# Environmental and Social Management Framework

# (Revised)

## Strengthening National Rural Transport Program

## DOLIDAR

## MOFALD/GON

October 2013

# Abbreviations

| | | |
|---|---|---|
| BoQ | : | Bill of Quantity |
| CBPM | : | Community Based Performance Monitoring |
| CLE | : | Cluster Level Environmentalist |
| DAO | : | District Administration Office |
| DDC | : | District Development Committee |
| DFO | : | District Forest Office |
| DoLIDAR | : | Department of Local Infrastructure Development and Agricultural Roads |
| DoR | : | Department of Roads |
| DRCC | : | District Road Co-ordination Committee |
| DTO | : | District Technical Officer |
| EIA | : | Environmental Impact Assessment |
| EMP | : | Environment Management Plan |
| EPA | : | Environmental Protection Act |
| EPR | : | Environmental Protection Regulation |
| EMP | : | Environmental Management Plan |
| SMP | : | Social Management Plan |
| GAP | : | Gender Action Plan |
| GoN | : | Government of Nepal |
| IEE | : | Initial Environmental Examination |
| LRUC | : | Local Road Users' Committee |
| MoFALD | : | Ministry of Federal Affairs and Local Development |
| NGO | : | Non-Governmental Organization |
| OD | : | Operational Directive |
| OP | : | Operational Plan |
| PCU | : | Project Co-ordination Unit |
| PSC | : | Project Support Consultant |
| RAIDP | : | Rural Access Improvement and Development Project |
| RoW | : | Right of the Way |
| SDC | : | Social Development Consultant |
| SMO | : | Social Mobilization Officer |
| SPAP/F | : | Seriously Project Affected People / Family |
| SNRTP | : | Strengthening National Rural Transport Project |
| VCDP | : | Vulnerable Communities Development Plan |
| VDC | : | Village Development Committee |
| VDIMF | : | Voluntary Donation Impact Mitigation Fund |
| VDIMP | : | Voluntary Donation Impact Mitigation Plan |
| VRCC | : | Village Road Co-ordination Committee |
| WB | : | World Bank |

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ANNEXES

# Chapter I : INTRODUCTION

## Background

1.1 Development of a nation and its people is significantly contributed through improved access to physical facilities and social services. Roads are the only cheaper means of access to the people of rural area of a country like Nepal. It is estimated that the Rural Road Network includes between 25,000 and 60,000km of roads and unknown quantity of crossing structures (e.g. road bridges, causeways and culverts). Almost all rural roads are dry-weather tracks that are not operational during the rainy season. Inadequate drainage, low quality surfacing or the absence of crossing structures account for the seasonal access. Inadequate and inefficient rural transport service therefore is a major constraint for access to social services, including education, medical facilities, and markets. The studies reveal that maternal and infant mortality is more likely to be higher in less accessible areas. Similarly, per capita incomes are 50 to 65 percent lower in the more remote Far West Hill and Mountain Districts than they are in the more accessible Terai and Central Hill Districts.

1.2 Road construction bears potential risk on physical, biological, social and cultural environment of any area. Because of weak geology, rich biodiversity, high dependency of people on natural resources and widespread poverty, the social and environmental impacts are visibly significant, particularly when construction works are undertaken in rural areas. Generally, the environmental and social risks triggered by road construction include erosion and slope instability; loss of forest, biodiversity and agricultural land; effect to water sources due to sedimentation, water logging and drainage congestion, displacement/damage of permanent assets and loss of land. These problems are apparent not only during construction but also during operation phase, which has made road unsustainable with reduced dependency of people on road services, often resulting into even more harder life of the people. So, proper consideration of all environmental and social factors during design and implementation is of utmost concern in roads of Nepal.

## The Project

1.3 Strengthening the National Rural Transport Program (SNRTP), aimed at improving rural accessibility, is funded by the World Bank (WB) grant. SNRTP will target the 30 districts that previously participated in the Bank-supported Rural Access Improvement and Decentralization Project (RAIDP) plus an additional 5 districts. The project will benefit around 15.7 million people. The project will provide all-weather access to a network of 1202 km; the average number of beneficiary population per kilometer is around 1,434 person; and most of the beneficiary population live in Terai and valley plains, and 51 percent of the beneficiary population in the hills live within 30 minutes of the road.

1.4 The project includes three components namely (a) institutional strengthening and third party monitoring; (b) support physical works to maintain and upgrade rural transport infrastructure; and (c) fund investments in market infrastructure along roads that offer all

season rural connectivity. The details are as under.

**Component A**: Component A of the project will fund: (i) institutional strengthening and technical assistance for districts; and (ii) third party monitoring of physical works under Component B of the project. The project management unit (PMU) will implement and manage an arrangement for third party monitoring based on lessons learned from similar experiences with the Bank-supported RAIDP. This may include partnership(s) with NGO, civil society organizations, and / or private firms. Third party monitoring will apply to any district that accesses project funding for physical works under Component B of the project.

Access to technical assistance funds will be performance-based and preconditioned on a district's ability to meet the Local Bodies Fiscal Commission's Minimum Conditions. Eligible technical assistance activities will include: (i) preparing infrastructure inventories and planning initiatives such as District Transport Master Plans (DTMPs); (ii) planning of priority road links (iii) project preparation activities such as site survey, engineering designs, safeguards preparation, and procurement activities; (iv) project implementation activities including site supervision, contract management, and quality control; (v) staff training on specific technical subjects; (vi) improving budget planning, financial management, and fiduciary control mechanisms via a combination of training and direct support; and (vii) mobilizing length-person schemes or other systems for routine maintenance. The PMU will prepare a budget outlining the maximum amount of Component A funding that will be available for technical assistance in each financial year.

**Component B**: Component B of the project will support physical works to maintain and upgrade rural transport infrastructure. Access to this funding will be performance based and will entail two distinct funding windows. Window 1 will support maintenance of roads and crossing structures using an output-based approach that ties payments to results achieved. Window 2 will support road upgrading and crossing structure development as needed to provide all-weather connectivity using a traditional input-based payment approach. As with Component A technical assistance, any district wishing to avail of funds under Component B's funding windows will first need to pass MoFALD's Minimum Conditions.

***Window 1 - output-based maintenance funding***

1. Window 1 will support maintenance of all season roads and crossing structures. Access to these funds will depend on a district's ability to: (i) pass the Minimum Conditions; and (ii) satisfy a basic set of project-specific criteria. Window 1 funding will disburse on the basis of verified physical outputs achieved. Individual investments must constitute 'eligible expenditures' to count as payable outputs. This will require compliance with all safeguards and procurement guidelines. Districts will co-fund a portion of maintenance costs from their own financial resources to complement Window 1 funding. The PMU will establish co-funding requirements annually based on resource availability and levels of demand from districts.

2. Any district that is fully implementing the Treasury Single Account (TSA) system for financial management (see annex D) may request up to 50% advance disbursement against Window 1 funds committed to a specific investment. This advance will not be available to

districts that use alternative financial management systems. Final disbursements to districts will be net of any advances previously received. Districts that fail to deliver agreed outputs or depart from RAIDP II procurement and safeguards requirements will be required to refund any advances. Standard agreement terms between the PMU and participating districts will provide the means for enforcing repayment in the event it becomes necessary. Districts will bear responsibility for all cost overruns during implementation and Window 2 commitments will be fixed for each specific investment once agreed. Conversely, the PMU will not "claw back" Window 2 funds if districts deliver outputs that meet Department of Local Infrastructure Development and Agriculture Road (DoLIDAR) standards more efficiently than originally estimated.

