



**Nepal:  
Second Bridges Improvement and Maintenance Program  
*Program for Results (PforR)***



**Final Draft Report on  
Environmental and Social Systems Assessment (ESSA)**

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## Acronyms

AAPA	Aquatic Animal Protection Act
AMPA	Ancient Monument Preservation Act
BMS	Bridge Management System
BoQ	Bill of Quantities
BSMS	Bridge Site Monitoring System
CDO	Chief of District Administration Office
CE	Citizen Engagement
CEDAW	Convention on Elimination of All Forms of Discrimination Against Women
CFC	Compensation Fixation Committee
CLA	Child Labor (Prohibition and Regulation) Act
COM	Communication and Outreach Mechanism
DAO	District Administration Office
DLI	Disbursement Linked Indicator
DLRO	District Land Revenue Office
DLSO	District Land Survey Office
DoEnv	Department of Environment
DoF	Department of Forest
DOR	Department of Roads
EA	Executing Agency
EIA	Environmental Impact Assessment
EPA	Environmental Protection Act, 1996
EPR	Environmental Protection Rules, 1997 (amended 1999)
ESMF	Environmental and Social Management Framework
ESSA	Environmental and Social Systems Assessment
FA	Forest Act
FPIC	Free, Prior, Informed Consultation
GEA	Gender Equality Act
GESI	Gender Equality and Social Inclusion
GESU	Geo-Environment and Social Unit
GGA	Good Governance (Management and Operation) Act
GON	Government of Nepal
GRM	Grievance Redress Mechanism
IA	Implementing Agency
IGEPRIR	Interim Guidelines for Enhancing Poverty Reduction Impacts of Road Project
IPs	Indigenous Peoples
IPP	Indigenous Peoples Plan
IEE	Initial Environmental Examination
LARRP	Land Acquisition, Resettlement and Rehabilitation Policy
LAA	Land Acquisition Act 1977
LCF	Local Consultative Forum
MOPE	Ministry of Population and Environment

MOFSC	Ministry of Forest and Soil Conservation
MoPIT	Ministry of Physical Infrastructure and Transport
NFDIN	National Foundation for the Development of Indigenous Nationalities (Act)
NPWLCA	National Parks and Wildlife Conservation Act
NPC	National Planning Commission
OHS	Occupational Health and Safety
PforR	Program for Results
PWD	Public Works Directive
PIP	Priority Investment Plan
RSDP	Road Sector Development Project
SEMP	Social and Environmental Management Plan
SIA	Social Impact Assessment
SRN	Strategic Road Network
VCDP	Vulnerable Community Development Plan
VDC	Village Development Committee
WIM	Workers' Influx Management

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## Executive Summary

Environmental and Social Systems Assessment (ESSA), conducted in accordance with the World Bank's Policy/Directive on "Program-for-Results Financing", describes the extent to which the applicable government environmental and social policies, legislations, program procedures and institutional systems are consistent with the six 'core principles' of OP/BP 9.00; and recommends actions to address any gaps to enhance Program implementation performance. The purpose of ESSA is: (i) to document the environmental and social management rules and procedures and institutional responsibilities being practiced by the Government of Nepal (GoN) for the bridge programs; (ii) to assess implementing entities' institutional capacity including performance to date to manage the likely environmental and social impacts and risks in accordance with Nepal's own requirements under the Program; and (iii) to recommend specific actions for improving counterpart capacity for Program implementation complying with applicable standards.

Methodology adopted for ESSA focused on environmental and social management systems, as applied to the sub-set of bridges under the Department of Roads (DoR) in which Bank funding through the PforR is proposed. Analysis was conducted by reviewing relevant literature, assessing institutional capacity of Program executing and implementing agencies (viz., MoPIT and DoR, respectively), reviewing experiences and learned lessons of BIMP-I implementation integrating them with Strengths-Weaknesses-Opportunities-and-Threats (SWOT) analysis findings. The analysis focused on strengths and gaps (weaknesses) associated with the systems in place in the bridge sector to address the potential environmental and social impacts commensurate with the nature, scale, and scope of the Program on two levels: the system as written in laws, regulation, procedures and as applied in practice; and the system implementation capacity, as demonstrated by performance of institutions executing and implementing the predecessor Program (BIMP-I). The methodology for conducting this ESSA was (i) baseline information collection, (ii) consultations, (iii) review of BIMP-I achievements and lessons learned, (iv) public disclosure, and (v) finalization of analysis and documentation – focusing on identifying gaps and required actions to address them for enhancing implementation performance of the proposed second BIMP.

For the second BIMP, Ministry of Physical Infrastructure and Transport (MoPIT) is the Executing Agency (EA) whereas Department of Roads (DOR) will be responsible for implementing agency (IA). A dedicated Kathmandu-based Bridge Branch within DOR manages the overall SRN Bridge Program, including the proposed Second BIMP activities. Regional Bridge Sector Offices under the Bridge Branch and the Regional Directorates (RDs) are responsible for new construction, and major maintenance. Likewise, Road Division Offices at the District level are also responsible for minor maintenance and new construction of bridges. The Geo-Environment and Social Unit (GESU) under the Planning and Monitoring Branch at DoR is the focal unit on overall coordination and management of environmental and social aspects of all works undertaken by the DoR - including bridge programs. Department of Environment (DoEnv) under the Ministry of Environment and Population (MoPE), and Department of Forest (DoF) under Ministry of Forest and Soil Conservation (MoFSC) are the prime line agencies linked to BIMP environmental and social management.

The BIMP applicable major environmental and social management legislations include the Constitution of Nepal; Environment Protection Act and Regulation; Labor Act; Land Acquisition, Resettlement and Rehabilitation Policy; Land Acquisition Act; National Foundation for the Development of Indigenous Nationalities Act, Child Labor Act, Labour Act, Gender Equality Act, DoR Environmental and Social Management Framework, etc.

The first BIMP has substantially achieved its objectives and completed as planned in July 2017 - with "Satisfactory" social and environmental safeguards rating. Improvements in environmental and social management system for the bridge Program achieved during BIMP I implementation include, *inter alia*: (i) issuance and enforcement of bridge addendum to the DoR's Environmental and Social

Management Framework (ESMF)<sup>1</sup> highlighting bridge specific social and environmental aspects; (ii) increased human resource with two additional prominent posts (Environmental and Social Officers) and regular financial resources (budget) to Geo-Environment and Social Unit (GESU) for improving its environmental and social management capacity; and (iii) improved social and environmental impact management, particularly of bridge projects, within the DoR. Likewise, a system is in-place for environmental and social screening, preparing environmental and social management plans and implementing them; integrating environmental and social mitigations in the engineering designs and bidding documents; and for supervision and monitoring, etc. Furthermore, an IT-based electronic Grievance Redressal Mechanism (GRM) has been established, and third party verification of the compliance with environmental and social requirements has been practiced under BIMP I. The key shortcomings, on the other hand, of BIMP-I are: (i) weak workers' management (mainly OHS); (ii) lack of focus on enhancing beneficial impacts; and (iii) the notion of land donations.

The proposed Second BIMP is designed as a “hybrid” which includes both a Program-for-Results (PforR) component and Investment Project Finance (IPF) Technical Assistance (TA) component. The PforR component will support bridge maintenance and new construction works. The PforR components will include: (i) major maintenance on SRN bridges; (ii) road safety upgrades on existing SRN bridges; (iii) new SRN bridge construction started after the date of Appraisal; (iii) completion of existing backlog bridges that were under construction prior to the date of Appraisal. Bridges that are excluded from PforR financing will not count toward verified achievement of Disbursement Linked Indicators.

The eligibility criteria for PforR support ensure that the bridges only with minor to moderate environmental and social risk and impacts are supported. Hence the bridges supported under the PforR are unlikely to have significant adverse impacts that are sensitive, diverse, or unprecedented on the environment and/or affected people. This is in compliance with the PforR policy which explicitly excludes "activities that are judged to be likely to have significant adverse impacts that are sensitive, diverse, or unprecedented on the environment and/or affected people"

The IPF- TA component will complement the Program with following activities: (i) Preparations for future projects on the Strategic Roads Network; (ii) Technical auditing by NVC; (iii) Advance bridge designs for enhanced resilience and inclusion; (iv) Training (domestic and international) & capacity development; (v) Supervision oversight consultancies; (vi) Mobilization, equipage, and development of Design and Advance Technology Cell; (vii) support to improve OHS practices and compliances.

The Program Development Objective of the second BIMP is to provide safe, reliable and cost effective bridges on Nepal's Strategic Road Network (SRN) – which is also the stated objective of the Government of Nepal's Bridge Policy and Strategy.

Given that Program scope of the PforR component of the second BIMP is similar to that of BIMP I, the anticipated adverse environmental and social issues and impacts are expected to be similar to that of BIMP I. The adverse impacts are likely to be limited in nature and are not expected to pose a significant risk. Some potential adverse impacts of new bridge construction, for example, include impacts on the existing vegetation cover (limited to the bridge abutment locations), on the aquatic ecology (limited to a few hundred meters up- and down-streams of the bridge crossings), impacts arising from lack of compliance with mitigation measures during construction/ civil works (such as related to health & safety, sanitations, wastes, labour camps, etc.), and limited land acquisition and resettlement (usually confined to the area near bridge works), etc. Based on past experiences, adverse social impacts are likely to be temporary for bridge maintenance works, such as temporary land leasing for the contractor

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<sup>1</sup> DoR's Environmental and Social Management Framework (ESMF) has been prepared (and updated in 2013) with support from the World Bank as part of institutional strengthening component. Ex-ante review and support was provided by Bank safeguard teams, harmoniously integrating environmental and social safeguard provisions of the Bank with those of the GoN, before the GoN approved and launched it across all bridge and road initiatives under the DoR.

operations. However, new bridge construction may: (i) require land acquisition for bridge and access road development purposes, (ii) adversely affect people's livelihood, and (iii) have impact on communities, facilities and resources due to improper workers' influx management (WIM). These need to be given due attention especially during the bridge site selection, design and implementation phases.

The bridge Program aims to benefit many communities, particularly those in isolated remote areas. This is particularly so with indigenous communities who are among the targeted beneficiaries of the bridge Program. However, Program activities may also have adverse impacts upon nearby indigenous communities because of land acquisition, and/or impacts on livelihood, public health and traffic safety concerns, and community facilities.

The ESSA concludes that the overall environmental and social management system of MoPIT (EA) and that of DoR (IA) is acceptable for use in the PforR component of the proposed project, provided the Program includes relevant additional measures to ensure the PforR's core principles are met. The Legal and Regulatory framework governing the bridge planning and construction is generally satisfactory. The potential environmental and social impacts of PforR component of second BIMP are low to medium. Summary of the ESSA findings *vis a vis* PforR's six Core Principles is presented below:

- ❖ ***Core Principle 1:*** Environmental and Social Management procedures and processes are designed to promote environmental and social sustainability in Program design; avoid, minimize or mitigate against adverse impacts; and promote informed decision-making relating to a Program's environmental and social effects.

Country system requires different level of environmental and social assessment (ESIA) of a proposed project depending on nature, size, financial threshold and sensitivity of the project site. The Road and bridge sector frameworks and guidelines promote environmental and social mainstreaming. Screening of an activity, e.g. construction of a bridge, decides type/ level of environmental and social assessment i.e., Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA). ESIA, in the form of IEE/EIA, is required for sizable bridges. The assessment requires information disclosure and consultations with stakeholders. The EIA/IEE identifies measures to mitigate adverse impacts. Effective implementation of environmental and social mitigation measures, its monitoring and enforcement is generally better in donor supported activities compared to the government funded activities.

- ❖ ***Core Principle 2:*** Environmental and social management procedures and processes are designed to avoid, minimize and mitigate against adverse effects on natural habitats and physical cultural resources resulting from Program.

Environmental and social impact assessment (ESIA) is necessary for any activity located within cultural, historical, protected and sensitive sites. In addition, prior approval of competent authority is required for activities within the recognized sensitive sites. The legal provisions and guidelines require analysis / study showing various alternatives for the project to avoid, and minimize the loss of forest area and resources. ESIA is carried out and prior approval obtained for the bridge located in the protected areas, and location of bridge in physical cultural site is generally avoided.

- ❖ ***Core Principle 3:*** Program procedures ensure adequate measures to protect public and worker safety against the potential risks associated with: (i) construction and/or operations of facilities or other operational practices developed or promoted under the Program; (ii) exposure to toxic chemicals, hazardous wastes and otherwise dangerous materials.

The Environmental and Social Management Framework (ESMF) of the road sector, the bridge addendum (2013) to the ESMF, Environment Protection Act and Rules, Labor Act and other guidelines have provisions against the potential risks associated to workers' health & safety as well as community health and safety. Experience in the road and bridge sector, including recently completed BIMP-I, suggest that effective implementation of these provisions varies: these are implemented partially in many cases.

- ❖ ***Core Principle 4:*** *Land acquisition, displacement and loss of access to resources* is avoided or minimized; and affected people are assisted in improving, or at least restoring, their livelihoods and living standards.

The Land Acquisition Act (LAA) (1977) has provisions and procedures regarding land acquisition; however, LAA does not recognize non-land related impacts nor does it cover people without titles. Impacts also to non-title holders are, however, covered in the Land Acquisition, Resettlement and Rehabilitation (LARR) policy (2015) of the GoN, ESMF of the implementing agency (DoR), and other guidelines and manuals which emphasize on avoiding, minimizing and/ or mitigating the adverse impacts. The LARR as well as DOR ESMF specifically require that all those adversely affected, including non-title holders to land, particularly the poor and vulnerable households, will be recognized for assistance in their livelihood restoration and improvement. In the case of land title-holders, the land acquisition provisions including compensations at market value are implemented. Implementation of the provisions related to the non-title holders varies: these are better implemented in donor supported activities.

- ❖ ***Core Principle 5:*** *Due consideration is given to cultural appropriateness of, and equitable access to,* Program benefits, with special emphasis provided to rights and interests of Indigenous Peoples, as well as the needs or concerns of vulnerable groups.

The DoR ESMF requires, as part of environmental and social screening and assessment, free, prior and informed consultations with the indigenous people and vulnerable groups including local communities. Likewise, National Foundation for Upliftment of *Aadabasi/Janjati* (Indigenous Peoples) Act (2002), GoN's Maintaining Gender Equality Act (2006), and executing agency's (MoPIT's) Gender Equality and Social Inclusion Guidelines (2017) have provisions aimed at ensuring rights and interests of indigenous peoples, women and other vulnerable groups. One of the objectives of the bridge Program is to provide connectivity to, hence benefit, communities in remote and isolated - often underdeveloped - areas. Indigenous, poor and vulnerable communities are among the key beneficiaries of the proposed Program. DoR, as part of its road and bridge planning and implementation, conducts consultations providing prior information to the project beneficiaries and adversely affected people. This is better implemented in projects financed by international organization (s).

- ❖ ***Core Principle 6:*** *Avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.*

The predecessor Program - BIMP-I - has been smoothly implemented, without triggering any social conflicts. Pertinent social aspects have been taken care of adhering to applicable standard provisions. Good Governance (Management and Operation) Act (2008) of GoN has applicable provisions aimed at avoiding and managing any conflicts in development initiatives for the communities. The Good Governance (GG) Act specifically mentions make public administration of the country pro-people, accountable, inclusive and participatory and make available its outcome to the public by adopting basic good governance like rule of law as its prime objective. Moreover, citizen engagement (CE) through the local consultative forums constituted for purpose, transparency, GESI, etc. - aimed also at avoidance of any social conflicts - form integral part of the legislative provisions applicable also to the second BIMP. Further, the executing/implementing agency has functional IT-based grievance redress mechanism available – on top of access to local judiciary system, system of registering any grievances at local unit of the implementing agency (DoR) and/or approaching such mechanisms at the World Bank (GRS/IP) for managing any conflicts. Likewise, bridge construction or maintenance activities are primarily targeted at providing equal and enhanced access for the communities and have inherent multiple beneficial impacts. Therefore, the Program is unlikely to exacerbate social conflict of any nature and that Program areas do not have any territorial disputes.

