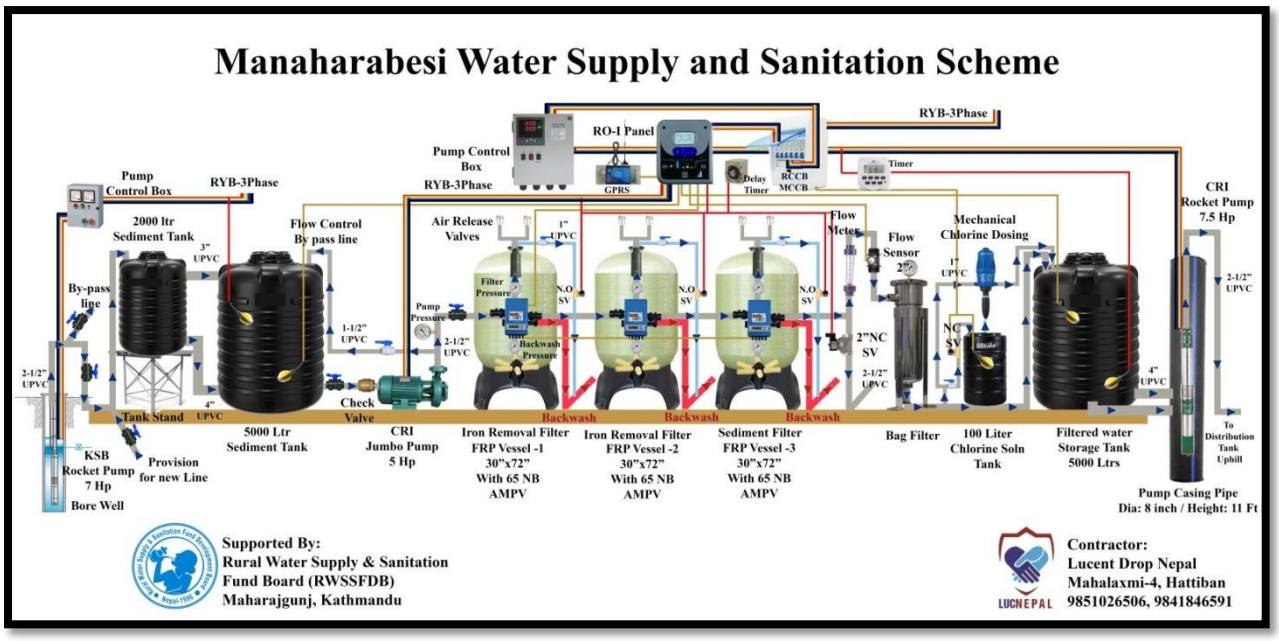

Photo 7: Smart Pressure Filter system installed in Pikhel WSS implemented by RWSSFDB