3. Window 2 disbursements for road rehabilitation and maintenance will be fully scalable and based on each whole kilometer completed according to DoLIDAR standards. Crossing structure disbursements will be 'all or nothing' for each discrete structure and no partial disbursement for a single structure will be possible. The project will route Window 1 funding for crossing structure maintenance via DoLIDAR's trail bridges or motorable bridges programs as appropriate to the technical scope of proposed investments.

***Window 2 – upgrading***

4. Window 2 funding will be available to any district that: (i) has passed Local Bodies Fiscal Commission (LBFC's) minimum conditions within a given fiscal year; (ii) has met or exceeded Ministry of Federal Affairs and Local Development's (MoFALD) target threshold for the Performance Measures; and (iv) can satisfy and advanced set of project-specific criteria which the PMU will measure. Support from Window 2 will fund upgrading of seasonal roads and new crossing structures. Disbursements from Window 2 will follow a traditional input-based approach. The project will route Window 2 funding for crossing structures via DoLIDAR's trail bridges or motorable bridges programs as appropriate for the technical scope of proposed investments.

5. In the case of roads, upgrading and new crossing structures must be complementary such that access along the integrated road linkage becomes possible in any season. Window 2 will not support upgrading for road linkages that lack supporting crossing structures. Similarly, districts will not receive Window 2 funds for developing new crossing structures on roads that only provide seasonal access. Window 2 funding for trail bridges will flow according to the agreed framework provided by MoFALD's trail bridges sector wide approach (SWAp).

6. Sector specific criteria for accessing Window 2 funding will capture the following considerations: (i) whether a district has fully funded its latest Annual Road Maintenance Plan (ARMP); (ii) completeness and accuracy of inventory data for district roads; (iii) DTMP completeness and overall quality; (iv) strength of the district's fiduciary systems and adoption of the Treasury Single Account system; and (iv) quality and inclusiveness of road sector stakeholder outreach and engagement programs within the district.

**Component C:** Component C will fund investments in market infrastructure along roads that offer all season rural connectivity. DoLIDAR will commission a study of rural market

infrastructure in Nepal during project preparation or the initial stages of project implementation. This study will propose a list of rural market sites where targeted infrastructure investments could improve physical functionality of selected markets. The study will also categorize markets based on their relative importance based on the value chain analysis. Examples of potential investments include coverings to protect against adverse weather, permanent stall structures, livestock facilities, water supply, sanitation, drainage, etc. District Technical Offices (DTOs) will implement Component C investments under the PMU's oversight. Allocations of Component C funding will only take place in districts that have passed the Minimum Conditions.

1.5 The project support includes three categories of road activities (i) road upgrading; (ii) new crossing structures; and (iii) major maintenance works. The road upgrading works and major maintenance works involve widening of existing track to district road standard, re-alignment of small section of road, embankment construction, gravelling, and construction of retaining and drainage structures, compaction, and otta seal. The environmental and social impacts vary from site to site. The widening and realignment activities may need to acquire additional land and structure, felling of trees and clearing forests; grading of the road may cause change in cut slopes, generate spoil material; raising embankment may change existing local and natural drainage; construction activities may require quarry site operation; compaction requires operation of vibrator that may have impact on structures; borrowing activities may create pits, or removal of soil from agricultural land etc. New crossing structures include culverts and bridges with an average span of 25. Bridges with span greater than 100m will be constructed only in special cases. In such cases due diligence will be undertaken. Construction of new crossing structures involves dredging, excavation, foundation works, abutment construction, river bank reinforcements with varying environmental and social risks depending upon the site. The project will adopt labor based technology with limited use of heavy equipment. Only excavator will be used for construction propose. Blasting works will not be done.

1.6 The road and bridges proposed in any protected areas (conservation, national parks etc.) and in significant heritage site (such as listed in UNESCO), road traversing through highly significant major landslide and vulnerable areas, and major/ long-span bridge that will lead to significant conversion of natural habitat of critical endangered species will be excluded for implementation. The road and bridges proposed in other areas where environmental risks are relatively higher such as buffer zone, moderate landslides/ slope stability risks, protected forest, and areas with physical/cultural/religious significance will need prior approval from competent authority, DoLIDAR and World Bank (WB) before being considered for implementation.

1.7 The purpose of the Environmental and Social Management Framework (ESMF) is to provide guiding principles for assessment and management of environmental and social

aspects of all physical works targeted under SNRTP. It will help to systematically identify, predict, and evaluate beneficial and adverse environmental and social impacts of rural road construction and upgrading activities, designing enhancement measures for beneficial impacts, and implement mitigating measures for adverse impacts. This ESMF is based on the earlier version of ESMF (September, 2009) prepared for Rural Access and Infrastructure Decentralization Project (RAIDP). Based on the lessons learned and implementation experiences at the field level in RAIDP, the ESMF is being updated. The revision of ESMF has been done with consultations with the community, project affected people (PAP), NGOs, Social Mobilization Officers (SMO), Social Development Consultant (SDC), Project Design Engineer (PDE), District Development Committee (DDC), District Technical Officer (DTO), DoLIDAR, MoFALD, and other similar projects implemented by Government of Nepal (GoN). Once approved by GoN, this version will formally replace the earlier version and come into enforcement. The Government of Nepal through a government order (GO) will replace the ESMF prepared for RAIDP by this version to be used for SNRTP. In order to revise the ESMF, DoLIDAR carried out an independent evaluation of ESMF implementation under RAIDP. The independent evaluation brought out certain shortcomings not only in implementation but also in preparation stage including budget requirement. The recommendations made by the independent study has been incorporated in this ESMF.

## Existing Environmental Conditions of the Project District

1.8 Nepal is commonly divided into three physiographic areas: the Mountain, Hill and Terai Regions. These ecological belts run east-west and are vertically intersected by Nepal's major, north to south flowing river systems. The undulating landscape and rugged topography wide altitudinal variation and diverse climatic conditions pose many risk and constraints in the development of road construction particularly in the middle hills and the mountains. Altogether 35 districts which have been proposed for the SNTRP which lies in different geological regions. The hill districts located in the fragile zone of middle hills and Churia faces problems of landslides and soil erosion while the districts in the Terai region face risks from flash flood and soil erosion especially during monsoon. The district in the high mountain region though relatively stable with good geology faces risk of rock falls and landslides.

1.9 Most of the proposed districts are located in middle hills and the Terai region. Watershed characteristics also give indication of the current state of soil erosion. As per the watershed condition of districts map (prepared by Department of Soil Conservation and Watershed management) the watershed of the proposed districts in the Terai region are good while the middle hill districts falls into fairly to good category. Some of the proposed district likes Nuwakot , Arghkanchi, and Dang etc have poor watershed. The combined effect of geologically unstable, steep and rugged mountain topography and intense monsoon rainfall make these districts vulnerable to landslides and soil erosion. Cultivation of marginal hill slopes to meet the demands of increasing population, terrace cultivation and changing land use pattern are the major problems associated with road construction in Nepal.

## Objectives of ESMF

1.10 The objective of ESMF is to frame guidelines and procedures to deal with environmental and social impacts associated with the implementation of this project. The specific objectives are as follows;

a. Assess the compatibility of GoN policies and World Bank policies; identify the gaps, and develop mechanism for addressing these gaps.
b. Outline the process for identify potential adverse social and environmental impacts due to construction and upgrading and Maintenance of rural roads and Bridges.
c. Provide guideline for preparing the environmental and social mitigation plans to address the adverse impacts; and
d. Describe the implementation and institutional arrangements for managing environmental and social impacts.