The ESSA concludes that the overall environmental and social management system of the executing (MoPIT) and implementing (DOR) agencies is acceptable for use in proposed second BIMP's PforR

Component. Nevertheless, it identifies opportunities for further strengthening institutional capacity constraints, improving ground-level performance, and addressing weaknesses experienced in the environmental and social management system during implementation of the predecessor Program (BIMP-I). This opportunity is recognized by the client, which has expressed interest and commitment to address recommendations of the ESSA.

Findings of ESSA indicate following key actions for the proposed Action Plan:

SN	Action	Responsibility	Deadline (from project effective date)	Results (Completion Verification)
1.	Preparation and approval of GESU three-year business plan	GESU/DoR/ MoPIT	six months	Plan developed
2.	Preparation of compendium of updated protocols on following aspects of environmental and social management: <ul style="list-style-type: none"> <li>▪ Site inspection and verification</li> <li>▪ citizen engagement, communication and outreach, grievance management, and workers' influx management</li> <li>▪ Gender Equality and Social Inclusion (GESI)</li> <li>▪ Indigenous/vulnerable community development</li> <li>▪ Land acquisition, resettlement and rehabilitation</li> <li>▪ Environmental and social management in Design-and-Build Bridges</li> </ul>	GESU/BB / DoR	six months	Handbook of Protocols developed and formally circulated for implementation
3.	Revise Bidding documents with distinct reflection of costs for OHS, environmental management, and social management in the BoQ; and inclusion of relevant provisions under the conditions of contract			
4.	Bridge development process re-defined with specific Gate Reviews and input stages from key technical, social, and environmental work streams	BB/DoR	9 months.	Bridge development process endorsed by MoPIT for initial use; Documentation and signoffs for Gate Reviews completed for each Bridge Dossier

5.	Occupational Health and Safety Program created within GESU, and OHS guidelines developed for bridge and road works	GESU/BB / DoR	24 months	Letter from DOR DDG nominating OHS officer; Letter confirming OHS guidelines
6.	DoR ESMF Updated	GESU/BB / DoR	24 months	DoR ESMF updated, approved, and implemented

**Limitation of the ESSA.** With the promulgation of new Constitution in 2015, Nepal is in the process of significant political and administrative transformation – moving to federal system and consequently restructuring of the state and institutions. This represents a fundamental change for Nepal with huge implications for the functions and responsibilities of government at all levels. The role and responsibility of Ministries and Departments under new federal structure are yet to be worked out. Many functions previously held centrally likely to be devolved to the states and/or local levels and there will inevitably be capacity gaps and coordination/ collaboration issues. Several existing policies, acts and regulations will also have to be amended in line with the new constitution. Limitation of the ESSA is that the assessment has been carried out for the existing institutions and policies. Hence, the assessment may have to be re-visited as the changes happens.

## 1. Introduction and Background

The cornerstone of Nepal's surface transportation network is the Strategic Roads Network (SRN) which consists of approximately 12,142 km of roads and 1,674 bridges. The SRN carries the clear majority of passenger and goods transport throughout Nepal. It also provides critical connections to India which is Nepal's largest trading partner and primary conduit for third country trade. The geographical configuration of the SRN is significant. Nepal's busiest highway traverses east to west along the relatively flat "Tarai" districts and provides a transportation link that runs in parallel to Nepal's border with India. North-south feeder roads tee off from this backbone and provide access to the difficult topography of Nepal's hill and mountain districts. SRN roads and bridges provide the physical linkages that integrate Nepal as a single country. The new federal model of government envisaged by Nepal's September 2015 constitution is also likely to make specific SRN corridors particularly relevant to the economic prospects of individual federal provinces.

It is important to note that the SRN remains both incomplete and inadequate with respect to the transportation services that Nepal requires for development. For example, only about 54% of SRN roads feature some form of bituminous surface. Similarly, there are 361 identified gaps on SRN roads that lack bridges as required for providing year-round access along existing roads. Most SRN roads also only include limited road safety features and the rate of road related fatalities in Nepal is amongst the highest in the world. Historically, the SRN's development has been constrained by GON's fiscal capacity and the inherent technical challenges of Himalayan geology. Increasingly, however the SRN's development is constrained by governance related issues and the limited ability of GON programs to deliver their intended results. Sourcing the overall quantum of investment needed for improving SRN road and bridge infrastructure will remain a formidable challenge. However, the foremost obstacle to addressing it will be improving results from the money that will be spent along the way.

Nepal's Department of Roads (DOR) within the Ministry of Physical Infrastructure and Transport (MoPIT) develops and manages roads and bridges along the SRN. The Program's implementation arrangements have benefitted considerably from the first IDA-supported Bridges Improvement and Maintenance Program (BIMP I).

## 2. Program Description

The Bridges Improvement and Maintenance Program (BIMP) operation will support the Government of Nepal's program of investment in bridges on the Strategic Roads Network (hereafter the SRN Bridge Program or Program). The Department of Roads (DOR) manages this Program as a part of its overall Program of capital investment in Nepal's road and bridge infrastructure. The proposed second BIMP operation is designed as a "hybrid" operation using two of the bank investment instruments, viz.; Program-for-Results (PforR) and Investment Project Finance (IPF).

### 2.1 Scope of the Program

#### 2.1.1 PforR

The PforR component will cover: (i) major maintenance on SRN bridges; (ii) road safety upgrades on existing SRN bridges; (iii) new SRN bridge construction after the date of second BIMP Appraisal; and (iv) completion of existing backlog bridges that were under construction prior to the date of Appraisal.

The Program boundary for PforR financing will **exclude** the following:

1. Bridges on roads that are outside of the Ministry of Physical Infrastructure and Transport's (MoPIT's) defined Strategic Roads Network.
2. Any bridges that are likely to have significant adverse impacts that are sensitive, diverse, or unprecedented on the environment and/or affected people. Specifically, this will exclude bridges in Nepal's National Parks and designated environmentally sensitive areas. Existing bridges in national parks and other protected areas constitute 3.1% (by number) of Nepal's bridge stock on the SRN. Gaps that require new bridges in national parks or other protected areas constitute 10% (by number) of all new bridges required on Nepal's SRN. Given the relatively small portion in both cases, the Program remains coherent despite the exclusion of these bridges.
3. Any bridge works that would comprise a high value contracts as defined by Bank Procedures 11.00 which describes "*mandatory prior review thresholds for RPMs and the OPRC*." No such contracts are currently planned over the proposed time scale of the operation.
4. Bridge works that are financed in whole or part by other sources of Official Development Assistance, including other IDA-supported operations. For the avoidance of doubt, this excludes bridges being financed under the IDA-supported Second Additional Finance to the Road Sector Development Project (RSDP AF II, P157607).
5. Existing backlog bridges that lack documentation for compliance with Nepal's Public Procurement Act and Regulations, and requirements for social and environmental risk management as defined by the Environmental and Social Management Framework (ESMF) that applies to the Program.

Bridges that are excluded from PforR financing will not count toward verified achievement of Disbursement Linked Indicators. Expenditures associated with works on excluded bridges will not factor into the Program's total calculated expenditure which cannot exceed the amount of financing disbursed from the Association. Expenditures required for design, feasibility study, supervision, and quality management of Program bridges will be financed under IPF Component 1

## 2.1.2 IPF

(i) Preparations for future projects on the Strategic Roads Network; (ii) Technical auditing by NVC; (iii) Advance bridge designs for enhanced resilience and inclusion; (iv) Training (domestic and international) & capacity development; (v) Supervision oversight consultancies; (vi) Mobilization, equipage, and development of Design and Advance Technology Cell; (vii) support to improve OHS practices and compliance with labor laws.

## 2.2 Key Program Development Objective and Results

The Program Development Objective is to provide safe, reliable and cost effective bridges on Nepal's Strategic Roads Network. This is also the stated objective of the GON's Bridge Policy and Strategy. The following three indicators will serve to measure the PDO's achievement:

### *PDO level results and indicators*

**Table 1 PDO level results and indicators**

<i>PDO level result</i>	<i>PDO level indicator</i>
Safe bridges	<u>PDO 1:</u> Reduced likelihood of road departure crashes on Program bridges.
Resilient bridges	<u>PDO 2:</u> Enhanced DOR capabilities for implementing resilient bridge designs.
Cost effective bridges	<u>PDO 3:</u> Estimated cost savings achieved by Program interventions

## 2.3 Proposed Disbursement Linked Indicators

**Error! Reference source not found.** below summarizes an initial concept for Disbursement Linked Indicators and the amount of IDA financing associated with each. Table – 1 below presents the DLIs and other details.

Table-1 DLIs, target quantities, and IDA financing amounts under PforR

<i>Item</i>	<i>Activity</i>	<i>Qty.</i>	<i>Units</i>	<i>US\$ DLI unit rate</i>	<i>US\$ DLI allocation</i>	<i>Remarks on verification criteria</i>
DLI-1	Major bridge maintenance	4,000	# m	2,867	11,466,977	Verification criteria to specify “state of good repair” that bridges must satisfy in entirety. Bridges selected for maintenance must come exclusively according to BMS priority, and maintenance activities should be compliant to environmental and social provisions.
DLI-2	Road safety upgrades on bridges	8,000	# m	2,150	17,200,465	Upgraded bridges to meet full list of safety criteria to qualify for verification unless site conditions warrant partial solutions that will be pre-agreed with the Association.
DLI-3	New 2 lane bridge construction, rehab., & replacement of bridges	4,000	# m	5,733	22,933,954	Bridges currently under construction (backlog bridges) will be eligible as well as bridges incrementally taken up under the Program. All incremental new bridges taken up under the BIMP-II Program will be required to meet full road safety criteria and to comply with ESMF provisions in order to be eligible.
DLI-4	New 4 lane bridge construction	2,000	# m	7,884	15,767,093	DLI met when: (i) model design-build contract document approved by MoPIT and subsequently used on all Program design-build contract works; and (ii) Program regulations for design-build contracts developed, approved by MoPIT, and submitted to Public Procurement Monitoring Office (PPMO) for consideration as national regulations.

DLI-5	Completion of backlog bridges under construction	5,000	# m	2,867	14,333,721	Verification criteria to specify eligibility criteria relating to (i) minimum frequency of reporting; and (ii) quality of reporting.
DLI-6	Improved fiduciary governance of design-build contracting	1	# ea.	2,000,000	2,000,000	Including integration and implementation of environmental and social safeguard aspects (assessment/screening, preparation and implementation of required management plans, supervision, etc.) in tandem with civil work activities (feasibility study, design, construction, etc.)
DLI-7	BSMS monthly monitoring on Program worksites	7,000	# ea.	5000	3,750,000	Including compliance monitoring of environmental and social safeguard provisions
<b><i>Subtotal of IDA financing of PforR component DLIs</i></b>				<b><i>87,202,210</i></b>		

Per-meter DLIs inducing DLI-1, DLI-2, and DLI-3, will be scalable for bridges of different lengths with rounding to the nearest 1/10<sup>th</sup> of a meter for calculation of cumulative disbursement amounts. However, disbursements against these DLIs will be “all or nothing” for a discrete bridge. No partial disbursement for a given section of a single structure will be possible. In addition, bridges selected for disbursement against DLI-1 (major maintenance) and DLI-2 (road safety) will be required to meet a full list of eligibility criteria related to “state of good repair” or road safety in order to qualify for disbursement. Partial maintenance or partial achievement of road safety criteria will not be sufficient to pass verification unless site conditions render a full solution impossible. Any such exceptions to agreed verification criteria will be pre-agreed on a case-by-case basis with the Association prior to the start of works.

## 2.4 Program Implementation Arrangements

The Department of Roads (DOR) will be responsible for implementing Program activities through its regional and district offices. A dedicated Kathmandu-based Bridge Branch within DOR manages the overall SRN Bridge Program, including the proposed Second BIMP activities. This Branch has a long term programmatic mandate for managing SRN bridge policy, strategy, technical standards, and physical assets themselves. The Bridge Branch directly implements a small number of bridge investments (mainly complex and high value bridges). DOR’s regional directorates and divisional offices are responsible for executing the majority of construction and maintenance contracts once the Bridge Branch has vetted the corresponding technical designs.

There are four Regional Bridge Sector Projects under the Bridge Branch and the Regional Directorates (RDs) at the Region. They are responsible for new construction, and major maintenance. There are 34 Road Division Offices at the District level. They are directly under Director General (DG) through Regional Director (RD). They are also responsible for minor maintenance and new construction of bridges. These Projects and Divisions are also constructing bridges; however, any approval of design and cost-estimate of a bridge by DG requires prior recommendation of the Bridge Branch.

The Geo-Environment and Social Unit (GESU) under the Planning and Monitoring Branch at DoR is the focal unit on overall coordination and management of environmental and social aspects of all works undertaken by the DoR - including bridge programs. Further empowerment of GESU – including delegation of authority to approve/sign any expenditure for its implementation of its annual business plans – is envisaged to be further supportive in smooth Program implementation.

Project site specific environmental and social screening and Environmental and Social Management Plans (ESMPs) are prepared by GESU and it acts as DOR's lead entity for environmental and social management during project implementation.

### 3. National Environmental and Social Management System & Legal Provisions

#### Current Country Context

Federalism. Nepal has undergone major political change in recent years. With the promulgation of new Constitution in 2015, Nepal is in the process of significant political and administrative transformation – moving to federal system and consequently restructuring of the state and institutions<sup>2</sup>. This represents a fundamental change for Nepal with huge implications for the functions and responsibilities of government at all levels. Local, State and federal elections were recently held. It is clear that these changes will have a strong transformative influence in all sectors - although many of the details have still to be worked out. The new Constitution of Nepal 2015, responsibility for the transport sector<sup>3</sup> is split among the three tiers of the government as broadly described below:

**1. Federal power (Schedule-5):**

- National transportation policies, Management of railways and national highways and environment adaptation and sites for archaeological importance and ancient monuments.
- National and international environmental management, national parks, wildlife reserves and wetland, national forest policies and carbon services.

**2. State Power (Schedule – 6):**

- State highways, use of forest and waters and management of environment within the state.

**3. Local level power (Schedule-8):**

- Local road, rural roads, agro road, Protection of watershed, wildlife.

**4. Concurrent powers of Federation and State (Schedule-7):**

- State Boundary River, waterways, environment protection, biological diversity, Industry, mines and physical infrastructure.

**5. Concurrent powers of Federation, State and Local Level (Schedule-9):**

- Forest wild life, birds, water use, environment, ecology and biodiversity.

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

Capacity building of state and local government and inter-agency cooperation and collaboration are likely to be concerns/ issues at least in the initial phase of implementation of the federalism/ new constitution.

**Limitation of this chapter:** The discussion on the *National Environmental and Social Management System & Legal Provisions* is limited to the existing institutions, and polices and acts. As described in the preceding sections, changes on these are imminent in the near future as implementation of the new

<sup>2</sup> There will be three levels of governments – one federal government, 7 provincial governments, and 753 local governments – and several central agencies are being merged and new agencies being created. The 753 local governments consist of 6 metropolitan cities, 11 sub-metropolitan cities, 276 municipalities and 460 rural municipalities.