## Outline of the Report

1.11 This report consists of four chapters and includes an overview of the project and purpose of this ESMF in the first chapter. The second chapter contains review of applicable environment and social policies, acts and guidelines of Government of Nepal. It also contains the World Bank's operational policies and provides a comparative picture and proposes appropriate actions for bridging the gaps between provisions of government of Nepal with that of World Bank. Chapter three presents detailed account of environmental and social framework to deal with impacts and preparation of mitigation plans. The fourth chapter describes the implementation arrangements including monitoring and evaluation mechanisms for implementing the mitigation measures.

# Chapter II : POLICES, REGULATIONS AND GUIDELINES

## Relevant Policies of Government of Nepal

2.1 The Interim Constitution of Nepal, 2007: It states under clause number 2 of article 19 regarding Rights of Property that except for public benefits state cannot seize property of individuals and cannot create any type of rights under such property. The State may acquire the property from its owner by providing due compensation to owner of property for land acquired, as prescribed by law.

2.2 It commits the government for the protection and development of Indigenous Peoples (IPs). For the welfare of IPs (Adivasi/Janajatis), the government set up a national committee for development of nationalities in 1997. The parliament passed a bill in 2002 for the formation of national foundation for the development of indigenous nationalities. This foundation has been working for preservation of the languages, cultures and empowerment of marginalized ethnic nationalities. Similarly, the government of Nepal has set up National Dalit Commission and National Women Commission for the protection of their rights.

2.3 Local Self-Governance Act, 1998 and Local Self- Governance Rule, 1999. Public Procurement Act 2065: The Local Self-governance Act has been enacted to provide greater political, administrative and financial autonomy to local bodies and facilitate community participation at the local level. In accordance with the Act, local bodies have been formed at three levels: Village Development Committee (VDC) at village level, Municipality at town level, District Development Committee (DDC) at district level. The Act empowers these local bodies to formulate and implement periodical and annual plans within their own jurisdiction. There has not been election since 2001 due to political turmoil. So, there have been practices for forming local bodies through consensus among the local political parties.

2.4 Public Road Act, 1974: The Act prohibits the construction of permanent structures (buildings) within road Right of Way (RoW). If road projects temporarily require land and/or other properties during construction, rehabilitation and maintenance, compensation is determined by the Chief District Officer (CDO). Provisions are also detailed for compensation for the extraction of construction materials.

2.5 Environmental Protection Act, 1997 and Environmental Protection Regulations, 1997: According to the EPA 1997, all development projects, including roads, should first be screened using criteria that are based on project type, size, location and cost, stipulated in the Regulation to determine the level of environmental assessment required (whether IEE or EIA or none). Usually, small projects such as rehabilitation of rural roads are not expected to cause significant environmental damage and require only minor environmental assessment.

2.6 Forest Act, 1993 and Forest Regulation, 1995: The road projects need to comply with the provisions of forest Act and Regulation when it requires the use of forestland for road construction/improvements. Clause number 68 (1) allows implementation of development project of national priority in forested area, if it does not pose significant adverse impact to environment and if there are no other alternatives, after approval of government (District Forest Office - DFO) and local forest authority (eg; Community Forestry User Groups). The forest regulation allows implementation of priority projects within forested area with adequate compensation to affected people and prior

permission. Plant species and forest products legally protected under Forest Regulations, are presented in Annex 1

Department of Forest Guidelines
The Department of Forest has made public various guidelines with relevance to environmental assessment of the development projects which are as follows:

- Forest Products Collection, Sale and Distribution Guidelines, (1998);
- Community Forest Guidelines, (2009);
- Community Forest Inventory Guidelines, (2005);
- Guidelines for use of forest area for development works (2006)

The aforementioned guidelines details the various procedures and formats for getting approval for vegetation clearance, delineation of lands for vegetation clearance, evaluation of wood volume among others and in developing the community forest through the active participation of the poor, disadvantaged, indigenous, Janajati, Madhesi, women, communities lagging behind due to various reasons. The Community Forest Inventory Guidelines details the processes and procedures for evaluating the forest stock and its harvesting potentials while preparing the operational plans government offices and officials responsible for the approval, delineation and evaluation.

Guideline for the use of the forest area for development projects reiterates the use of the forest area only if other options are not available.

2.7 National Park and Wildlife Conservation Act, 1972: This act prohibits any action that could be damaging to the park including; cutting of trees and other plants, any kind of residential structures, quarrying of materials, change in watercourse, etc. Activities prohibited in protected areas includes; hunting, damage or removal of forest products, grazing, mining, digging earth or any other similar material, block or divert river systems flowing through the park, construction or possession of house, huts or other structures,. Any intervention within National Park and Wildlife Conservation Area requires permission from Ministry of Forest, Soil and Water Conservation after recommendation from Department of National Parks and Wildlife Conservation.

2.8 Land Acquisition Act, 1977 and Land Acquisition Regulations, 1969: The Land Acquisition Act 1977 and the Land Acquisition Regulation 1969 clearly outline the procedures of land acquisition and compensation for public purposes. The act states that, if the government has already used the land for public purposes in the agreement of land owner then it is not required to follow acquisition process but can determine compensation as per the act (Section 26). Section 27 of the act clearly states that land for public purposes can be acquired through negotiation and in such case procedure laid down by the act do not have to be followed. Therefore, section 26 and 27 are applicable for obtaining land for the project. The applicable provisions in the act are:

- Report to be submitted in respect to findings of preliminary action for obtaining land,
- Notification of land acquisition (at local project office, district government office, local government body, district land revenue office, at locality) with following information;
    a. The purpose for which land is required,

b. Whether other assets will be acquired along with the land to be obtained,
c. location detail of the land to be obtained,
d. plot number, area of the land to be obtained,

- Land ownership transfer and adjustment in the Records of District Land Revenue Office.
- Devolution of Ownership of land to GoN.

2.9 Soil and Watershed Conservation Act, 1982

For the conservation and management of watersheds of Nepal, the Soil and Watershed Conservation Act, 1982 was enacted. Section 4 of the Act provides an authority to watershed conservation officer to implement the following works in protected watershed areas:

- Construct and maintain dam, embankment, terrace improvements, diversion channels and retaining walls;
- Protect vegetation in landslide-prone areas and undertake a forestation programs; and
- Regulate agricultural practices pertinent to soil and watershed conservation.

Under Section 10 of the Act, Watershed Conservation Officer has authority to grant permission to construct dams, drainage ditches, canals, cut privately owned trees, excavate sand, boulders and soil, discharge solid waste, and establish industry or residential areas within any protected watershed.

2.10 Labour Act, 2048 (1992) (first Amendment, 15 Magh 2054/ Jan.28, 1989)

This Act in chapter -5 describes the Provisions Relating to Health and Safety of labours that a proprietor shall make to his employee. The Proprietor shall make the arrangements of clean and healthy working environment, arrangements of necessary preventive personal devices for protection of health from adverse any other source, to make provisions for sufficient supply of pure potable water during the working hours, to make provisions for separate toilets for male and female workers or employees at convenient place; necessary protective means shall have to be arranged for the protection of eyes and other organs of the workers and employees from injuries likely to be caused by dust or pieces while working in the Enterprise.

2.11 Child Labor (Prohibition and Regulation) Act, 2056□□ (June21, 2000 A.D.)

This Act prohibits engaging child labour (below 16 years) in factory, mines and other risky works. This act along with others defines the construction enterprises as one of risky works.