<sup>3</sup> This could have implications on the second BIMP as bridge is under the transport sector.

constitution/ federalism progresses. Hence, the assessment in the following sections may have to be revisited as the changes happens.

### *3.1 National environmental and social management system*

The existing government institutional setup to address environmental and social impacts in the transport sector comprises institutions at both central, provincial (regional) and local levels. The environmental and social policies are usually framed and promulgated by the central level institutions such as National Planning Commission and the Ministry of Environment, while other Ministries and line departments at central level provide sectoral inputs for the national environmental and social policy setting. According to Environmental Protection Rule (1997) approval for the IEE document is given directly by the MoPIT. For the EIA document of ESIA level, this ministry forwards the document with its comments to Ministry of Population and Environment (MoPE). The MoPE is the final authority for the approval of EIA level assessment documents. The GESU of the DOR is the responsible entity within DOR for management of project environmental and social issues, from planning to implementation. The line institutions at district level and in the field are primarily assisting with planning and implementation of environmental and social measures at operational level.

A highlight of the various institutions, mandates and responsibilities is briefly summarized below.

#### **Central Level:**

##### **National Planning Commission (NPC)**

NPC is the highest policy making body which is involved in formulating overarching national development policies and plans of short, medium and long term including transport and bridge sub-sector. As per the mandate, its role in the formulation of the national policies on environment and social issues is paramount apart from setting priorities of the developments projects including bridges. NPC has prepared Land Acquisition, Rehabilitation and Resettlement Policy (LARRP), 2015 for infrastructure development projects. For BIMP, NPC conducts dossier verification and submission to Bank for reimbursement.

**The Ministry of Population and Environment (MoPE) and the Ministry of Physical Infrastructure and Transport (MoPIT)** are the key Ministries directly involved in the ESIA process of transport sector including Bridge Projects. Department of Environment (DoEnv) under MoPE is the apex authority responsible to enforce the implementation of environment related acts, regulation, legislations, standards and environmental management plan and can penalize the developers and prohibit development works not complying the pollution standards and EIA approval conditions. MoPE is also the authority for setting up pollution standards for emissions, effluents and other discharges and approves final EIA study report of the projects. The Planning, Monitoring and Evaluation Branch under the MoPIT is also directly involved in the ESIA process of bridges. Its roles include review of EIA documents of Bridge Projects, and participate in EIA review meetings of MoPE. MoPIT has authority to approve IEE Reports. EPA/EPR empowers MoPIT for monitoring and evaluation of the Bridge Branch as per approval conditions and provides directives to the developer in case of non-compliance.

The Ministry of Forest and Soil Conservation (MOFSC) including the Department of Forest and Department National Parks & Wildlife Conservation (DNPWC) and other line ministries (Ministry of Culture, Tourism and Civil Aviation; Department of Archeology) have only indirect roles in the development of transport sector projects including bridges. Generally, the MOFSC and other line ministries come only in picture and involve directly when a project is likely to be located in the forest or in the protected area or in the cultural site. Approval of forest clearance is the authority of the ministry of Forest and Soil Conservation.

**The Bridge Branch and the Geo-environment and Social Unit (GESU).** The Bridge Branch within DOR has the primary role in planning, design, implementation and monitoring of the Bridge Projects

on Nepal's Strategic Roads Network. The Bridge Branch has the responsibility of preliminary planning, pre-feasibility study and alternative analysis, feasibility study and design. GESU is headed by a chief who reports to the Deputy Director General of DOR. Its members consist of regular DOR staff (including environment and social Officers) and consultant experts who are recruited from the market to provide support on fixed terms. GESU is entirely funded under DOR's budget.

- GESU has following roles in the management of BIMP environment and social aspects: Environmental and social screening of Bridge sites (works) to verify their eligibility for inclusion under the Program as per ESMF and other relevant provisions
- Commission IEE and ESIA (conduct or outsource experts or consulting firms to conduct IEE and EIA) studies
- Review Scoping Document/Terms of Reference of EIA/IEE study and forward IEE and EIA study documents to MoPIT with its consent and comments on the documents for approval processing
- Participate as concerned stakeholder in the review meetings of Scoping document, TOR, IEE and EIA documents organized by the MoPIT and MOPE and give their consent.
- Co-ordinate with the sectoral and cross- sectoral ministries and departments for approval and permits such as MOFSC, Ministry of Energy, Department of Forests, Department of National Parks and Wildlife Conservation, Department of Irrigation, Department of Archeology etc. during project preparation and implementation
- Conduct or outsource to conduct environmental and social monitoring of the project under implementation, and
- Public disclosure of the ESIA process and documents
- Supervision and monitoring of project interventions under implementation as per project provisions and recommend for corrective actions
- GRM support
- Recordkeeping of activities under its jurisdiction

### **Regional Level:**

**The Regional Directorate (RD)** of DOR does not have any role in the ESIA process and subsequent stages of Bridge Branch construction. It has limited role in supervision and monitoring of the projects implemented in the region and is a coordination link between the DOR and the division offices under its jurisdictions but not necessarily for project planning, execution and monitoring.

### **DOR Division Offices:**

**The DOR Division offices** have no major roles in the ESIA process during project preparation stage. However, their accountability is quite high because of the direct involvement during the implementation stage of Bridge Projects. As a primary implementing organ of the Bridge Branch, the division offices have roles in construction supervision. By implication, the Division Offices are also accountable for environmental and social impact supervision and mitigation on day to day basis. As it is involved in the implementation of the Bridge Projects, incorporation of the environmental costs of civil works in the bid document, based on the approved IEE/EIA documents as well as ESMP, is the responsibility of Division Office. It may ask for GESU involvement in this process. Apart from this, the Division Office is responsible for co-ordination with the district forest office and other sectoral line offices at district as well as with the local communities for approval, permission, and execution of the project as required by the project planning and design.

On social aspects, implementation of any social plans that includes land and property acquisition, compensation payment and delivery of various assistance measures, should be performed by concerned division offices in close co-ordination with the District Administration Office, District Survey Office, Land Revenue Office including GESU at the center. It also serves as front line grievance handling agency in case of conflict and dissatisfaction of the affected parties.

### **District Line Agencies:**

The district line agencies including the District Administration Office (DAO), District Land Survey Office (DLSO), and District Land Revenue Office (DLRO) are crucial agencies for the valuation and determination of the compensation rate for each affected owner. Chaired by the Chief of District Administration Office (CDO), the CDC may consist of members from DLSO, DLRO and DDC is the legal authority to handle all issues related to land compensation as per the Land Acquisition Act, 1977. The Project Chief is also the member of the Committee and the representatives of affected people may attend the meetings as invitee members.

### **Consulting Entities:**

Due to limited capacity, planning, design and sometimes monitoring of environmental and social mitigation measures are often contracted out to specialist consulting firms to complete. Therefore, the role of consulting groups is critical in the design, supervision and monitoring quality of Bridge Projects.

## **3.2 Existing Policy and Legal Provisions Relating to Environment**

**Description of the policy and legal framework.** The Government of Nepal has, in place, a policy framework for the management of social and environmental impacts in the transport sector that includes bridge development. This policy framework consists of a set of national policies and a set of directives, technical manuals, guidelines and management frameworks related to the transport sector, including bridge development. The country's Environmental and Social Management System may be hierarchically, grouped into three groups: i) National Overarching Policies, ii) Legislative Framework, and iii) Technical Guidelines and Tools.

### **i) National overarching policies.**

Following are the key policies with relevance to OP/BP: 9.0 related to the environmental and social effects of the government of Nepal:

- Nepal Environmental Policies and Action Plan (NEPAP), 1993
- The National Transport Policy (NTP), 2001
- Forest Policy (2015)
- 
- Five-year Strategic Plan (MOPIT), related to Roads, railway and Transport Development, 2017-21.

Apart from the above, there are also periodic national development plans (long term and interim) that highlight the key environmental and social policies of the government for the planning period. Such plans provide guidance and direction for the prevention, protection, mitigation and management of adverse environmental and social issues that emerge during project development.

According to the Constitution of Nepal (2015) every citizen has the right to live in a clean environment. The victim shall have the right to obtain compensation in accordance with law, or any injury caused from environmental pollution or degradation. The development plans, Environmental Protection Act and Nepal Environmental Policies and Action Plan (1993), *inter alia*, provide a broad basis for environmental and social management in Nepal. These umbrella policies, in general, promote prevention of adverse impacts, protection and sustainable use of natural resource, equitable distribution

of benefits, balancing development and environmental conservations etc. Nepal is party to, or has ratified, several international environmental conventions and treaties demonstrating the country's willingness to follow good international environmental practices.

## ii) Legislative framework.

Following the overarching national policies, the government has formulated and periodically updated a series of sector acts related to the management of environmental and social impacts relevant to the bridge development. The environmental and social policies and legislative framework, guidelines, Directives, ESMF for the transport project including Bridge is presented in Annex-2. The key acts and regulations are given as below.

- The Constitution of Nepal, 2015
- Local Government Operational Act (2017)
- Labor Act, 2017
- Land Acquisition, Resettlement and Rehabilitation Policy (LARRP), 2015
- Ancient Monument Preservation Act (AMPA), 1956
- The Aquatic Animal Protection Act (AAPA), 1960
- National Park and Wildlife Conservation Act (NPWCA), 1973
- Public Road Act (PRA), 1974
- Land Acquisition Act (LAA), 1977
- Forest Act (FA)1993 and Forest Regulation (FR), 1995
- Environment Protection Act (EPA), 1997
- Environment Protection Regulation (EPR) 1997 and its amendments (now up to fifth amendment)
- National Foundation for the Development of Indigenous Nationalities Act (NFDINA), 2002
- Child Labor Act (CLA) 2001
- Labour Act 2017
- Road Board Act 2002
- Gender Equality Act, 2006
- Gender-Related International Conventions (including Convention on Elimination of All Forms of Discrimination Against Women, CEDAW)
- ILO Convention on Indigenous and Tribal Peoples, 1989 (No.169)
- ILO Convention on Worst Forms of Child Labour (C182)

The Acts are passed by the parliament, while the Regulations are issued by the Cabinet. The acts and regulations are legally binding.

Indigenous People: The government decreed the "National Foundation for the Development of Indigenous Nationalities (NFDIN) Act" in 2002. The act defines indigenous groups or *Adivasi Janajati* in Nepali as "a tribe or community having its own territory, own mother tongue, traditional rites and customs, distinct cultural identity, distinct social structure and written or unwritten history". The government, through NFDIN, has identified and officially recognized 59 such indigenous communities. This list was updated in 2009 to include 81groups for official recognition.

The NFDIN established the first comprehensive policy and institutional framework regarding indigenous peoples. The Interim Constitution further recognizes the status of all mother tongues as national languages, enabling their use in the governmental sector, and recognizes the rights of indigenous peoples to “participate in State structures based on principles of proportional inclusion”, and authorizes the State to implement special measures “for the protection, empowerment and advancement of indigenous nationalities”.

In addition to the New Constitution (2015) and the NFDIN Act 2002, there is other recent legislation that addresses specifically the situation of, and call for specific measures in relation to, the *Adivasi Janajati* and other marginalized groups. These include the Local Government Operational Act (2017); the Three Year Interim Plan (2010); the 2007 amendments to the Nepal Civil Service Laws, Military Act and Police Regulation; and the Ordinance on Inclusion in Public Service (2009). The Local Government Operational Act (2017) acknowledges the authority local government such as Rural Municipality/Municipality/Sub-Metropolitan/Metropolitan City. The Civil Service Act includes a quota (reservation) system that specifies: "out of the 45% of new recruitments reserved for various under-represented groups, 27% are allocated to *ethnic groups*". The Police Regulation and the Armed Police Regulation have similar provision, in order to make the police force more inclusive. The Ordinance on Inclusion in Public Service likewise demonstrates attention to the problem of under-representation by providing a quota system that benefits indigenous peoples.

### iii) Technical Guidelines and Tools.

Over the last few decades, a number of technical Guidelines, Directives, Manuals and Frameworks have been developed which are particularly relevant to the transport sector for the purpose of environmental and social impacts management.

The technical guidelines and tools, such as mentioned above, are prepared and issued by competent authority (such as a Ministry or a Department) by elaborating and explaining the provisions of acts and regulations as well as incorporating good practices. These are intended for use within the jurisdiction of the issuing competent authority, and are enforceable to the extent these do not contradict with the provision(s) of the mother act and regulation. These guidelines and tools describe the requirements, processes and procedures in more detail than in the act and regulation.

Developed over a period of time (typically with donor support to meet specific project purposes) these documents encapsulate many of the core principles and key elements of OP/BP 9.0. These have been accepted and endorsed by the government for their departmental investment operations. They describe the process and procedures of environmental assessment to ensure integration of environmental consideration in the project survey, design, tender and contract documents. The existing environmental and social provisions relevant to Bridge projects are presented in Annex 2.

## **3.3 Assessment of Existing Policy and Legal Framework vis – a- vis PforR Principles**

The existing government policy and legal framework on the management of social and environmental impacts generally reflects the PforR principles relating to social and environmental effects. The EPA, 1997 and EPR 1997 is an umbrella environmental act and rules in the country. The EPA/EPR combined with other acts (Forest, National Park & Wild Life Conservation, Aquatic Animal Protection, and Ancient Monument Preservation) cover most of the key principles defined in OP/BP 9.0. The sectoral legislation is older than the environmental act and policies of the government. In essence, the policies and laws, put together, provide guidance and directions for avoiding, minimizing or mitigating potential adverse impacts on natural resources and important natural habitats, for promoting environmental sustainability as well as for ensuring stakeholder participation and information while planning and implementation of development projects/activities. The guidelines and directives mentioned in the

previous chapter provide general guidance regarding communities and workers' health and safety in road construction.

The EPA/EPR does not permit implementation of a development activity or project without approval of the respective IEE or EIA, if required. Schedule 1 and Schedule 2 (pertaining to Rule 3: IEE or EIA to be made) of the EPR elaborates the requirements defining the projects or activities requiring IEE and EIA based on sector, type, size, location, sensitivity and cost.

Sector laws emphasize the protection and conservation of natural resources, natural habitats (terrestrial and aquatic), protection of physical cultural resources, and avoidance or mitigation of adverse impacts on them. The Forest Act prohibits any activities within the forest area without prior approval of the concerned forest authorities; Forest Regulations as well as Work Procedures require compensatory plantation (1 tree loss to be compensated by the planting of 25 trees). The National Parks and Wildlife Conservation Act prohibits a range of development<sup>4</sup> and other activities within the protected areas (natural habitat) without written permission of the concerned authorities which generally discourages development activities inside the protected areas. Aquatic Animal Protection Act prohibits actions that impinge upon the aquatic life and the Ancient Monument Preservation Act restricts excavations in places where ancient monuments are located and prohibits development works, which may adversely affect ancient monuments, without prior approval.

While the Land Acquisition Act mandates only cash compensation for involuntary resettlement for all sectors, the transport sector has developed, with World Bank and Asian Development Bank assistance, an Environmental and Social Management Framework for DOR operations. This framework has gone beyond cash compensation to include basic objectives, principles and approach for resettlement and livelihood restoration and improvement. This framework has been reviewed and accepted as meeting the requirements with World Bank policy on involuntary resettlement and indigenous peoples. As a DOR sector policy for transport projects, it also reflects the core principles and elements of the OP/BP: 9.0. Likewise, the Land Acquisition, Resettlement and Rehabilitation Policy (LARRP) of the Government adopted in the year 2015 has more elaborate provisions applicable to infrastructure development projects like BIMP. The challenge, however, is its full and effective implementation.

### **3.4 General Environment and Social Principles**

The GON's legal policy framework on environment and social impact management for the transport sector consists of a set of national policies, acts, directives, technical manuals, guidelines and management frameworks. This framework reflects, to various extents, the following core principles of OP/BP 9.00:

- Avoid, minimize or mitigate against adverse environmental impacts
- Promote environmental and social sustainability in Program design
- Promote informed decision making relating to a Program's environmental and social effects; involving key stakeholders; protecting the rights and interests of indigenous/vulnerable peoples; as envisaged in the core principles of OP/BP 9.0.

One of the core principles of the environmental policy of Nepal is to integrate the environment and development objectives. This is done through appropriate institutions, adequate legislation, economic incentives, and sufficient public resources (NEPAP, 1993) for the establishment of environmental and social management process and procedures to make the environmental assessment transparent and effective for the mitigation of the adverse effects of development on the natural resources.

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<sup>4</sup>Construction of structure, any harm or damage to forest resources and wildlife/ birds, digging, block/divert or adversely affect river/stream etc.

The national environmental policies are backed by an umbrella environmental legislation (EPA and EPR) which has established a regulatory authority to guide environmental and social impact assessment (SIA) at the project level. The umbrella environmental legislation (EPA/EPR), in combination with sector specific acts is consistent with the core principles and elements of OP/BP 9.0.

The umbrella environmental legislation (EPA, 1997 and EPR, 1997) sets the process and procedures to avoid adverse effects on forest, natural habitats and physical cultural resources resulting from Program activities or investments. The areas of forest, natural habitat and physical cultural resources of historic and archeological significance have been screened as special areas requiring prior permission and approval from the concerned authorities even for the studies for project design (EPA clause 9 & 10, EPR, Chapter 5, and Rule 26 to 33). The projects outside the natural habitat and physical cultural resources areas should undergo IEE and EIA level process as per the environmental screening process stipulated in the EPR (EPR Chapter 3, Rule 3, Schedule 1 and 2). Prior information to the stakeholders regarding the project to register the comments and concerns of stakeholder is one of key procedures to be complied as per EPR provisions (EPR, Chapter 2, Rule 4(2), 7 (2), and Rule 11 (2)). Apart from this, EPR Chapter 2, Rule 10 mandates submission of the recommendation letters from the local governments of the project implementation areas (Village Development Committees/Rural Municipalities and Municipalities) while forwarding IEE and EIA documents for approval to the concerned authority and Ministry. According to fourth EPR amendment (25 April 2016/ Baisakh 13, 2073BS) chapter -2 Rule 11 (a) national priority project, natural or national disaster management related project's EIA Scoping document is approved within 20 days of its submission to Ministry.

The document formats for TORs and reports (IEE and EIA) prescribed in EPR Chapter 2, Rule 5(1), 5(2) and Schedule 3, and 4 and Rule 7 (1) and schedule 5 and 6, stipulate that alternative analysis, mitigation measures and monitoring plans be integral parts of the TOR and the respective IEE and EIA documents. This implies that the avoidance, minimization and compensation principles will be followed in the EIA process during project preparation and design phase and possibly left for the forthcoming manuals and guidelines under the legislation. Unfortunately, such manuals and guidelines are yet to be framed by the concerned Ministry, the Ministry of Environment.

The EIA guideline (1993) pre-dating the umbrella environmental legislation (EPA and EPR) and sectoral manual/guidelines/directives (Environmental Management Guidelines, DOR, 1997; The Public Works Directive (PWD) 2002; Manual for environmental and social aspects of Integrated Road Development, MoPPW/DOR, 2003; Interim Guidelines for Enhancing Poverty Reduction Impact of Road Projects, DOR, August 2007, Environmental and Social Management Framework, 2007) postdating the umbrella environmental legislation have covered the key elements of the OP/BP 9.0 (these are discussed in the sections below).

The stipulated formats for TORs and IEE/EIA documents (EPR Chapter 2, Rule 5(1), 5(2) and Schedule 3, and 4 and Rule 7(1) and schedule 5 and 6) do reflect the core principles of OP/BP: 9.0. To minimize the effects of exposure to toxic chemicals, hazardous, wastes and other dangerous chemicals EPR provision in Chapter 3, Rule 15 prohibits emitting waste in contravention to the prescribed standards.

**Land Acquisition and Resettlement:** The LAA is the overarching policy governing land acquisition and involuntary resettlement in Nepal. It mandates cash compensation as the only mitigation measure for acquisition for private land and properties. It does not require or prescribe any mitigation or livelihood restoration measures if required. The institutional mandate and responsibilities are clearly set out in the LAA as far as land compensation payment is concerned, but it does not describe any mandate or responsibilities for planning and implementing livelihood restoration and physical relocation. However, within the transport sector, DOR has developed its own Environmental and Social Management Framework that has gone beyond the LAA mandates to require all options for livelihood restoration and involuntary resettlement to be considered, including cash compensation. It lays out the planning requirements as well as institutional setup to address land acquisition and involuntary resettlement impacts.

The Forest Act (FA) under Chapter 11, Article 49, prohibits any activities within the forest area without prior approval of the concerned forest authorities. However, Chapter 13, Article 68 has a provision to give forest areas for other development purpose provided no other alternative exists and the project causes no significant impact to the forest. This provision mandates a detailed alternative analysis of the project in question prior to the approval to use the forest land.

The Aquatic Animal Protection Act (AAPA) prohibits actions that impinge upon the aquatic life (Article 5). Prior information to the concerned technical officer impinging on the natural water body is mandated (Article 5B (1) and (2)). The stipulated provisions do not require information on the baseline environment, type of perceived impacts and mitigation in addition to other alternatives available for review assessment to be eligible for development of the project.

The National Parks and Wildlife Conservation Act (NPWCA) prohibits entry into the national parks (Article 4) without prior approval of the concerned authority. The Act also prohibits a range of development and other activities (Article 5) within the national parks without permissions of the concerned authorities. The process and procedures to be followed for the development activities are not explicit and are rested on the discretionary powers of the concerned authorities.

The Ancient Monument Preservation Act (AMPA), similar to the NPWCA in protected area, prohibits development works which may impact ancient monuments without prior approval of the concerned authorities (Section 3, Article 5 and 8) but does not provide detail on the process and procedures to be followed for the development activities and therefore rely on the discretionary powers of the concerned authorities.

The Child Labor Act (CLA) under Article 3, Clause 1 prohibits employing any child below the age of 14. However, Clause 2 states that it is prohibited for children below the age of 16 to work in risk prone sectors – including bridge or road construction activities. Road Board Act 2002 has mandate to impose road repair and maintenance quality and monitoring implementation of quality under article -4, clause 17 and 18.

### **3.5 GoN Environmental & Social Management System vs. WB PforR Principles**

The following is an assessment of the GON policies on management of environmental and social impacts relevant to the transport sector, specifically the SRN Bridge Program, compared with the principles and elements in World Bank OP/BP 9.00 to be followed for PforR operations. Nepal's environmental and social management systems that applied to the SRN Bridge Program consist of national legal policies and sector guidelines that are broadly consistent with OP/BP 9.00. However, when reviewed separately, individual laws or policies, may not reflect the entirety of OP/BP 9.00 principles. Some gaps do exist and some lack more specific elaborations. This is particularly so in the case of managing social impacts, such as impacts on those without land title and compensation at replacement cost for structures.

In recognition of these differences, DOR has bridged gaps and provided specific guidance in these lacking areas for its road operations through developing and issuing an Environmental and Social Management Framework which was completed with ADB and World Bank assistance and has been updated in the year 2013 to include bridge works. This document has been applied to BIMP-I and will serve to guide the proposed Bridge Program (BIMP – II) to manage environment and social issues in accordance with OP/BP 9.00 principles. The ESMF was developed in line with relevant ADB and World Bank safeguard policies and addressed gaps in the national legal framework for dealing with social and environmental impacts. The ESMF represents a progressive step towards adopting these principles at national policy level.

#### **A. Environmental Elements**

**Early screening of potential effects:** Environmental screening is required for any development proposals including Bridge. The environmental screening identifies activities requiring Initial Environmental Examination (IEE) and those requiring Environmental Impact Assessment (EIA) based on the type of activity, size, investment, and location in the sensitive/protected area. Only major bridges<sup>5</sup> or bridges located in defined sensitive sites (natural habitats and/or areas with physical cultural resources) are required to undergo an EIA process. Other bridges, located outside of sensitive areas or not-classified as major bridges, are exempted from environmental due diligence and overlooks the environmental and social risks at the screening stage (such as impacts on river morphology, aquatic life, forests etc.). The screening, IEE and EIA are supposed to be done matching with the project planning, feasibility and detailed design. All bridges proposed under the second BIMP will be subjected to early screening of potential environmental effect.

**Consideration of strategic, technical, and site alternatives (including the “no action” alternative):**

Nepal's environmental system requires alternative analysis of projects that are subject to IEE or EIA (but not those that are exempt from EIA or IEE). The alternatives assessment is required for project design, project size, implementation schedules, raw materials to be used, and no project alternative. The Forest, National Park & Wildlife Conservation and Ancient Monument Preservation Acts support considerations to site alternatives, although not in explicit terms. Consideration of strategic alternatives is not an explicit requirement for the ESIA process.

**Explicit assessment of potential induced, cumulative and trans-boundary impacts:** The country system explicitly requires identification and prediction of the potential direct and indirect environmental impacts in the project site and its immediate surroundings: the scope of impacts include physical, biological, socio-economic, and cultural environments. Although section 6.2.3 of ESMF provides guidance on a range of mitigation measures to minimize the range of induced and cumulative impacts, assessment of the cumulative and trans-boundary impacts is not explicit.

**Identification of measures to mitigate adverse environmental or social impacts that cannot be otherwise avoided or minimized:** This is a requirement for each project that is subjected to IEE or EIA. National EIA Guidelines, Environmental Management Guidelines, 1997, DOR; Public Works Directives, and the ESMF have made special provisions for the identification of measures to mitigate the perceived adverse environmental and social impacts with list of potential measures for the transport sector as case examples.

**Clear articulation of institutional responsibilities and resources to support implementation of plan:** The project proponent is primarily responsible for implementing the mitigations included in the IEE or EIA. As per the existing regulation, the proponent is also required to make resources available for implementing the environmental mitigation works. The rules, guidelines and frameworks spell out the roles of different institutional stakeholders.

**Responsiveness and accountability through stakeholder consultation:** The ESIA system requires dissemination of information and stakeholder consultations at different stages of a project that require IEE or EIA. The issues and concerns of the stakeholders are required to be addressed in the respective ESIA documents. The project subjected to IEE or EIA is required to disclose the information and consult stakeholders. An IEE project would require 15 days' public notification and feedback from the stakeholders, likely affected people and local authority. Projects which need an EIA also require similar consultation prior to scoping and writing the TORs, during the EIA field work and the public hearings after the draft EIA Report. EIA Reports are publicly disclosed for thirty day for comments and suggestions. But in the case of complementary EIA reports (as per EPR Fifth Amendment) are publicly disclosed for fifteen days for comments and disclose.

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<sup>5</sup> Bridge more than 50 m long or more than 25 m span.

**Grievance Redress Mechanism (GRM):** The Environmental and Social Management Framework (2007) Chapter 7 requires establishment of grievance redress mechanism (GRM) particularly related to the land acquisition and compensation issues. Such redress mechanisms for other issues such as pollution, nuisance, obstruction of access are not envisaged.

**Program avoids the significant conversion or destruction of natural habitats:** The Forest Guideline for the Development of Projects in the Forest Area, 2006 requires detailed alternative analysis of the projects falling under forested areas. Forest clearance of forest land is only allowed to the developer when the project is of National priority and is not possible without the use of the forest land. The developer of the project is mandated by the guideline for plantation in adjacent degraded land to the minimum of land area equal to the project occupied area. The development projects occupying the forested land also require the planting of 25 trees for every tree cut or damaged by the project. The Environmental and Social Management Framework, 2007, Chapter 6., section 6.2.2, ii, (2) a, b, and c have also listed a range of preventive, minimization and compensatory measures for the conservation, maintenance and rehabilitation of natural habitats.

**Proactive protection, conservation, maintenance, and rehabilitation of natural habitats:** The Forest Guideline for the Development of Projects in the Forest Area, 2006 requires the planting and protection of trees at a 1:25 ratio for every loss of a standing tree of above 10cm DBH. ESMF, Chapter 6 section 6.2.2, ii, (2) related to impact mitigation relating to the Biological environment, (a) clearing of forest land and habitat damage loss, (b) avoiding habitat fragmentation, (c) control of illegal harvest of forest products and poaching on wild life have listed a range of preventive, mitigative and compensatory measures for the conservation and maintenance and rehabilitation of natural habitats.

**Considers potential adverse effects on physical cultural property:** EPR schedules 1 and 2 requires, as part of ESIA process, screening of a proposed project for its effects on Physical/cultural resources/sites. Projects in historical, cultural and archeological locations require EIA irrespective of the project nature and size. The Ancient Monument Protection Act, 1956 requires prior approval of the Department of Archeology for the development works. All objects more than 100 years of age are restricted for transfer from site and trade. The Environmental and Social Management Framework, 2007; Chapters 2 and 4 stress the avoidance of sites of cultural and historical importance and if unavoidable requires reporting to concerned authorities as well as on public consultation at various stages of project development to build consensus among the stakeholders, Chapter 6.2.2, ii (3) "e", related to avoiding impacts on cultural and historical properties have provided preventive, and minimization measures for the protection of physical and cultural property.

**Promotes community, individual and worker safety:** The Environmental and Social Management Framework, 2007; Chapter 6, section 6.2.2, ii, (3) "c", relating to damages to community infrastructure and social life quality and "d" calls for mitigation provisions for the safety of communities and occupational health workers.

**Promotes use of recognized good practice in the production, management, storage, transport, disposal of hazardous materials generated through Program construction or operations:** The ESMF, 2007, Chapter 6, Section 6.2.2, ii, (1), "m" handling hazardous materials has provided a range of preventive, mitigative, and compensatory measures for the management of explosive, combustible and toxic materials.

**Measures to avoid, minimize or mitigate community, individual and worker risks when Program activities are located within areas prone to natural hazards such as floods, hurricanes, earthquakes, or other severe weather:** Specific provisions for the projects located within areas prone to natural hazards has not been detailed, however, such areas are emphasized for avoidance in the project planning and preparation stage in the Public Work Directive, and ESMF.

The preceding discussion shows that the environmental policy, legal framework, and operational directives and guidelines applicable to the proposed Bridge Project (BIMP-II) are consistent with OP/BP 9.00. DOR's environmental framework, guidelines and manuals have been prepared for roads and many of the processes and procedures elaborated in the mentioned operational documents are applicable to Bridge Projects as well. The mitigation measures (particularly related to construction activities, such as waste disposal, workers' health and safety, quarrying etc.) can be readily adapted to Bridge Projects. These documents have paid particular attention to the bridge specific planning, design and construction issues – for example impacts on river morphology and aquatic life. Achievements and lessons learnt in BIMP- I Program are useful to bridge gap for the second BIMP

## B. Social Elements

**Ensure people's participation in devising opportunities to benefit from customary resources/ Indigenous knowledge that are socially and culturally acceptable:** Section 5 of NFDIN Act makes it clear that one major objective of NFDIN is to preserve and promote the traditional knowledge, skills, technologies and special knowhow of indigenous nationalities and to aid in its vocational use. Similarly, the Public Work Directives (PWD) Chapter 4.3 spells out about anticipated adverse impacts on Indigenous People or their cultural heritage while Chapter 4.6 requires inclusion of the coverage of indigenous peoples through consultations and their participation. The ESMF of DOR Chapter 8.5.3 underscores that in case of land acquisition or structural losses of vulnerable communities including indigenous communities, the Project will ensure that their rights will not be violated and that they will be compensated for the use of any part of their land or property in a manner that is socially and culturally acceptable to them. The compensation measures should follow the procedures specified in the Resettlement Policy Framework (RPF), which was developed for the earlier Bank funded project but adopted by the DOR for their departmental investment operations.