2.12 Labour Rules, 2050 (1993)

In chapter-3 of this rules describes that there will be no discrimination in remuneration to male or female worker or employee for engaging them in the works of the same nature of functions. This chapter also dictates regarding provision of compensation against injury, Compensation in case of grievous hurt resulting in physical disability, Compensation in case of death of any workers/ or employee

2.13 International Labor Organization ( ILO 169), 1989

Article 7 of the convention provides the right to the indigenous and tribal people to decide their own priorities for the process of development. However, for the national development plans and programs,

it mandates consultation with them in the formulation of the plans and programs. Articles 12, 13, 14 and 15 safeguard rights of the indigenous people in the land and natural resources in territories traditionally occupied by them. In the event that the state retains the right of the natural resources in their territories, it mandates formulation of special provisions under the state legislation for their participation in the decision making process and resettlement process with full compensation of the resulting loss or injury (Article 16). As Nepal is signatory to the convention, it is obliged to comply with the provisions stipulated in the conventions, if the project is to impact the safeguard rights of the indigenous people

## Government of Nepal's Legislative Framework and Guidelines

2.14 Environmental Guidelines: Environmental guidelines relevant to road include National EIA Guidelines 1993, Road Sector EIA Guidelines 1997 and Road Sector Environmental Management Guidelines 1997. The Guidelines provide guidance to project proponent on integrating environmental management and mitigation measures, particularly on the management of quarries, borrow pits, stockpiling of materials and spoil disposal, operation of the work camps, earthworks and slope stabilization, location of stone crushing plants, etc.

2.15 Land Acquisition Guidelines: The guideline describes the process of land acquisition according to provisions made by Land Acquisition Act 1977.

2.16 Work Procedure to Provide Forest Area for other Purposes, 2006: The work procedure mentions that if EPA/EPR is not applicable to a project, then necessary mitigation measures should be incorporated during implementation. Prior approval for intervention in forested area is required form District Forest Office (DFO), and Forest User Groups (FUGs).

2.17 Master Plan for the Forestry Sector Nepal, 1988:

Master plan for forestry sector clarifies the procedure for intervention in different types of forests. Any intervention (trees cutting, land acquisition, removal of protected species, etc.) in national forest under government requires prior approval from concerned authority. If it is community forest or similar forest handed over to the community then it requires permission form the concerned user group community also.

2.18 The Buffer Zone Management Regulation, 1996

The Buffer Zone Management Regulation, 1996 has mandatory requirement to have permission of Warden to carry out following activities within a buffer zone area: •

- Occupying any land without legal ownership or cutting trees, clear forest or cultivate forestland
- Any activity damaging forest resources or setting fire in the forest
- Excavating stone, earth, sand or mine or removing minerals, earth or other such materials
- Using any harmful poison or explosive substances into the river, stream or source of water flowing in the buffer zone, and
- Hunting illegally and any act damaging to the wildlife.

This regulation is applicable for the new road construction between Nagma and Gamgadhi which will lead through the buffer zone of Rara Lake National Park.

2.19 International Legal Provisions with Likely Relevance for Road Projects Nepal is signatory to many international conventions, which deal with the protection of environment and have to some extent also bearing on road project designing. For example, the convention on Biological Diversity was signed by Nepal at Rio de Janeiro on June 12, 1992. The convention provides a broad framework on the need for carrying out EIA to minimize adverse impacts of the projects and programs on biodiversity. The Article 14 of this convention provides the provision of impact assessment and minimization of adverse impacts. In broader sense, it calls upon the signatory parties to introduce appropriate procedures for EIA and ensure public participation, exchange information on adverse effects on biodiversity of other states, notify immediately possibly affected other states in case of danger or damage to biodiversity and to initiate action to prevent or minimize such damages. Other legal obligations relate to the following international conventions and agreements:

- UN Framework Convention on Climate Change, 1992
- The Plant Protection Agreement for the South East Asia and the Pacific (as amended), 1956,
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora, (CITES), 1973
- The Ramsar Convention (Convention on Wetlands of International Importance Especially as Water Fowl Habitat), 1971
- The Convention for Protection of the World Cultural and Natural Heritage, 1972

2.20 Public Work Directives, 2002: The directives allows contractor to choose any quarry site for construction material provided that the material conforms to the specifications. Project manager should examine the operation condition, legal status, quality and potential yield of these sites. The contractor should obtain license from coordination with Department of Mines and Geology, DDC, DFO, Municipality and VDC. The directive also mentions that quarry site in environmentally sensitive area cannot be accepted.

2.21 Government Policy Regarding Extraction of Construction Materials: The local self-government regulation, 1999 has given authority to DDC and DFO (if the area lies within the forest boundary) to award license for extraction of riverbed materials. The EPR criterion requires IEE/EIA of such activities and approval from concerned ministry. The Mines and Mineral Act, 1985 requires that the extractable quantity of materials should be estimated, before tendering. There are no legal documents stating the specific conditions for protecting riverbed and surrounding environmental condition. Clause 33 of Mines and Mineral Regulation 1996 states measures to be done to protect environment of the area. The Environmental Management Guideline, 1999 (DoR) mentions that the quarry sites should be away from population centers, drinking water tank/supply, cultivation land, and bridge sites. For extraction of material from other areas including hill slopes, license should be obtained from Department of Mines and Geology, after meeting EPR criteria. The Forest Regulation, 1995 and National Park and Wildlife Conservation Act, 1972 also prohibits operation of quarry sites inside forested area, including community forestry.

## Government of Nepal Policies Supporting Indigenous/Vulnerable Communities

2.22 The Three Years Interim Plan Paper, 2007 – 2010: This includes following policy for inclusive development of IPs and other disadvantageous groups: (i) creating an environment for social inclusion; (ii) participation of disadvantageous groups in policy and decision making; (iii)

developing special programs for disadvantaged groups, (iv) positive discrimination or reservation in education, employment, etc. (iv) protection of their culture, language and knowledge, (vi) proportional representation in development, and (vii) making the country's entire economic framework socially inclusive.

2.23 National Foundation for the Development of Indigenous Nationalities Act (2002), National Human Rights Action Plan (2005), National Women Commission (2002), National Dalit Commission (2002). These acts permit to setup respective commissions to work for protection and promotion of rights of indigenous, marginalized, Dalit and women.

2.24 ILO convention 169 on Indigenous and Tribal Peoples and UN Declaration for the Rights of Indigenous Peoples (UNDRIP, 2007): The government of Nepal has committed to ILO Convention 169 and the UN Declaration for the rights of Indigenous Peoples in 2007. Both UNDRIP and ILO 169 advocates for the human rights and fundamental freedoms of Indigenous peoples. Following ILO 169, the government of Nepal has identified 59 indigenous ethnic groups and amended an Indigenous Nationalities Act 2002. The act categorized the 59 ethnic groups as advance ethnic group, deprived ethnic groups and endangered ethnic groups. ILO Convention 169 is a legally binding international treaty but there is no National Action Plan yet to implement it. UNDRIP is not mandatory. The project will pay high attention to such groups during consultation and mitigation of their impacts.

## World Bank's Environmental and social Safeguard Policies

The environmental and social safeguard policies of the WB applicable to RAIDP are as following:

2.25 Environmental Assessment (EA) OP 4.01: An Environmental Assessment is conducted to ensure that Bank-financed projects are environmentally sound and sustainable, and that decision-making is improved through appropriate analysis of actions and of their likely environmental impacts. Any World Bank project that is likely to have potential adverse environmental risks and impacts in its area of influence requires an EA indicating the potential risks, mitigation measures and environmental management framework or plan.

2.26 Natural Habitats (OP 4.04): The Natural Habitats Policy is triggered by any project (including any subproject under a sector investment or financial intermediary loan) with the potential to cause significant conversion (loss) or degradation of natural habitats, whether directly (through construction) or indirectly (through human activities induced by the project). The policy has separate requirements for critical (either legally or proposed to be protected or high ecological value) and non-critical natural habitats. The Bank's interpretation of "significant conversion or degradation" is on a case-by-case basis for each project, based on the information obtained through the EA.

2.27 Forestry (OP 4.36): This policy is triggered by forest sector activities and other Bank sponsored interventions, which have the potential to impact significantly upon forested areas. The Bank does not finance commercial logging operations but aims to reduce deforestation, enhance the environmental contribution of forested areas, promote afforestation, reduce poverty and encourage economic development.

2.28 Physical Cultural Resources (OP 4.11): The Bank seeks to assist countries to manage their physical

cultural resources and to avoid or mitigate adverse impact of development projects on these resources. This policy is triggered for any project that requires an EA.

2.29 Involuntary Resettlement (OP 4.12): Key objectives of the World Bank's policy on involuntary land acquisition are to avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs; assist displaced persons in improving their former living standards, income earning capacity, and production level, or at least in restoring them; encourage community participation in planning and implementing resettlement; and provide assistance to affected people regardless of the legality of land tenure. The policy covers not only physical relocation, but any loss of land or other assets resulting in relocation or loss of shelter; loss of assets or access to assets; loss of income sources or means of livelihood whether or not the affected people must move to another location. When the policy is triggered, a Resettlement Action Plan must be prepared. An abbreviated plan may be developed when less than 200 people are affected by the project. In situations, where all the precise impacts cannot be assessed during project preparation, provision is made for preparing a Resettlement Policy Framework. The Resettlement Action Plan /Resettlement Policy Framework must ensure that all the Bank's policy provisions detailed in OP 4.12 are addressed particularly the payment of compensation for affected assets at their replacement cost

2.30 Indigenous Peoples (OD 4.10): Key objectives of the Indigenous Peoples policy are to:
(i) ensure that indigenous people affected by World Bank funded projects have a voice in project design and implementation; (ii) ensure that adverse impacts on indigenous peoples are avoided, minimized or mitigated; and (iii) ensure that benefits intended for indigenous peoples are culturally appropriate. The policy is triggered when there are indigenous peoples in the project area and there are likely potential adverse impacts on the intended beneficiaries of these groups. When this policy is triggered an Indigenous Peoples Development Plan is to be prepared to mitigate the potential adverse impacts or maximize the positive benefits of the project interventions.

## Comparison of Government of Nepal and World Bank Policies

Table 2.1 presents a comparison of Government of Nepal and World Bank policies, and recommendations to bridge identified gaps.

Table 2.1: Comparison of GoN and World Bank Policies Gaps and Recommendations

| Category | GON Policy | World Bank Policy | The GAP | Recommendations to Bridge Gaps |
|---|---|---|---|---|
| A. Environment (Natural Habitat , & Forest including terrestrial and aquatic) | Development Project falling under EPR criteria should be subjected to IEE/EIA (for example Construction of District Road requires IEE and Feeder Road requires EIA). According to recent amended EPR improvement of districts roads are not required to undertake IEE/ EIA. This approach often ignores potential risks and impacts. For example, depending on site condition, a district road could be riskier than a feeder road. Forest regulation requires permission from related authorities (DFO, CFUG etc.) for any intervention in forested area. National Park and Wildlife Conservation Act, demands permission from Ministry of Forest and Soil Conservation besides Ministry of Environment. Compensatory re-plantation ratio is not defined for service-oriented project. | Environmental Assessment has to be carried out for identifying potential risks and adverse impacts, mitigation measures and environmental management plan. When natural habitat and forest policies are triggered Environmental assessment and environmental management plan (EMP) will adequately address the relevant issues. | Activities listed in EPR Schedule I requires an IEE, and those listed in Schedule II requires EIA. The Schedule I and II is based on activity type, threshold/ size, as well as location. Potential risk is not formally considered for screening. | In order to fill the gap between WB and GON requirements/approach, environmental screening is must for each subproject, and consider potential environmental risk : project Environmental Screening Format includes this. An Environmental Management Plan (EMP) shall be prepared for each contract during detail engineering design phase. The plan aims to address adverse environmental impacts arising due to project intervention. The project will strictly follow re-plantation and the ratio will be fixed by DDC in coordination with LRCU/VRCC, DFO, and local forest authority (eg; CFUG). |
| B. Physical-Cultural Resources | Clause 28 of EPR states that physical and cultural resources shall not be disturbed or damaged without the prior approval of concerned authority. | Environmental assessment has to be carried out in case such resources are found to be affected by the subproject. | "Chance find' is not covered by the EPR requirements | ESMP shall address such issues following GoN and WB policy. See Annex 23: Guidelines for Protecting Physical Cultural Resources. |

| Category | GON Policy | World Bank Policy | The GAP | Recommendations to Bridge Gaps |
|---|---|---|---|---|
| C. Land and Structures | Clause 3 of this Land Acquisition Act states that any asset that is required for public purposes shall be acquired by providing compensation. Compensation Fixation Committee will establish the Compensation rates.<br><br>Guthi Corporation Act, 2033 (1976). Section 42 of this Act states that Guthi (religious trust land) acquired for a development must be replaced with other land, rather than compensated in cash<br><br>Land Reform Act (LRA) 2021 (1964). This Act establishes the tiller's right on the land, which he is tilling. The LRA additionally specifies the compensation entitlements of registered tenants on land sold by the owner or acquired for the development purposes | Full compensation at replacement cost for lost assets shall be provided according to asset types and location. Resettlement and Rehabilitation assistance to affected people to enable them to improve their living standard.<br><br>As per OP 4.12 community assets needs to be replaced in consultation with the community.<br><br>As per OP 4.12, all those who are affected needs to be assisted including tenants and sharecroppers. | The Land Acquisition Act of Nepal only provides for cash compensation based on degree of loss. It does not take into account vulnerability of the land affected person. | The road subprojects are demand driven. The community will be benefitted from these subprojects. So, there has been general practice of voluntary land donation for rural roads. The project will ensure that land donated is not more than 10% of the total land holding. In case of land owners donating more than 10% of the total holding assistance will be provided and Voluntary Land Donation Impact Mitigation Plan (VDIMP) will be prepared as per the Entitlement Matrix. The project will assist those who are losing their livelihood due to land donation including tenants. |
| D. Indigenous Community | The Interim plan encourages each development program to incorporate infrastructure and income generation program targeted to indigenous community. | Ensures free, prior, and informed consultation (FPIC) with the affected indigenous people to obtain broad community support to the project. Social Assessment will be carried out to identity potential effect and prepare plan to ensure that indigenous peoples receive social and economic benefits that are culturally appropriate. | Though GoN's interim plan encourages development programs to incorporate income generation schemes for IPs, there is no mention of broad consent from the IPs. At the same time GoN has also ratified ILO 169 and United Nations Declaration of Rights of Indigenous People (UNDRIP), and is in the process of preparing National Action Plan for implementation of these international commitments. | Project will carry out free prior informed consultations with the indigenous community and other vulnerable communities to obtain broad consent for the project. Project will prepare Vulnerable Community Development Plan (VCDP) based on community needs of indigenous as well as other vulnerable communities. Vulnerable community will also benefit from market infrastructures subproject. |

| Category | GON Policy | World Bank Policy | The GAP | Recommendations to Bridge Gaps |
|---|---|---|---|---|
| | NFDIN Act 2002, Local Self-Governance Act, 1999 and Tenth Plan ( 2007-10) and Three Year Interim Plan (2011-13) | | Nepal does not have a standalone policy on Indigenous Peoples and other vulnerable communities. These acts have been placed significant emphasis on delivering basic services to the disadvantaged and indigenous people, Dalits, women, disabled and other vulnerable groups<br><br>These acts and plans include policies for the development of Adivasi/Janajati and other disadvantaged groups:<br><br>• creating an environment for social inclusion;<br><br>• participation of disadvantaged groups in policy and decision making;<br><br>• developing special programs for disadvantaged groups;<br><br>• positive discrimination or reservation in education, employment, etc.;<br><br>• protection of their culture, language and knowledge;<br><br>• proportional representation in development process; and<br><br>• making the country's entire economic framework socially | |

| Category | GON Policy | World Bank Policy | The GAP | Recommendations to Bridge Gaps |
|---|---|---|---|---|
| | | | inclusive | |
| E. Loss of Income Source | Compensation shall be provided for loss of crop damage/income source. | Full compensation shall be provided. | | Livelihood assistance shall be provided as per criteria set by 3.31 of ESMF Chapter III. |