**Program planning and implementation for equitable benefits/special measures for vulnerable/disadvantaged groups**

The ESMF of DOR, Chapter 3.7 describes government policies in supporting the vulnerable communities, who are defined as those living in remote locations and who are commonly landless, marginal farmers living below subsistence level and often ex-kamaias (bonded laborers). Formal and informal studies reveal that most of the Janajati, Adhibasi, Dalit and generally women fall under the category of vulnerable persons in Nepal. Women in all social groups and regions have been proven as more disadvantaged than their male counterpart and even among women, widows, separated divorced and women headed households are particularly disadvantaged.

The ESMF, Table 7.2 Entitlement Matrix suggests different types of support measures to different categories of vulnerable groups ranging from training to replacement land and cash assistances for improving or restoring their livelihood. ESMF Chapter 8 is devoted fully on Vulnerable Community Development Framework (VCDF) in SRN Program. It identifies the potential vulnerable communities in Nepal (which also equates the indigenous people with ethnic groups (Janajati) and has also classified vulnerable groups into four categories: (i) highly marginalized ;( ii) marginalized; and (iii) disadvantaged and (iv) advanced groups.

The IGPERIP, Appendix 23 provides more details under Guidance Notes on Vulnerable and Indigenous People Development Plan defining the vulnerable and indigenous people, the rationale of separate plans, methodology, timing and outlines of the plans. Nevertheless, these documents do not clearly describe planning and implementation to projects and programs that ensure equitable benefits to these groups.

**Avoid or minimize land acquisition and related adverse impacts and involuntary resettlement issues:** The ESMF, Chapter 7.2.1 provides common principles which clearly specify that involuntary

resettlement shall be avoided or minimized to the extent possible through the incorporation of social considerations into design options and alignment selections. Where displacement is unavoidable, i.e. people losing assets, livelihood and other resources shall be assisted in improving or at a minimum regaining their former status of living at no cost to themselves. The ESMF, Chapter 6.2.2 (3) b prescribes a set of preventive and mitigative measures to avoid adverse impacts. Preventive Measures include a set of suggestions for avoiding or minimizing losses of land, house and properties of indigenous people which are to be avoided or minimized as far as possible, make adequate provisions and compensation arrangements in the Resettlement Action Plan/ Land Acquisition Plan to satisfy and compensate all indigenous and vulnerable groups in a fair and timely manner.

**Potential economic and social impacts caused by Involuntary taking of land:** The ESMF Chapter 4 describes identification and assessment of potential environmental and social impacts of SRN roads and bridges. Section 4.3.3 (a) presents issues about loss of productive lands (b) highlights issues related to land and property acquisition of causing economic losses as well as social and psychological disruption to the affected people and families by involuntary taking of land. The same section further analyzes disruption of community structures and livelihoods while potential conflicts with nearby communities are discussed in clause (d). Likewise, other clauses (e) present impacts on indigenous people and Dalits (f) damages of community infrastructures such as irrigation canal, drinking water supply systems, electric poles, foot trails etc. The ESMF, going beyond the LAA which recognize only titled and legal owners, recognizes those affected but lacking legal titles or rights for resettlement assistance and various benefits.

**Loss of access to natural resources:** ESMF, Chapter 6.2.2 (ii) on adverse impact mitigation measures, subsection 2 (a) suggest a set of preventive and mitigative measures against impacts caused by clearing forest land. Similarly, subsection 3 (e) points out about depletion of forest along with the mitigation mechanism by providing support to local communities for preserving their forest resources, especially the community forestry. The Entitlement Matrix Table 7.2 (4.3) suggests possible entitlement provisions viz. replacement of lost community forest and compensation for trees to the forest user groups. The ESMF, Chapter 6.2.3 (3) identifies impacts mitigation related to socio-economic and cultural environment of affected people.

**Provide compensation sufficient to purchase replacement assets (land, houses, other structures, of equivalent value) without deducting depreciation and with proper valuation of assets:** The LAA mandates compensation for land at real market value, which is equivalent to replacement cost for land. Following the LAA, the DOR ESMF has further stipulated the procedures and institutional responsibilities to assess the land compensation prices at real market value. However, the LAA considers depreciation in compensation for structures, and consequently does not provide for replacement-cost compensation for structures. In recognition of this, DOR has recommended in the ESMF in Chapter 7.2 that “practical provisions must be made for the compensation of all lost assets to be made at replacement cost without depreciation or reductions for salvage materials.”

**Provide supplemental livelihood improvement or restoration measures in case of loss of income generating opportunities:** The LAA does not provide for further assistance beyond land compensation for loss of income-generating opportunities for the affected population. To address this, DOR has specifically laid down as a principle in the ESMF that “people losing assets, livelihoods and other resources shall be assisted in improving or at a minimum regain their former status of living. In line with the principle, the ESMF has developed various types of R&R assistance measures (cash, life skill training, inputs, technology) for the project affective people of different categories. These are described in detail in the Entitle Matrix in Chapter 7.3.

**Restore or replace public infrastructure and services and community services and provide compensatory arrangements if the Program imposes new heightened restriction in resource use:** Restoration of damaged public infrastructures and services/ facilities is of critical importance for the maintaining or improvement of livelihood of affected people. The need of restoring the damaged infrastructures/ facilities is explicitly described by ESMF (Chapter 6.2.2 (3) c. The potential

infrastructures likely to be damaged affecting people's livelihood include mainly the irrigation canals/channels, drinking water supply schemes, water ponds, schools, health posts, trails, public buildings and other sites of religious and cultural significance. The section also describes a set of both preventive and mitigative measures. However, it is not explicit about the new heightened restriction in resource use.

**Affected people should be fully informed and closely consulted on resettlement and compensation options:** The ESMF Chapter V describes requirements on public consultations focusing on social and economic development and people's participation at different stages in Bridge/SRN Sub-Projects. It is emphasized that public participation, consultation and information dissemination must be an integral part in all environmental and social impact assessment at all phases of project cycle – from planning to implementation and monitoring. Concerned stakeholders should be regularly provided needful information about the project and its impacts prior and during the planning and implementation process. The formation of local consultative forums (LCF) is one mechanism emphasized in ESMF to ensure Citizen Engagement (CE)/people's participation/ consultations in social planning process including preparation of Social Assessment (SA), Resettlement Action Plan (RAP) preparation and implementation. This group approach is a convenient way of expressing their individual and community concerns and bringing them to the notice of the project management. The LCF meetings can be organized as and when necessary at the local level to ensure the participation of affected households as well as resolving the local issues which are quite often contentious.

**Free, prior and informed consultations (FPIC) with the Indigenous Peoples (IPs):** The legal policy framework in Nepal has defined and recognized officially many indigenous ethnic groups and has recently ratified ILO 169 on Indigenous and Tribal People's Rights. This policy framework advocates for the respect and protection of their rights, interests and their unique social, cultural and economic way of life. Central to all these is the sharing of relevant information, consultation with and participation of concerned indigenous groups in the development process. Following the spirit and principles of this policy framework, DOR has laid out its approach in its operations towards indigenous people in the ESMF. The ESMF Chapter 3.8.6 on Indigenous People states that prior consultations and information with indigenous people are essential to benefit them from the development programs or projects. Similarly, the Interim Guidelines for Enhancing Poverty Reduction Impacts of Road Project (IGEPRIR), DOR (Appendix 23) highlights about preparation of Indigenous People's Development Plan (IPP) including consultations with indigenous people for devising mitigation measures to address the adverse impacts of indigenous groups due to development projects.

## 4. Potential Environmental and Social Impacts of the Program

### 4.1 Potential Environmental Impacts

Given the Program scope, coverage and size of the bridges under the BIMP-II the anticipated adverse environmental issues and impacts related to Program implementation are expected to be limited in nature and are not expected to pose a significant risk. The Program activities will not encroach upon or degrade the sensitive habitats by not including any bridges located in the sensitive areas of floral and faunal biodiversity value or in a protected area. Nevertheless, minor implications on the existing vegetation cover (limited to the bridge abutments locations) and on the aquatic ecology (limited to a few hundred meters upstream and downstream of the bridge crossings), needs to be given due attention from the natural environmental perspective depending upon the bridge site locations. Impacts associated with the bridge repairs and construction are not complex and can be readily managed with known mitigation and management techniques provided contractors take care to implement agreed mitigation measures.

An important issue of concern related to the bridges during construction is the construction impacts associated with dredging, foundation works, or river bank reinforcements which may affect aquatic biodiversity. Also of concern is the occupational health and safety of the construction workforce. A similar issue is the community health and safety related to traffic accidents during the operation phase of the Program, as adjoining areas of bridge abutment locations are invariably occupied by encroachers for market development throughout Nepal. BIMP- I field observations have shown that waste management, from the construction activities as well as from the labor-camps, is commonly poor.

At the same time, the Program is expected to deliver several environmental benefits. The repair and maintenance of bridges will ensure that the risks of bridge failure are reduced and that erosion and sedimentations are minimized through repair of failing foundations and river training or abutment works. Improved performance of the DOR with respect to environmental planning and management will help to ensure that issues are identified earlier and more consistently and that contractors will be supervised more regularly and environmental provisions of contracts enforced more consistently.



**safety gears**

of bridge from floods. The effect, in the case of medium and small bridges being considered under the current Program, is likely to be more pronounced around the bridge location. The effect could be seen up to few hundred meters, typically up to 500 m, upstream and downstream depending on the nature of site and river as well as details of bridge and associated works. The extraction of sand and gravel from



Reinstated irrigation canal, Kawa Khola Bridge

Program activities are unlikely to encroach upon or degrade sensitive habitats because the Program excludes any bridges located in sensitive areas of biodiversity such as protected national park areas. Adverse environmental effects of the bridge works are likely to be temporary in nature but depending on local conditions may have implications for the following issues to varying degrees.

*Change in morphology, longitudinal profile and hydrological character of river:* This is possible due to narrowing of river, construction of piers and guide bunds or flood protection/stream bank protection works along the river banks for the protection

of bridge from floods. The effect, in the case of medium and small bridges being considered under the current Program, is likely to be more pronounced around the bridge location. The effect could be seen up to few hundred meters, typically up to 500 m, upstream and downstream depending on the nature of site and river as well as details of bridge and associated works. The extraction of sand and gravel from

the river during bridge construction is another reason for such changes. The extraction of sand and gravel could continue even after completion of the bridge construction as the access road developed during construction may remain usable afterward. The review of BIMP- I environmental and social safeguard field observation and monthly progress report indicates that there are still issues related to the diversion of river regime, lacking high embankment slope protection, practice of solid waste dumping beneath the bridge and non-removable of road diversion materials. The construction of new bridges and its type and location of foundation works could lead to modification of flood plain and river bed and affect landscape and aquatic ecology. The proposed scope of work that mainly involves rehabilitation and maintenance of bridges is unlikely to cause any significant or irreversible change in morphology, longitudinal profile or hydrological character of river. But for the case of new construction of bridges it is likely to cause significant impact in river morphology.

*Adverse effects on aquatic life:* Sand and gravel extraction, initiated during construction, is a main cause for loss of habitats including spawning grounds, and feeding grounds of aquatic life (fish/aquatic insects/phytoplankton/zooplanktons). The changes in river morphology, longitudinal profile and depth and velocity of water flow discussed above may also lead to adverse impacts on the aquatic life. Elements of bridge structures may also act as a barrier to fish movement depending on their design. This could be particularly relevant if there is vertical drop at the river-bed across the river. The pollution or degradation of water quality due to construction wastes and sounds/vibration produced in river water during construction may also affect fish and other aquatic life. Construction workers may also fish near their work sites. The effect is likely to be felt few hundred meters upstream and downstream of the bridge location. The significance of such effects will depend on whether the river is a habitat of protected, endangered or rare species or whether the bridge site is on the migration route of migratory species. Adverse impacts could be minimized using standard practices.

*Effects on forest and wildlife:* Direct loss of trees and vegetation is possible when a bridge and/or approach road is in the forest. During construction, vegetation may require clearing from the construction site which may result in direct loss of standing trees. This is possible around bridge abutments and approach roads, if these are located in forested areas. Induced impacts on nearby forests are also possible due to fire-wood demand of workers during construction, and of road side restaurants and business that usually start during construction which may continue after construction. Other types of induced impacts during operation phase could result from improved access – in some situations, an otherwise inaccessible forest may become accessible on account of a new bridge. Adverse impacts on the trees and vegetation may also include impacts on rare, endangered, indigenous floral species of conservation significance provided these species are present in the impacted forests. The impact on forest would also affect wildlife and birds in the forest. Hunting by the workers during construction could be a possibility, and construction noises may also disturb the wildlife and birds. Impacts on wildlife and birds are likely to be limited as the Program will not support bridges located in protected areas (the recognized wildlife habitat). Any adverse impact and habitat destruction will be mitigated by avoiding construction activities on sites in protected areas, critical natural habitats, or reserved forests.

*Implications for physical cultural resources:* The BIMP-II proposed Program endeavors to avoid sites of archeological, cultural, religious, and historic value. A review of 15 IEE requiring bridges under BIMP I did not find issues related to physical cultural resources. However, the possibility of “chance finds” cannot be ruled out for BIMP II projects. Potential adverse effects on physical cultural property will be accounted for and adequate measures will be taken to address such effects.

*Operational phase effects:* The principal operational phase issues relating to bridges are associated with the use and users of bridges. During the operational phase community health and safety related to traffic accidents may be an important concern in some areas. In addition, congestion around the adjoining areas of bridge abutment locations is invariably occupied by encroachers for market development and other purposes.

## 4.2 Potential Social Impacts

The bridge development Program is anticipating limited adverse impacts due to land acquisition - and resettlement, if any, is likely to be confined to the area near bridge works. Based on past experiences, most of the adverse social impacts are likely to be temporary during project works, such as temporary land leasing for the contractor operations. However, the bridge Program will include some new bridges to be constructed which may require land for bridge construction and for access roads development. Small scale adverse impacts are also likely on other private assets (trees, structures, etc.), livelihoods, etc.).

The key shortcomings in management of social impacts, which are also relevant to the bridge Program, are: (i) laborers' management system (record keeping, community relations, etc.) is weak; (ii) national programs do not provide adequate focuses on vulnerable communities. For instance, the preparation of vulnerable community development plans is limited to internationally financed operations; (iii) existing DoR ESMF has provisions of assistance to squatters and compensation amount required for restoration of livelihoods and replacement costs of the properties. However, in many cases such assistances/compensations are provided informally; (iv) Nepal practices, especially in the case of community projects (e.g. schools, local roads), the notion of land donations. This is more relevant in the case of projects in rural areas, and could be discouraged; and (v) beneficial impact enhancement measures are feeble.

However, the ESMF and other policy documents have provisions for assessment and documentation and mitigation of adverse social impacts, though they are subsumed under the environmental screening, assessment and documentation process – suggesting need for making the social concerns elaborately distinct. This would include, but not be limited to, workers' influx management, etc.

Similarly, DoR (MoPIT) now has established electronic grievance handling mechanism while the constitution of Nepal and other relevant policies have provisions for legal avenues for any aggrieved person or entity. Its effectiveness, however, needs to be enhanced, ensuring awareness enhancement amongst stakeholders and entry and redressal of the grievances received verbally, over the phone, in hand-written forms and others.