# Chapter III: ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

3.1 The Environmental and Social Management Framework (ESMF) is a guiding document to address the social and environmental issues in the subprojects. As the project involves mostly improvement and upgrading of the existing roads and construction of bridges the expected adverse impacts are generally considered to be minimal both on environmental and social fronts. For social impact purposes road corridor, which is defined as formation width of road as fixed by approach manual[1] will be considered for identifying the impacts, especially the losses and damages caused by construction activities. For environmental impacts the project will consider Impact Corridor. This will be different in different site condition as determined by case basis. As a rule of thumb a corridor of 1.5 Km on both sides of road is used as potential impact corridor. Site-specific potential impact corridor will be determined during environmental screening for maintenance and upgrading works . The key users of this framework will constitute a wide range of officials and staff involved in policy making, planning, implementation and monitoring of social and environmental mitigation measures in the road subprojects and bridges.

3.2 The project envisages that the rural road improvement and construction bridges will enhance access of local people to national and feeder roads, which directly contributes to increased socio-economic wellbeing with improved access to different types of services and facilities. It ultimately aims to reduce poverty with enhanced level of livelihood accompanied by increased income, employment and access to services. Considering the nature and scope of the project there will not be any major environmental and social impacts for the following reasons:

- Most of the subprojects proposed under the project will consist of upgrading and improvement of existing roads and construction of bridges with average span of 25 m. As a result the adverse impacts will be limited to loss of small parcels of land and little damage to local infrastructure, limited loss of vegetation and slope cutting,
- Improvement of hill roads often suffer from problems related to impact due to spoil disposal of excavated materials, Slope instability, landslides, soil erosion, obstruction on natural drainage and loses of trees and bushes and so on. Thus, the project will improve existing natural settings using protection structures and bio-engineering work, and it will use labor-based technology which will minimize damage to fragile slopes. Use of heavy machineries and equipment will be limited to only excavator. Blasting will not be done.
- In the *Terai* almost all proposed roads are north south roads. Though the potential for flood damage is less in these roads than the east-west roads, the impacts such as restoration of borrow pit sites, impacts on agricultural land due to water logging/flooding, scouring and erosion on embankment exists in roads in *Terai*.
- Local communities will be involved in road improvement, protection as well as monitoring which will assist to reduce adverse environmental and social impacts through use of indigenous skills and know how. The alignment of the road will be finalized in consultation with the community and especially those who are donating land. The community will also be involved in monitoring of sub project implementation. The project will hire a NGO / Consulting firm to train selected community members from all the project districts in social accountability. The community members will be selected through village level meeting.

- Since the roads are improved and bridges are constructed as per the spirit of GoN decentralized policy, the respective DDCs (local government) will be directly accountable for their maintenance after construction leading to better operation and sustainability of the subprojects including identification and mitigation of social and environmental issues

3.3 Broadly, there are two types of roads in Nepal- strategic roads; which includes national highway and feeder roads; and district roads, which include district road of class A, B and C. Strategic roads are under the Department of Roads (DoR) and the district roads are under District Development Committee (DDC). All the SNRTP roads are under the category of district class 'A' roads, which are managed by the District Development Committees (DDCs). These roads will be considered under this project only at the request of the local communities and, if they wish to donate land voluntarily.

3.4 SNRTP will follow the Operational Guidelines of Ministry of Federal Affairs and Local Development (MoFALD) and form and mobilize the Village Road Coordination Committee (VRCC) and Local Road Users Committee (LRUC) accordingly. The project will form such committee considering gender inclusion and their representation should as maximum as possible in each committee.

3.5 The road and bridges proposed in any protected areas (conservation, national parks etc.) and road traversing through major landslide and vulnerable areas will not be considered for implementation.

3.6 The road and bridges proposed in buffer zone and areas with physical/cultural/religious significance will need prior approval from DoLIDAR and WB before being considered for implementation.

## Road Corridor

3.7 In case of rural roads, the usual Right of Way (ROW) is 10 meters both in hill and Terai regions and people will be informed that no construction should be undertaken in this road width. The road corridor is defined at the initial stage after the selection of a subproject. The road corridor denotes formation width of the road only, which will be according to the technical guideline but varies depending on the geographical, environmental and social contexts.

3.8 Based on the road corridor width, the required land for the improvement of roads will be obtained from the people as donation. Records of donation of lands and other assets will be maintained for the road corridor i.e. how much of additional land strip has actually been acquired in addition to the existing road width including list of affected people.

3.9 The DTO technical staff in consultation with local road users will define the Corridor of Impact (CoI) of a road and bridges at a public gathering.

## Environmental Impacts

3.10 Environmental impacts envisaged in SNRTP differ from subproject to subproject in same region, from region to region (hill and Terai), from type of work done new track or upgrading and road to bridges. The experiences from implementation of past projects have shown that impact ranges from spoil disposal of excavated materials, slope instability, landslides, soil erosion, obstruction on natural drainage and loss of trees and bushes, restoration of burrow pit sites, impacts on agricultural land due to water logging/flooding, scouring and erosion on embankment, protection and reinstatement of public utilities, cultural and religious sites and so on. The impacts and their mitigation measures are summarized for hill, Terai roads and bridge projects in table 3.1, 3.2, 3.3, and section 3.11.

Table 3.1: Issues and Mitigation measures in Terai during Planning & Design and Construction & Operational Stage

| SN | Issues/Impact | Mitigation Measures | |
|---|---|---|---|
| | | Planning and design stage | Construction and Operation stage |
| 1 | Impacts on agricultural land due to water logging/flooding:<br>Roads often act as barrier disrupting natural drainage and causing water logging, water ponding and flooding of adjacent land resulting in damage of agricultural lands, reduced crop growth and development and thereby reduced yield of crops and agricultural production. | Detailed planning and design of the drainage structures with minimum interferences of natural drainage patterns and preventing possibility of vector breeding and water borne diseases in consultation with farmers and road user.<br><br>Provide irrigation channels at low land paddy area for irrigation and to manage surface runoff. | Adequate and Maintained Cross drainage systems to mitigate impacts on agriculture land due to water logging/flooding<br><br>Maintain cross drainage systems at 200-300 m interval especially at khet area. Construct cross drainage systems (provide culverts and hume pipes) consulting farmers. |
| 2 | Scouring and erosion on embankment due to increased surface run off:<br><br>Most common during Monsoon Causing embankment failure and traffic disruption | Include adequate drainage improvement works for managing surface runoff<br><br>Avoid burrow pits, unnecessary vegetation removal from embankment and attempt towards lining the existing earthen irrigation canal and drains abutting road. | Construct side lined drains in the settlement areas and link with main drain outlets consulting local communities.<br><br>Carry out drainage improvement works as per design.<br><br>Apply proper turfing (bioengineering work) on the embankment slopes for preventing embankment scouring and erosion. |
| 3 | Burrow pit :<br><br>Loss of top soil, land and productivity, Water congestion, vector proliferation, spread of water borne diseases, physical | Burrow pits should be avoided in lands close to embankment toe line and settlement<br><br>Burrow pits should be avoided in lands close to embankment toe line (in no cases less than 1.5 m) and in irrigated agricultural lands.• Incase borrow pit is in agricultural land, the depth shall not exceed 45 cm and | Operate suitable size of borrow pits as per required volume of materials and based on plan.<br><br>Balance earthwork quantity of embankment and side drains to minimize additional borrow pits<br><br>Monitor burrow pit restoration activities, as per |