*Indigenous peoples:* *Adivasi Janajati* in Nepali, account for about one-third of the population. Any development interventions are bound to come across indigenous communities. Past experiences show that indigenous communities demand and support such programs to improve vital road access to public services and economic centers. However, bridge rehabilitation and construction activities may also have adverse impacts upon nearby indigenous communities because of land acquisition, public health impacts, noise, and traffic safety impacts.

*Loss of private land:* This impact is expected to be negligible for rehabilitation or maintenance operations, but might occur for construction of new bridges. However, due to the linear nature and very confined space of construction, this impact is expected to be limited.

For any requirement of private land and/or other assets, acquisition rather than voluntary donation is suggested to be the preferred modality.

*Loss of structures:* This may happen for bridge rehabilitation operations at bridge abutments, particularly for business structures that are often set up and operating within the Right of Way of the existing road alignment. The number of structures to be affected will be very small due to the small area required for construction and maintenance.

*Acquisition of community land and forest resources:* Past experiences indicate that some of the land takings for bridges may be community lands or community forest areas, particularly in remote locations. But the areas and quantities of land taking is expected to be small for bridge construction.

**Health and safety impacts:** The presence of the construction workforce and construction operations will have implications on public health and traffic safety for communities nearby as well as for the construction workforces themselves. This is generally unavoidable with all construction activities. Most SRN Bridge Program bridges will require relatively small workforces and the scale of corresponding impacts will likely be small and manageable. Moreover, due to the integration of pedestrian path and other safety features in the newly constructed bridges, community safety will be further enhanced once the bridges come into operation.

**Gender and Social Inclusion:**

It has been found that inclusiveness of the programs is feeble in terms of active participation of and access to opportunities for women, adult girls, and other marginalized groups of people living in the project areas. Though Ministry of Physical Infrastructure and Transport (MoPIT) has recently introduced a GESI Guideline, its implementation till date is minimal. This specifically makes it necessary that a comprehensive GESI plan be developed and implemented for each bridge subproject.

**Citizen Engagement:**

ESSA findings suggest that engagement of local communities needs to be enhanced effectively and significantly in planning, implementation and operation of bridge projects. Thus, it has been found essential that formation and mobilization of a "local consultative forum" is provisioned involving people residing around periphery of each major maintenance and new construction bridge. This local community committee must be inclusive in terms of gender (at least 33 percent women), ethnicity, age group, poverty and other social parameters; formed and engaged throughout the project cycle (planning stage through implementation monitoring and operation of the bridge).

**Public Consultation:**

In view of the limited public consultation practiced during the BIMP – I, at least one public consultation (mass meeting) is recommended during project preparation stage inclusively involving people (including at least 33 percent women and adult girls, poor, ethnic groups, etc.) from around the proposed bridge site. Detailed information should be disseminated to the local people on the proposed project including its beneficial and adverse impacts on the communities, mitigation and enhancement measures, etc. Participants' feedback (issues, comments/suggestions, etc.) should be duly documented and made part of the social and environmental assessment reports integrating them into the detailed project report (DPR). Agreed mitigation and enhancement measures should be implemented in tandem with civil works.

**Transparency, Communication and Outreach:**

For each subproject, ample provisions ensuring transparency, information dissemination and communication needs to be further enhanced. This would normally include detailed standard project information boards, use of radio jingles, inclusive community consultations, etc.

**Workers' influx management and child labor prohibition:**

Revision and enhanced implementation of the workers' code of conduct, recordkeeping system and child labor prohibition assurances are found to be further helpful in compliance assurances.

Despite the above, the bridge Program will benefit a large number of communities, particularly those with no or little access and isolated in remote areas. This is particularly so with indigenous communities which are among the targeted beneficiaries of the bridge Program. Indigenous peoples account for about one third of the population in Nepal. Any development interventions are bound to come across indigenous communities. Past experiences show that indigenous communities demand and support such programs to improve their road access that is vital to public services and economic development.

Principles of avoidance, minimization and mitigation need to be adopted for adverse impacts while integration of beneficial impact enhancement measures in the Program design are envisaged to be further helpful in sustainability of the Program achievements.

As part of an overall review of the Nepal transport portfolio's social and environmental risks, the Bank's transport, social, and environmental teams recently executed a stock taking of labor related risks in 2017. This confirmed that existing risk mitigations on IDA-supported initiatives (including BIMP I), while imperfect, have proven reasonably effective. Below is a quick summary of results from this study:

#### **Scope:**

- Field assessment and quantitative survey of 8 project sites where demographic and other information on 131 laborers and 261 community members were collected through a survey instrument. 4 of these project sites related to SNRTTP and four other sites (one each per project) related to the following IDA-supported initiatives: (i) the Nepal-India Regional Trade and Transport Project (NIRTTP); (ii) The first Bridges Improvement and Maintenance Program (BIMP I); (iii) the Road Safety Support Project (RSSP); and (iv) the Road Sector Development Project (RSDP).
- Qualitative interviews / information gathering that included (i) 50 Key informant interviews with workers, community members, a police official, and contractors; (ii) 15 Focus Group Discussions, of which 7 were entirely comprised of female participants; (iii) 7 semi-structured interviews (informal) with workers; and (iv) informal conversations and observations with various individuals around project sites.

#### **Findings:**

- **Child labor:** Surveys with community members found that 26.1% of the respondents claimed that increased child labor was a common risk of transport sector projects in Nepal. As part of surveys with workers, the study found general compliance with labor law and ESMF requirements regarding child labor with the exception of one laborer who confidentially disclosed falsifying identification documents in order to meet minimum age requirements. The study team's overarching findings suggest that contractors, community members, and laborers are well informed of the age limits for working on IDA-supported transport projects. Despite awareness, results also showed a general social acceptance of child labor amongst community members, laborers, and contractors alike due to poverty related considerations which may result in an underlying support for child labor. Despite positive findings relating to IDA-supported projects, the study also highlighted the need for continuing to enhance mechanisms that can keep underage persons from pursuing labor on project work sites. These should include strengthening the contractual recourse that can be used to ensure contractor compliance as an additional measure to strengthen risk mitigations. Social awareness and "soft" measures to influence public opinion on child labor may be an area that requires additional attention once contractual recourse is strengthened further.
- **Migrant labor and camps:** 88 percent of workers observed by the study team were migrant workers, coming from other regions within Nepal or neighboring countries. Emigration of skilled laborers was cited as a key reason for this figure. There is a likelihood that migrant labor will continue to dominate in Nepal's transport sector. Proactive monitoring of labor

camps and community-worker interaction are therefore critical risk mitigations in Nepal. BIMP II's mobile monitoring platform (the Bridge Site Monitoring System) is able to provide a basis to track and document field supervision efforts in this regard.

- Skills and training: only 11% of workers who responded to the study team's surveys reported receiving skills training related to their employment. This highlights a potential development opportunity IDA-supported projects may be able to tap through skills training components.
- Workers' rights and conditions: The assessment documented continued lapses in Occupational Health and Safety (OHS) related performance across IDA-supported worksites. In one instance, the study team found a situation where a contractor had arranged to receive advanced notification of site supervision activities so that OHS gear could be hastily distributed to workers and subsequently re-collected once supervision had completed. These findings highlight the need to enhance both OHS guidelines and mechanisms such as the DOR's Grievance Redress System that can facilitate reporting of implementation gaps. BIMP II's envisaged support from a specialized UN agency with expertise in labor and labor rights will provide a means for strengthening the Program in these key areas.

## 5. Program Performance and Capacity Assessment

BIMP-I completed as planned in July 2017 - substantially achieving its objectives. Progress towards achievement of its PDO is rated "moderately satisfactory" whereas Environmental and Social safeguards one as "Satisfactory" by the final review and support Mission. This first PforR initiative in Nepal has managed the application of DOR's Environmental and Social Management Framework (ESMF) in a satisfactory manner.

### 5.1 Management of Environmental Impacts in BIMP-I

From perspective of policy and legal provisions and operational guidance, Nepal's environmental system is consistent with OP/BP 9.00 core principle and elements. However, the application effectiveness of the environmental provisions in the SRN road, particularly in bridges, and hence the operational performance in the ground is mixed. Performance is better in donor funded activities than the activities undertaken by government own resources. This is summarized below.

**Environmental Screening, IEE and EIA.** As mandatory provisions of DoR ESMF, all BIMP bridges are subject to environmental and social screening, which also checks GoN EPR provisions to decide if a proposed project requires an EIA or IEE leading to development of an ESMP as needed. Although operational guidelines require screening at an early stage (such as during project identification/prioritization and during pre-feasibility), in practice, most of the environmental screening is done at later stages for GoN-supported bridge works. In the case of the donor supported project, however, screening is done at an early stage to identify potential risks and impacts. Environmental and Social Screening of the bridges is mandatory as per Bridge addendum (2013) to DoR, ESMF as well. The screening gives preliminary ideas on potential risks associated with subproject construction such as impact on existing environmental settings and on physical cultural resources including further requirement of IEE or EIA. BIMP-I excluded interventions in legally designated protected and sensitive areas.

Also, there have been instances of delayed approval and/or implementation of IEE and EIA in relation to project planning and design under BIMP I. Likewise, GESU's in-depth engagement in the entire process has been observed limited, although GESU is the expert agency in DOR for environmental and social matters. The proposed "gated approach" for BIMP-II is envisaged to strategically address such issues.

**Alternatives Analysis and avoidance of natural habitat and cultural sites.** Only projects subject to an IEE or an EIA would have discussion on alternatives. The scope of alternative analysis is, however, limited commonly to design alternative and 'no project' alternative. The site alternatives are rarely covered. Even without alternative analysis, prior approval from the DNPWC is required if there will be project activity in the protected area, or from Department of Forest (DoF) if there will be activity in the forest: this generally promotes avoidance of known protected area and important forests during planning. In almost all Bridge Projects, site/ premise of physical cultural significance is avoided due to social and cultural sensitivity.

**Assessment of impacts and identification of mitigation measures.** The initial environmental examination (IEE or ESIA) of roads and bridges, in general, identify potential environmental and social impacts from the project activities. Identification of impacts is focused mainly on the direct impacts; indirect impacts are rarely or weakly covered. Induced, cumulative and trans-boundary impacts are focused less. The mitigations measures recommended by the IEE or ESIA lead to site specific plans/details for implementation. In the donor funded roads and bridges such as those constructed by the World Bank financed Rural Sector Development Program (RSDP), and BIMP, the ESIA is prepared during feasibility stage and Site-specific Environmental and social Management Plans (ESMPs) are prepared. Although road IEE or EIA do not cover bridge specific issues such as risk of landslide and

flood, however, many of the mitigation measures identified by roads' EAs are applicable to bridge construction also.

**Implementation of mitigation measures.** Implementation of the mitigation measures is the responsibility of the project proponent, the Bridge Branch in the case of BIMP bridges, and the contractor. The environmental mitigation cost is calculated on lump sum basis – specific mitigation costs for various activities/ items are rarely included in the contract bid document. The late EAs with respect to project detailed planning and design, lack of specific mitigation detail/plan, and lack of specific cost item in the bid document are some causes for the weaknesses during implementation. Field observation of some of the selected Bridge Projects, carried out as part of this assessment, reveals poor environmental management and mitigation during construction of bridges. Examples of poor management practices include improper mining of river bed sand, haphazard disposal of construction and camp wastes, no use of protective gear, and the occupation of community forests. Experiences in the roads and bridge construction show that workers' health and safety is not a priority to the contractors, and not-commonly practiced by the workers where contractors provide safety items.

**Environmental Monitoring.** DOR/GESU has initiated environmental and social monitoring in a limited number of road projects, particularly in donor funded roads such as RSDP and BIMP-I. This has been possible due to encouragement and support from the donor funded project. In some donor funded projects, local body and community are also involved in environmental monitoring. Although the EIA or IEE provides cost estimates for monitoring by different entity, these are not-necessarily allocated by the project except in the donor funded project. Lack of contractual provisions of recruiting supervision and monitoring environmental specialist is another reason of poor implementation of environmental management plan in road and bridge construction in Nepal.

**Information Disclosure and Stakeholder Consultation.** The roads and bridges using government resources require formal information disclosure and stakeholder consultation, if an IEE or ESIA is necessary. This may be done as a formal requirement, such as getting no-objection/ support letter from the respective former Village Development Committee (now Rural Municipality), Municipality rather than identifying and addressing any genuine concern. Donor funded projects, such as BIMP and RSDP, follow more elaborate system for information disclosure and consultation even if an IEE or ESIA is not formally needed. The disclosure and consultation requirements in donor funded projects are laid out in the respective ESMF.

## 5.2 Management of Social Impacts in BIMP-I

Corresponding to its country system in managing social impacts in transport (bridge and road) investments, Nepal runs a dual-track performance standard in implementing its policies in addressing social impacts in bridge programs. The country bridge program follows the requirements and procedures of the country legal policy framework, the key law of which is the Land Acquisition Act. These are legally binding and enforced. However, the Environmental and Social Management Framework for DOR is only enforced in operations that involve international financing and are subject to supervision by international financiers.

Consequently, where requirements of national laws and the ESMF overlap, these requirements are followed up in project planning and implementation action plans. In the areas of gaps between the national laws and DOR ESMF, such as assistance for those without titles and compensation at replacement cost without depreciation, the extra requirements in the ESMF that top up gaps in national laws and policies are only implemented in internationally financed operations. Key issues in this regard and their performance are summarized below:

- **Free, prior and informed consultation of indigenous communities.** This principle is reflected in many scattered provisions of various government policies. Nepal has also recently ratified ILO 169 on Indigenous and Tribal People's Rights. Specific requirements and procedures are clearly prescribed in the DOR ESMF. However, its implementation is limited

more to internationally financed operations like the BIMP. For example, vulnerable community development plans as required in the ESMF are not prepared for domestically financed operations where consultations with indigenous communities are limited to interventions related to land acquisition under the Land Acquisition Act and required under environmental policies.

- **Assessment of impacts of land taking, including on those without titles.** This is mandated under the Land Acquisition Act and is generally enforced. However, the LAA does not recognize those without titles for compensation or assistance. The ESMF recognized and addressed this policy gap, as did the Land Acquisition, Resettlement and Rehabilitation Policy (LARRP) of GoN; leading to preparation of required social management plans (SMPs). However, their implementation is limited so far to internationally financed operations like the BIMP, and other road sector operations.
- **Compensation and assistance to restore livelihoods, including those without titles.** Restoration of livelihoods for those affected is not mandated as an objective in the Land Acquisition Act, but the spirit is reflected in several relevant policies and is clearly stated in the DOR ESMF. The performance, though, differs in internationally and domestically financed operations. In domestically financed operations, the mitigation measure is limited to cash compensation as per the Land Acquisition Act, without any additional assistance if required for livelihood restoration. In internationally financed operations, including BIMP-I, this has been followed up diligently through project planning and implementation process.
- **Compensation at replacement cost.** The LAA requires compensation for land at market price and sets a procedure for its evaluation. The evaluation is carried out by a district level compensation fixation committee charged with this responsibility under LAA, based on the average transactions in the past one year, regarding market practices. General practices indicate that this is getting close to real market price. The national legal policies mandate market prices for structure compensation, which factors in depreciation. This policy difference is fixed in the DOR ESMF, which requires compensation at replacement cost
- **Practice of land donation.** There is a tradition of land donation practice for community infrastructure in Nepal. This is culturally accepted and practiced widely in Nepal for public utilities development within rural communities, such as schools, roads, wells and community halls. This practice has also been extended to bridge and rural road development in past few decades. Road access is a great challenge in Nepal. There is tremendous need and demand from remote and isolated communities for its development. Most of the current roads were built responding to this demand where communities contributed their lands for this access benefits. Most of the rural roads are built on donated land. The practice is largely based on verbal agreement without evidence in writing or transfer of titles. In internationally financed projects, the donation practice is accepted in community-owned infrastructure programs or simple rural access roads. In this case, there are clear requirements to regulate this practice in terms of documentation, eligibility criteria and evidence of the voluntary nature etc. These are reflected in the ESMF, but its implementation is only limited to internationally financed operations.
- **Planning documentation.** Under the national legal policy requirements, social issues, such as land and indigenous people's issues are generally an integral part of the environmental and social screening, assessment and documentation process. The DOR ESMF is requiring a separate planning and documentation process, leading to the development of project Resettlement Action Plans (RAPs) and Vulnerable Community Development Plans (VCDPs). The VCDPs are being applied, however, mainly to internationally financed operations.
- **Grievance management system (GMS).** For investment operations under DoR, there is an electronic grievance redress system in place at project level in Nepal. The formal system is also the legal system with courts which is open to all citizens regardless of what grievances or sectors. At operational level, grievances are reported and resolved with local administrations

and DOR project offices in the field. There is no fixed timeframe for resolution though. Considering the limited impacts and small scale of investments, this formal system seems to be sufficient.

BIMP I implementation lessons learned suggest that chronology of implementation for these activities needs to be in tandem with other subproject preparatory activities, including approval of the required plans together with the design; land acquisition (rather than voluntary donation) before bid invitation and deed transfer works before the subproject enters into DLP. Periodic reports need status update on implementation of these aspects, each step closely monitored, verified and approved by GESU.

Also, GESU's concurrence on safeguard compliances must be received formally before submission of Dossier for reimbursement.

### **5.3 Resources Available**

#### **Financial Resources**

For the Fiscal Year 2016/17 (2073/74 BS), DoR/BB has allocated NPR 10 million to GESU to support safeguard implementation activities. The available financial resource for environmental and social management at the various institution levels is considered a key constraint adversely affecting the environmental and social performance of the line agencies. GESU needs continuation of financial resource allocation in each fiscal year to comply with the given mandates and responsibilities.

#### **Human Resources**

Apart from the financial resources, human resource availability to carry out the given mandates and responsibilities at all institutional level is another tremendous challenge. Officials of almost all agencies consulted informed about the inadequacy of technical manpower within the institutions to effectively carryout the environmental and social planning process, not to mention their streamlining. DOR Bridge Branch, RD and Division Offices, none has the required technical manpower in the environmental and social sector to deliver the required outputs. Given the sectoral and cross-sectoral ESIA work volume, human resources available with GESU and MoPIT is also inadequate. The GESU, with responsibility for road and Bridge Projects all over Nepal, has only two permanent Environmental inspector and Social officer staffs and four outsourced safeguard consultants. The overall assessment indicates that the available staffs have the knowledge and understanding of the underpinning issues of environment and social aspects of the Bridge Projects. However, they are much lacking in staff numbers and are not able to deliver the given mandates and responsibilities in managing environmental and social issues related to bridge operations. Thus, their involvement is confined to the processing of the IEE and EIA/ ESIA documents of many projects which are already due for approval processing as per the law provisions (EPR, Chapter 3, Rule11 (1).

## 6. Program Action Plan for Strengthening System Performance

**Borrower's Past Experience in BIMP Program:** The safeguards achievements under BIMP include: (i) issuance and enforcement of bridge addendum to Environmental and Social Management Framework (ESMF) highlighting bridge specific environmental and social aspects, provision of permanent number of environmental and social officer and government budget allocation for strengthening Geo-Environment and Social Unit (GESU), (ii) establishment of environmental and Social screening, required safeguards management plan preparation and documenting them for integrating environmental and social mitigations in the engineer designs, bidding documents for all categories of bridge works, (iii) Enhanced implementation supervision and monitoring, (iv) revised bid documents with dedicated budget line for safeguards, (v) enhanced Occupational Health and Safety provisions, and (vi) safeguards compliance verification by third party.

Likewise, SWOT Analysis of BIMP was carried out.

The capacity of Program executing and implementing agency and GESU system performance analysis carried out in Strength, Weakness, Opportunity and Threats (SWOT) reviewing experiences and lessons of BIMP-I, the “weaknesses,” or gaps was considered on two levels: the system as written in laws, regulation, procedures and as applied in the Program in practice; and the system implementation capacity, demonstrated by performance, of institutions executing and implementing the Program. For second BIMP Program key areas requiring further improvements is identified as given below:

Based on the BIMP-I implementation of environmental and social safeguard performance review and the overall system assessment, the following action plan is proposed for the second BIMP.

- Preparation and approval of GESU three-year business plan within six months of project effectiveness: continue strengthening GESU, as the mandated and responsible unit within DOR for the overall management of environmental and social processes for the second BIMP activities, through provision of needed human and financial resources, logistics, reference materials/documents, and capacity building/training on new areas/use of new technology for environmental and social assessment/monitoring.
- Within six months of project effectiveness, preparation of compendium of protocols on following aspects of environmental and social management:
  - Site inspection and verification protocol defining arrangements, frequency, and responsibilities for checking/monitoring and reporting compliance with relevant environmental and social mitigations including compliance with/enforcement of EHS (will be referred to at the time of payments to the contractor and summary of the inspection/monitoring report will be linked with Bridge Site Monitoring System (BSMS) of the Bridge Branch.)
  - Protocol on citizen engagement, communication and outreach, grievance management, and workers' influx management (including workers' code of conduct, child labor prohibition, etc.)
  - Gender Equality and Social Inclusion (GESI) protocol
  - Indigenous/vulnerable community development
  - Land acquisition, resettlement and rehabilitation protocol

- Revise within six months of project effectiveness Bidding documents with distinct reflection of costs for OHS, environmental management and social management in the BoQ, and inclusion of relevant provisions under the conditions of contract.
- Bridge development process defined with specific Gate Reviews and input stages from key technical, social, and environmental work streams. Bridge Branch shall be the responsible entity for accomplishing it within 9 months of Program effective date. Bridge development process shall be endorsed by MoPIT for initial use; and documentation and signoffs for Gate Reviews shall be completed for each Bridge Dossier to be submitted for reimbursement.
- Prepare, approve and formally implement Occupational Health and Safety (OHS) Guidelines and tools for road and bridge sector within the two years of Second BIMP effectiveness. (This should be followed by developing OHS awareness materials, conducting OHS trainings for project teams and other key stakeholders, e.g., Contractors' Federation, etc.; updating/revising bid documents to integrate OHS).
- Update the DoR ESMF by the Mid-Term Review (MTR) of the proposed second BIMP : internalizing OHS guidelines, streamlining with the changes in the mandates and institutions due to restructuring of state under the new constitution., enhancing climate and disaster resilience measures, and responding to emerging global trends in environmental and social management approaches (e.g. Bank's ESF, etc.).

## ANNEXES

### *Annex 1: Stakeholder Consultation (to be completed after consultation)*

The assessment team plans to conduct Stakeholder Consultation in early February 2018.

Issues raised	Response

### List of Participants

SN	Names	Designation/Office
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## Annex 2: Existing Environmental and Social Provisions for Bridge Projects

### Key Environmental Policies and Legislations

- I) **Nepal Environmental Policies and Action Plan, 1993** endorsed by the government of Nepal has five main objectives: a) to manage efficiently and sustainably natural and physical resources; b) to balance development efforts and environmental conservation for sustainable fulfillment of the basic needs of the people; c) to safeguard natural heritage; d) to mitigate the adverse environmental impacts of the development projects and human actions; and e) to integrate environment and development through appropriate institutions , adequate legislation and economic incentives , and sufficient public resources.
- II) **Environment Protection Act, 1997 and Environment Protection Regulation 1997** (till now 5th amendment) are an umbrella environmental act and rules governing the environmental matters of the country. Article 3 of the act mandates Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA) of the development projects as prescribed the Rule pertaining to the Act and prohibits development activities without the approval of IEE/EIA by the concerned agencies or Ministry (Article 4 of the Act).
- III) **Forest Act 1993 and Forest Regulation, 1995** emphasize on the protection and conservation of the forest resources and prohibits any activities within the forest area without prior approval of the concerned forest authorities (Section 11, Article 49, Section 13, Article 68).
- IV) **Forest Policy, 1993**; the forest policy is attracted when a development project directly or indirectly impacts on the forest resources. Policy reemphasizes to avoid forest destruction or tree cutting while constructing infrastructures during implementation of project other than forest sector. The policy has prioritized the protection of Siwalik, the geologically vulnerable area, with a view to ensure watershed conservation, and maintenance of water recharge. The policy also stresses conservation of endangered species. It has reiterated that forest area will not be used for any activities other than prescribed in Operational Forest Management Plan. The forest policy emphasizes the implementation of community and private forestry development programs, national parks and conservation areas management programs, soil and watershed conservation Program, management and development of medicinal plants, and conservation of biological diversity.
- V) **National Park and Wildlife Conservation Act, 1973** has an objective of the conservation, management and utilization of flora, fauna and scenery along with the natural environment of the national parks, reserves and conservation areas declared by the government. The Act prohibits entry into the national parks (Article 4) without prior approval of the concerned authority. The Act also prohibits a range of development and other activities (Article 5) within the national parks without permissions of the concerned authorities.
- VI) **Aquatic Animal Protection Act (1960)** has provisions for the protection of aquatic animals and matters there to. The Act prohibits action that impinges upon the aquatic life (Article 5). Prior information to the concerned technical officer impinging on the natural water body is mandated (Article 5B (1) and (2)).

- VII) **Ancient Monument Preservation Act 1956** promulgated with explicit objective to protect ancient monument, restrict trade in archeological objects as well as excavations in places where ancient monuments are located. The Act prohibits development works which may impact ancient monuments without prior approval of the concerned authorities (Section 3, Article 5 and 8).
- VIII) **Roads Board Act, 2002** has necessary provisions on repair and maintenance of roads, minimizing the expenditures to be incurred in repairing and maintaining the roads and making transparent and effective the repairing and maintaining works of the roads. The autonomous body of Roads Board was established to carry out routine, recurrent, periodic, and emergency repair and maintenance works of the road and to arrange for imposition on and collection of tolls from the motor vehicles plying on the road.

## **XI) Related Guidelines, Manuals, Directives and Work Procedures**

- I) **National Environmental Impact Assessment Guideline, 1993:** is a generic guideline on the process and procedures for the environmental assessment of the development projects and has all ingredients of the World Bank's best practice process and procedures related to the environmental assessment of the development projects. It is also applicable for the assessment of the transport and bridge sector development works. As this pre-dates the Environmental Protection Act and is not referred as reference document under the Act and Regulation provision.
- II) **Environmental Management Guidelines, DOR, 1997:** is the first guideline addressing the road sector. The main objective of the guideline is to ensure integration of environmental consideration in the project survey and design, tender documents, contract documents and supervision and monitoring. Though the guideline highlights on the environmental assessment process is focused more on the 12 areas of concerns for mitigation in the road development. Bridge as separate component of development in the road sector is not discussed.
- III) **Policy Document: Environmental Assessment in the Road Sector of Nepal, DOR 2000.** This provides an overall guidance in applying EPA and EPR in road sector in Nepal. Although screening criteria mentions bridges, the issues discussed and the provisions and guidance provided about assessment, mitigation measures and monitoring are for the roads rather than bridges. The Policy explains the undertaking environmental screening, IEE, EIA of roads following the provisions of the EPA and EPR. In higher risks projects (i.e. requiring EIA), the EPR requires analysis of alternative alignment of the proposed road.
- IV) **Environmental and Social Management Framework, 2007 with Addendum 2013: is a comprehensive** document of DOR which clearly provides outlines for identifying, planning, managing and monitoring of adverse environmental and social impacts in strategic roads that are constructed/ rehabilitated by the DOR. The document, specifically, provides information about the process and procedures to be followed at various stages of safeguards compliance i.e. safeguard planning, implementation and monitoring including preparation of Resettlement Action Plan (RAP) in situation when involuntary resettlement is triggered by the project causing economic and physical displacement. The Resettlement Policy Framework (RPF), Chapter VII provides clear picture of the GON policies vis a vis donor policies, provides

recommendations to bridge the gaps, details out the eligibility criteria for various categories of affected families and entitlements along with the valuation procedures of assets by the CDC. Chapter VIII deals with the planning and preparation of Indigenous People Development Plan (IPDP)/Vulnerable Community Development Plan (VCDP) suggesting the outline structures. The framework also deals with the implementation modalities of measures, institutional arrangements/improvements, monitoring of social environmental interventions as well as in-house capacity building of DOR both in the short and long term. Over the last few years, the DOR/GESU and Consultants have complied with this framework in all stages from planning to implementation as well as monitoring and reporting in World Bank funded Road Sector Development Project (RSDP) subprojects under additional financing and the BIMP I.

- V) **Work Procedure for the allotment of Forest area land to other Uses, 2006:** This guideline sets procedure for the use of the forest area land for other purposes. Apart from this it also sets guidelines for the mitigation measures for compensatory afforestation for the loss of forest resources in the project occupied land areas.

## **Key Social Acts, Policies and Legislations**

### I) **The Constitution of Nepal, 2015**

As the fundamental law of the nation, the Constitution of Nepal has enshrined various Articles aimed at sustainable development of the country. Article 16 specifically mentions that every person shall have the right to live with dignity while Articles 25, 27, 32, 37 and 41 make provisions on Right to Equality, Properties, Information, Language and Cultures, Housing, and Social Justice, respectively. Further, Article 34 has made provisions on Rights regarding Labor. Likewise, Article 29 has provisions on Rights Against Exploitation whereas Rights of Women, Children and Dalits are specified under Articles 38, 39 and 40, respectively.

### II) **Land Acquisition, Rehabilitation and Resettlement Policy, 2015**

Government of Nepal (National Planning Commission) has developed and approved a policy outlining provisions on acquisition of private properties (land and structures) for the infrastructure development projects including roads and bridges and rehabilitation and resettlement of the affected persons. Such provisions of this Policy are considered as significant improvements in the conventional systems of land acquisition and resettlement, including compensation and livelihood support provisions applicable to the non-title-holders as well.

### III) **The 14th National Plan**

Government of Nepal's 14th National Periodic Plan (2017/18 – 2019/20) approved recently highlights on various development programs including development of transport sector. The Plan ensures to upgrade people's livelihood and standard of living through increased income and employment and improved access to various social services and promotion of economic activities by providing opportunities through harnessing the local resources and opportunities in transport sector, *inter alia*.

The Plan also affirms to support for the policies and programs for indigenous peoples. It also contains policies for inclusive development of IPs, women, Dalits and other marginalized

disadvantageous groups by: (i) creating an environment for social inclusion; (ii) participation of disadvantaged groups in policy and decision making; (iii) developing special programs for disadvantaged groups, (iv) positive discrimination or reservation in education, employment, etc. (v) protection of their culture, language and knowledge, (vi) proportional representation in development, and (vii) making the country's entire economic framework socially inclusive.

**IV) The National Transport Policy, 2001:** This policy, among others, states that the entire process of land acquisition and transferring of land ownership to the project shall be established prior to the commencement of road project implementation. At the same time, a basis for livelihood shall be established to the fully displaced families by way of rehabilitation or any other means.

**V) National Foundation for the Development of Indigenous Nationalities Act, 2002:** The NFDIN established the first comprehensive policy and institutional framework regarding indigenous peoples. The act defined indigenous groups or Adivasi Janajati in Nepali as "a tribe or community having its own territory, own mother tongue, traditional rites and customs, distinct cultural identity, distinct social structure and written or unwritten history". The government, through NFDIN, identified and officially recognized 59 such indigenous communities.