| SN | Issues/Impact | Mitigation Measures | |
|---|---|---|---|
| | | Planning and design stage | Construction and Operation stage |
| | injury, accident and even death | may be dug out to a depth of not more than 30 cm after stripping the 15 cm top soil aside.<br><br>In case of riverside, borrow pit should be located not less than 15 m from the toe of the bank, distance depending on the magnitude and duration of flood to be withstood.<br><br>Provide lead distance of more than 50m as per need.<br><br>Avoid following areas;<br><br>Grazing lands<br><br>Lands within 0.5 Km of settlement<br><br>Environmentally sensitive areas<br><br>Designated protected areas / forests<br><br>Unstable site-hills<br><br>Water bodies<br><br>Streams, swamps, water logging and seepage areas<br><br>Areas supporting rare plant / animal species/habitat<br><br>Prepare, approve and verify burrow pit restoration plan before starting of construction work as a part of restoration/rehabilitation plan | proposed restoration plan. |

Table No. 3.2- Issues and Mitigation measures in Hill during Planning & Design and Construction & Operational Stage

| SN | Issues/Impact | Mitigation Measures | |
|---|---|---|---|
| | | Planning and design stage | Construction and Operation stage |
| 1 | Impacts on agricultural land, forests and grazing land due to spoil disposal of excavated materials, and other construction waste:<br>Loss of productive land, forest land and grazing area | • Provide provision of lead distance of more than 50m as per need to make effective and practical for spoil management.<br>• Prepare verify and approve tipping plan as a part of restoration/rehabilitation plan.<br>• Maintain cut and fill balance as far as possible in design plan.<br>• Make provision of adequate walls, slope grading and plantation to manage disposed spoil<br>• Identify and approve site for material storage. Consult with local people to finalize the alignment especially to avoid landslide area, to decide location for culverts and other drainage structures. | • Comply with spoil tipping site plan accordingly.<br>• Explore opportunities of managing spoil and waste.<br>• Reclaim degraded lands using spoil and waste in coordination with local communities<br>• Restore cultivated land damaged through spoil.<br>• Follow safe and careful tipping practices without mixing spoil and waste with cultivated land/soil.<br>• Rehabilitate and reinstate decommissioned material storage yard |
| 2 | Slope instability, landslides and soil erosion: The issue has been observed more severe where heavy machines (excavator, bulldozer, vibrator, etc.,) are used for building road alignments in the hill terrains than that of roads constructed using labor based approach. The issue | • Maintain detail inventory of landslides, soil erosion, and area prone to slope failure sites and include appropriate mitigation measures .<br>• Limit grading of road to 5%, follow DoLIDAR District Road Standard for road surface grading<br>• Provision of drain if grading exceeds 7%.<br>• Follow optimum balance cut and fill approach<br>• Identify and approve disposal site | • Restriction of vegetation clearance to road width.<br>• Avoid under cutting of slope toes from the beginning.<br>• Provide designated structures immediately following site preparation.<br>• Provide timely application of bioengineering measures as per the design, and implement during the appropriate season.<br>• Make aware local people not to encroach roadside slopes.<br>• Minimize major earthwork during the rainy season.<br>• Construct appropriate engineering structures to manage water that causes landslides and slope |

| SN | Issues/Impact | Mitigation Measures | |
|---|---|---|---|
| | | Planning and design stage | Construction and Operation stage |
| | is found further aggravated where water management issue is not properly considered. | and avoid site casting of spoil.<br>• Identify measures of bioengineering on exposed and filled slopes. | failure.<br>• Provide spoil containing walls to retain tipped waste materials and thereby to curb risk of slope failure, as practiced in some subprojects of RAIDP.<br>• Construct dry stone and gabion walls as retaining and breast walls for slope stabilization.<br>• Maintain cut slopes as guided by engineering norms (i.e slope percent and soil characteristics) to abate cut slopes failure.<br>• Promote soil erosion control measures (limit earth movement, minimize time when soil surfaces are exposed, site roads to follow hill contours, stabilize road surface with rocky surfacing material, stabilize soil for example with mulch on vulnerable surfaces, resurface and revegetate exposed areas, implement buffer zones of vegetation on slopes and surrounding bodies of water, , and so on).<br><br>Operation<br>• Maintain RoW and stability of road side slopes fostering indigenous plant species as indicators developed in EFLG (draft) by MoFALD.<br><br>• Ensure proper and timely maintenance of road surface, bridges, roadside slopes, roadside vegetation, and other road structures. |
| 3 | Drainage management including natural drainage:The issue is crucial. In absence of proper water management | • Provide provision of adequate side drainage works in areas where lowland paddy (khet) area and sources of water exist.<br><br>• Incorporate design features to | • Despite constructing different types of cross drainages at RAIDP, water management during rainy season has become a major problem. During field visit local people had argued that due to lack of side drains and out let of road drains, flow of concentrated surface runoff has drained on upland |

| SN | Issues/Impact | Mitigation Measures | |
|---|---|---|---|
| | | Planning and design stage | Construction and Operation stage |
| | of perennial and seasonal streams and springs along alignment has caused slope instability, soil erosion and triggered landslides. | ensure that runoff is conveyed into natural drainage lines at controlled velocities especially on steep sections where side drainage is provided.<br>• Design adequate causeways where small streams (kholsa/kholsi) exist, compatible with required level of reliable access.<br>• Design surface improvement through stone soling and gravelling in marshy lands. | crop fields (bari land) and has damaged crops i.e. maize, millet.<br>• Construct required number and size of cross drainage in all seasonal and perennial streams (kholsa/kholsi) and natural spring sites in consultation with users.<br>• Avoid blocking and diverting natural water courses.<br>• Explore arrangement of "Length-Person" for protecting environmental damage (i.e. slope failure, erosion, siltation, etc.,) caused by blocking and diverting natural water especially during rainy season.<br>• Provide appropriate crossing structures at appropriate locations in time.<br>• Use appropriate bioengineering techniques and other devices in water channels and dispersal structures in the main drains.<br>Operation<br>• Connect road side drains and gullies with natural drains and provide protected outfall.<br>• Arrange "Length-Person" for sustainable solution as in DoR, which has started at RAIDP. |

Table No. 3.3-Common issues in Hills and Terai and their Mitigation Measures during Planning & Design and Construction & Operational Stage

| SN | Issues/Impact | Mitigation Measures | |
|---|---|---|---|
| | | Planning and design stage | Construction and Operation stage |
| 1 | Vegetation and Wildlife:<br>Habitat destruction, loss of biodiversity, loss of protected species | Avoid sections of alignment that passes through forest land as far as possible.<br><br>Avoid disposal of spoil in forested area haphazardly.<br><br>Prepare compensatory plantation plan as per need.<br><br>Organize environmental awareness raising programs for all stakeholders including road users and road neighbors.<br><br>Maintain RoW and stability of road side slopes through fostering indigenous plant species as per Indicators developed in EFLG (draft) by MoFALD.<br><br>Provide clauses of provision for avoidance of disturbance to wildlife in contract document.<br><br>Avoid protected areas or densely forested areas.<br><br>Avoid areas with high biodiversity as much as possible.<br><br>Avoid areas with major landslides and stability problems | Restrict clearance of trees and bushes to the required width.<br><br>Maintain an inventory of cleared tree species with their numbers and girth size.<br><br>Involve CFUGs in plantation and protection of saplings along with Community Based Organizations (CBOs). Make arrangement to monitor the performance of plantation and protection of saplings by LRUC/VRCC of the respective corridors.<br><br>Use wood for construction in minimum amount and efficiently.<br><br>Initiate plantation at damaged and damage prone areas by signing an agreement between local forest user groups and DDC.<br><br>Increase liability of local forest user groups.<br><br>Regulate movement of labor force, their dependency on forest and poaching.<br><br>Coordinate and mobilize District Forest Office, and/or Protected Area Authority, and its subsidiary body in monitoring activities of construction workers and officials to minimize wildlife harassing, trapping, and poaching. |