There are some other legislation that address specifically the situation of and call for specific measures in relation to the Adivasi Janajati and other marginalized groups. These include the Local Government Operational Act (2017); the 2007 amendments to the Nepal Civil Service Laws, Military Act and Police Regulation; and the Ordinance on Inclusion in Public Service (2009). The Civil Service Act includes a quota (reservation) system that specifies: "out of the 45 % of new recruitments reserved for various under-represented groups, 27 % are allocated to ethnic groups". The Ordinance on Inclusion in Public Service likewise demonstrates attention to the problem of under-representation by providing a quota system that benefits indigenous peoples.

The GoN has ratified International Labor Organization Convention No.169 and supported the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) in 2007. ILO 169 specifies that indigenous peoples have rights to the natural resources of their territories, including the right to participate in the use, management, protection and conservation of these resources. In this regard, Convention 169 has significant legal elements as a treaty, according to the Nepal Treaty Act.

**VI) Child Labor Prohibition and Regulation Act 2000 and Rules:** Article 3, Clause 1 of the Act states that any child below the age of 14 years is prohibited for labor employment. However, Clause 2 states that it is prohibited to engage children below 16 years in works in risk prone sectors, including road and bridge construction works. In other words, children between 14-16 years may be engaged in light and low risk jobs with due permission from the assigned government authority. This Act, however, is being amended subsequent to the GoN's signing of the ILO Convention C182 on Worst Forms of Child Labour in the year 2002 – suggesting that completion of 18 years of age is mandatory for employment in the construction (roads and bridges) sector.

**VII) Labour Act, 2017:** has special provision for construction enterprises. The provisions are related to: (a) tools and materials required by workers engaged in construction works<sup>6</sup>; (b) quarters, food, drinking water, etc. for workers in a temporary construction site where 50 or more workers work; (c) insure workers on construction sites against accidents; and (d) safety arrangements for construction sites, and arranging personal protective equipment for workers employed in construction works.

**VIII) Land Acquisition Act, 1977.** The Act is the major guiding document that provides authority to the Projects/ Development Proponents to acquire land for development projects in the country. The Act mandates compensation at market value for all land acquisitions under private ownership. It clearly states the process/ procedures and timeframe about acquiring private properties (land, house/structure, crops and others) by paying compensation to the affected people as well as the institutional mandates and responsibilities for their implementation. It also has provisions for land donation on mutual agreements with the private land owner/donor. The land donation, however, must be at the owner's own decision/discretion, and must be free from coercion of any nature.

**IX) Public Road Act, 1974. The Act is the governing legislation for the construction and operation of roads and bridges in Nepal.** According to the Act, a Compensation Fixation Committee (CFC) will be formed to determine compensation in case of loss of assets, business, business or production. Provisions are also detailed out for compensation for the extraction of construction materials.

## X) Related Guidelines, Manuals, Directives and Work Procedures

- I) **Public Work Directives (PWD), Part II, Chapter IV, DOR, GON, 2002.** The PWD is a major guiding document of the government on various aspects of project development. In addition to the technical information, the Directives provides step wise approach/mechanism about handling issues such as acquisition of private properties (land, structures, trees, community resources and facilities etc.), valuation of assets, payments of compensation and Resettlement and Rehabilitation (R&R) assistance both to the title holders and non-title holders i.e. squatters and encroachers.
- II) **Directives on Land Acquisition for Road Sector, DOR, 2002.** The Directives draw up on various provisions on land acquisition for the road projects by DOR. It also highlights the process of land acquisition as per the Act and compensation payment for the acquired properties including the roles and responsibilities of the Compensation Determination Committee (CDC) as well as participation of the representative of the project affected people.
- III) **Land Acquisition Guidelines, 1989.** The Guideline defines two categories of project affected families, viz., Project Affected Families (PAFs) and Seriously Project Affected

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<sup>6</sup> "construction works" means construction works of buildings, roads, bridges, canals, tunnels, internal and international waterways and railways, or installation of electrical, telephone or telegraph and other equipment, or machinery relating to telecommunications, or other works relating to construction.

Families (SPAFs). SPAFs are defined as those who lose over 25% of the total land holdings or whose land is reduced to an uneconomic holding i.e. less than 5 Kattha or who is being displaced.

- IV) Interim Guidelines for Enhancing Poverty Reduction Impact of Road Projects, DOR, August 2007.** The guidelines deal with various aspects of poverty reduction including links between road development and poverty reduction, planning and enhancing poverty reduction strategies in road projects at various stages, complementing poverty reduction activities and good practices in road projects, and planning, implementation and monitoring arrangements of poverty reduction impacts in road projects.

**V) Gender Equality Act, 2006**

The Gender Equality Act, 2006, repealed and amended 56 discriminatory provisions of various previous Acts and incorporated provisions to ensure women's rights. Some key provisions amended by the Act are the provision that a daughter is required to return shared property upon marriage, the provision for summons issued by the court to be received by a male family member as far as possible and the provision for divorce in the case of not having children within 10 years of marriage. Further, the Act establishes sexual violence as a crime punishable by varying years of imprisonment, depending on the age of the victim.

**VI) Gender-Related International Conventions**

Nepal has committed itself to important international conventions such as United Nations Millennium Declaration, the Beijing Platform for Action, and the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW), all of which have a strong gender dimension.

**VII) ILO Convention on Indigenous and Tribal Peoples, 1989 (No.169)**

Nepal is the State Party of ILO Convention on Indigenous and Tribal Peoples, 1989 (No.169). The convention requires consultation with the peoples concerned through appropriate procedures and through their representative institutions, whenever consideration is being given to legislative or administrative measures, which may affect them directly. It further states that indigenous and tribal peoples shall, wherever possible, participate in the benefits of natural resource utilization activities and shall receive fair compensation for any damages, which they may sustain because of such activities. The convention also further explains regarding relocation, which has clearly stated that during this process free and informed consent of indigenous people, must be taken.

### **Annex 3: Summary Note on BIMP- I Experiences and Lessons Learned**

BIMP is the first PforR Program implemented in Nepal since the year 2012. It is also the first Program to be completed on time, without any extensions, and closed on mid-July 2017. This summary note highlights some of the experiences and lessons learned specific to environmental and social safeguard implementation in BIMP-I.

#### **A) Institutional Strengthening:**

- Based on recommendation of the Environmental and Social Systems Assessment (ESSA), ESMF of the implementing agency (DoR) has been amended integrating the bridge component,
- Human and other resources have been provided – including recruitment of two permanent positions as Environment and Social specialists on top of Program period other personnel.
- Dedicated budget is also being allocated to GESU now.
- An electronic Grievance Redressal Mechanism (GRM) has been developed and is operational.
- GESU's engagement in management of environmental and social aspects has been further strengthened through BIMP-I.

#### **B) Environmental and Social Safeguards Management**

- Environmental and Social Safeguards Assessments have been conducted for each bridge site and further plans have been prepared and implemented based on findings of such assessments. This includes providing compensation to the adversely affected households, offering appreciation letters to the voluntary land donors, slope stabilization and embankment protection measures and reinstatement of community facilities wherever required. The voluntary mode of land acquisition, however, has been noted requiring revisions.
- The timing for conducting assessments has been found to be conducted in some cases at later stages, delaying the implementation of such plans/mitigation measures - the lesson learned being the need for conducting safeguard assessments at the very initial (feasibility) study stage together with that for civil works/design preparation purposes, integrating assessment findings in the design and DPR prepared for each bridge, submitting the complete design/DPR together with the environmental and social management plans(ESMPs, IEEs) for required approvals and implementing them ensuring proper sequence. System of Environmental and Social Safeguard assessments during feasibility stage itself for each sub-project (bridge) should be established for each bridge type and procurement system (D&B; D, B and B, etc.) – suggesting that Social and Environmental specialists should be made mandatory part of the study team and be mobilized together with the other technical (design) teams right from the initial stage of project preparation. This might be ensured by amending the current ToRs.
- For BIMP, environmental and social safeguard screenings have been conducted for 65 Backlog, 400 Major Maintenance, and 285 Minor Maintenance bridges and 74 New Crossing Structures. Required plans have been prepared and implemented based on screening findings for each site.
- Altogether 36 households were adversely affected due to permanent land (6.4 hectares) taking for 13 new bridge Construction works, mainly for approach roads. Land acquisition with compensation payment as per BIMP standard provisions was undertaken for 8 of the affected households whereas voluntary land donation was made by 28 families (felicitated with appreciation letters). Likewise, support and mitigation measures have been taken for 7 minor structures (sheds), one private house on unregistered land, 11 irrigation canals, 2 watermill canals, 1 watermill, 3 private trees, one cremation site, one access block, and one river course reinstatement works.

- GESU's contribution in Dossier verification is brief and less formal – suggesting the need for making it more engaging and formal, making mandatory concurrence of GESU on Environmental and Social aspects of each dossier before its submission for approval. In Dossier Verification Process: Environmental and Social safeguard feedback from GESU is limited. Dossier verification was done on sampled basis for all bridges during the first two years, which the third party changed for the third year onward – making verification for all new bridges while maintaining the sampled-basis for the maintenance ones.
- For each subproject, BoQ contains budget for management of environmental and social safeguards, but on lump sum basis rather than actual one which has been found less pragmatic, suggesting realistic budgeting based on site-specific assessments and plans, and implementation as required.
- Strengthening grievance management system: In view of the low-literacy rates, limited awareness on the procedural requirements and ability to follow the process, and other less-conducive environments in which the adversely affected communities have been living; it is likely that instances of oral complaints might outweigh the written ones and/or those submitted online. Hence, a system should be strengthened at implementation level whereby all (oral and written) grievances and suggestions received from the communities are fed into the GRM by the safeguards teams at whichever level they are received. The concerned Branch managing the GRM should continue sharing and seeking GESU's support and concurrence in resolving the grievances received.

### C) Supervision and Monitoring

- Construction supervision and monitoring are carried out by Construction Supervision and Support Engineers (CSSEs) whereas Environmental and Social safeguard monitoring by Social Mobilization Consultants at implementation levels while the central level (GESU-based) BIMP-dedicated Environmental and Social Safeguard Consultants have also performed supervision and monitoring functions. The frequency of such trips, however, has been found to be impeded due to logistical issues. Enhanced dedicated resources for Safeguard Teams' mobility/activities, inclusion also of Environmental personnel in implementation level supervision and monitoring team, and enhanced frequency/regular site supervision support are found to be some of the crucial aspects in this regard.
- Field (six regional offices)-based safeguard teams share their monthly reports to GESU. Likewise, GESU also prepares compliance monitoring field visit reports and submits to Bridge Branch. Implementation of field monitoring feedback has been noted to be weak.

### D) Recordkeeping System

- Records of safeguards screening and IEE reports and social and environmental management plans (ESMPs) are available mostly in electronic copies. However, they are not easily available, are also on personal laptops/computers, and not easily available at the regional/implementation level offices. Thus, all safeguards assessment/screening documents, mitigation and management plans, Grievances or suggestions, supervision and monitoring reports, safeguards implementation completion reports, etc. should be duly filed and stored in electronic and print versions at implementation level for sub-projects under the jurisdiction of the respective implementation support and supervision entity, and at GESU for all subprojects.

### E) Occupational Health and Safety (OHS)

- System of Safety Gears has been established by BIMP. Bill of Quantities (BoQ) now also has budget line for OHS requisites. However, further strengthening and addressing OHS implementation measures is required; including safety gears, workers' camp, and workers' influx management (WIM), *inter alia*. The Bid Documents also need to be revised to integrate and address such issues.
- Orientations to contractors' teams as well as project management teams on OHS were limited, and there was one casualty during BIMP implementation as a worker was killed due to formwork/false-work collapse. This also suggests severe requirement for specific provisions and system establishment for this purpose.
- Preparation of dedicated OHS Guidelines has been found crucial. Likewise, the current ESMF needs to be revised in view of the changes that have taken place since its 2013 update.

#### Annex 4: Some Photographs from BIMP - I



Completed Telar Bridge, Rupandehi



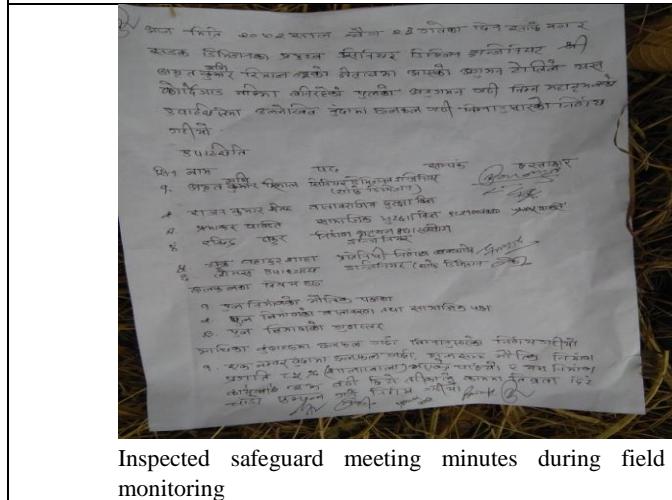
Completed bridge Jangaha river bridge



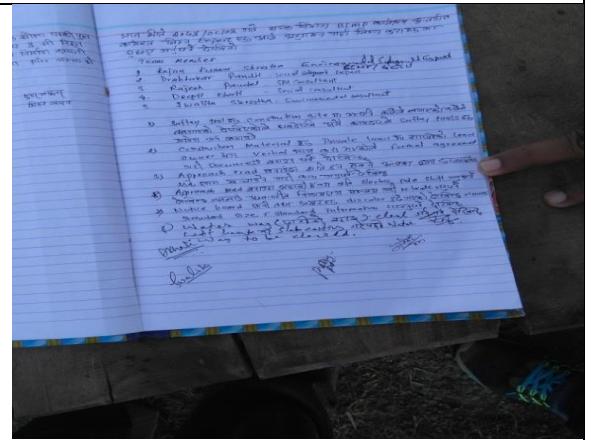
Distributing certificate of honor to the voluntary land donor



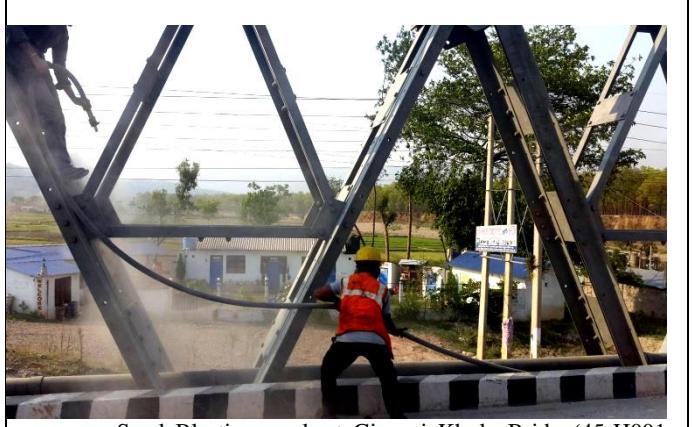
Safeguard orientation training to DoR, SM provided by GESU



Inspected safeguard meeting minutes during field monitoring



Site register maintained at sites (Tinau bridge, Rupandehi)

	
<p>Reinstated irrigation canal, Kawa Khola Bridge</p>	<p>Repair (painting) works ongoing</p>
	
<p>Workers on Major maintenance works at Jharai river bridge (45-H001-244)</p>	<p>Sand Blasting work at Girwari Khola Bridge(45-H001-249)</p>
	
<p>Consultation with community people during field visit</p>	<p>Workers on duty at Tipadagad bridge</p>