| SN | Issues/Impact | Mitigation Measures | |
|---|---|---|---|
| | | Planning and design stage | Construction and Operation stage |
| | | | Avoid disturbance to wildlife.<br>Ensure that poaching activities are not carried out.<br>Carry out construction activities during day time to prevent disturbance to wildlife.<br>Operation<br>Disseminate information on environmental protection to member of LRUCs and road users. |
| 2 | Land and soil: Contamination of land and soil, loss of productive soil, erosion | Include in the EMP and BoQ for caring and safe storage of top soil for its reuse.<br>Fix borrow pits and quarry sites locations during detailed design at unproductive/unused land, such provision will reduce likelihoods of impact on productive land.<br>Minimize the area of ground clearance;<br>Avoiding sensitive alignments, such as those which include steep hill sides and vulnerable areas;<br>Balancing filling and cutting requirements through route choice, so as to avoid the production of excess spoil material and reduce the need for borrow pits;<br>avoiding previously contaminated sites;<br>avoid the creation of cut slopes and embankments which are of an angle | Orient construction workers to care and collect top soil before excavator use and thereby store properly for its reuse.<br>Orient construction workers to curb contamination and compaction by careful handling and disposing of construction materials (i.e bitumen, sands, gravel) and movement of workers and machines at farm land.<br>Prevent the spillage of oil, greases, fuel spills, and other materials using machine/vehicle that contaminate the land and soil.<br>Land used for access roads and labour and construction camps need to be restored back to its original land use before handing it over back to land owner.<br>Catch and retain material moving over the slope surface (stems) by brush layering; |

| SN | Issues/Impact | Mitigation Measures | |
|---|---|---|---|
| | | Planning and design stage | Construction and Operation stage |
| | | greater than the natural angle of repose for the local soil type; and replanting disturbed areas immediately after disturbance has stopped, not after construction has been completed. | Armor the surface against erosion and abrasion by intercepting raindrops (leaves);<br>Support the slope by propping from the base (tree and shrub boles and roots);<br>Reinforce the soil profile by increasing its shear resistance (roots);<br>Drain the soil profile by drawing water out through the roots and releasing it to the air by transpiration; and<br>Facilitate infiltration of water through the soil profile, thereby reducing the proportion of water flowing over the soil surface (roots). |
| 4 | Protection and reinstatement of public and private utilities, cultural, historical and religious sites:The issue refers to protection and reinstatement of community and private infrastructures such as water supply and irrigation schemes, and graveyards, buried sites, monuments and temples. | Maintain inventory of likely damage to public and private utilities, cultural, historical and religious sites and their temporary arrangement.<br><br>Provide provision of adjustment of alignment to protect cultural and religious assets.<br><br>Include cost for relocation, reinstatement and improvement including enhancement measures for public and private utilities, and religious and cultural sites in BoQ. | During implementation of RAIDP, public utilities, cultural and religious sites have been protected and reinstated, consult beneficiaries before relocation and reinstatement.<br><br>Consult owner of the buried sites and graveyards prior to carry out construction activities at such sites.<br><br>Operation<br><br>Provide awareness program on environmental protection to road users/road neighbors at all sections of road alignment. |
| 5 | Dust and noise pollution: Health problems, anxiety | Address issues related to dust and noise pollution in the design phase. | Provide Personal Protective Equipment ( PPE) for construction workers.<br><br>Reduce dust pollution by sprinkling water at |

| SN | Issues/Impact | Mitigation Measures | |
|---|---|---|---|
| | | Planning and design stage | Construction and Operation stage |
| | | | sensitive locations such as nearby hospitals and temples.<br><br>Locate mixing plants and asphalt (hot mix) plants including crushers and batching plants at least 1 km downwind from the nearest settlements only after receiving permission from the Supervision Consultant.<br><br>Operation<br>Plant close canopy trees and shield earthen roads to abate dust pollution in public places and school area.<br><br>Carry out road pavement, road sealing for reducing problem of dust pollution especially in nearby hospital, school and religious, historical and cultural sites and bazaar areas.<br><br>Provide environmental awareness on environmental protection and road safety to road users. |
| 6 | Labor camp management including labor safety:<br><br>Impacts encountered through construction workers camp include disposal of solid waste (i.e | Provide clause of arrangement for all personal protective equipments (PPEs) for workers, including first aid facilities at construction sites at contract document.<br><br>Follow labor camp management guidelines. | Provide first-aid training to construction workers for safety of workers for all types of construction related injuries.<br><br>Orient labor camp management guidelines to DTO and representatives of contractors for |

| SN | Issues/Impact | Mitigation Measures | |
|---|---|---|---|
| | | Planning and design stage | Construction and Operation stage |
| | organic waste, plastic and metal scarps, and domestic effluent) Pressure on the existing public utilities like (i.e drinking water sources, health post) and poor sanitation and transmission of communicable diseases, use of alcohol, gambling and conflict with local communities leading to fatal accidents. | Follow labor safety guidelines prepared as per IFC sustainability guidelines. | effective implementation.<br><br>Provide adequate attention for labor camp management and labor safety<br><br>Provide safety measures such as Helmets, Gumboots, Masks, Goggles, for construction workers and also monitor for their use. |
| 7 | Extraction of quarry material for construction:<br><br>Construction materials such as stones, gravels, sand, aggregates, and soils, etc are usually extracted from quarry. Extraction of these materials is restricted from forest and protected areas and vulnerable (i.e. National Parks, Wildlife Reserve, etc.,). | Prepare quarry site plan (based on need) considering the study undertaken by MoFALD (draft) and verify during joint survey. | Follow recommendations given by the study under MoFALD to extract quarry materials for construction work. |
| 8 | Safety of road users/pedestrians: The issue is felt critical at nearby school and bazaar areas. The children are found one of the most vulnerable to injuries from collisions with moving vehicles. This is a common issue in most of the rural roads. | Include clauses of safety of road users/pedestrians in the contract document for stringent compliance.<br><br>Include clause for maintaining traffic signals and signs at Contract document. | Erect signboards with sign and signals relating to the safety for pedestrians, moving vehicles for ongoing construction works<br><br>Operation<br><br>Maintain traffic signals and signs such as NO HORN, SPEED LIMIT, SPEED BREAKER nearby school, hospital, temple, and other public places, bazaar |

| SN | Issues/Impact | Mitigation Measures | |
|---|---|---|---|
| | | Planning and design stage | Construction and Operation stage |
| | | | areas for safety purposes.<br><br>Install speed bumps to control speed near designated pedestrian crossing areas. |

## Section 3.11: Specific impacts/issues due to bridge construction

Most Impacts related to bridge construction are also common to roads, however major impacts related to bridge is outlined in following section:

Water pollution and downstream flow: The sources of impairing water quality triggered through bridge construction include solid waste, sewage, hazardous materials (grease, fuels, chemicals paints, cement slurry etc). During bridge design, consideration must be given to maintain at least 40% downstream flow during construction. Due care should be given in matters regarding safe handling of hazardous materials by adopting good housekeeping and providing berms around the storage tanks. The construction period for bridges should be scheduled in dry season to avoid flash flood and alteration in river morophology and modification of flood plain.

Vibration and Noise: The heavy machines and equipment produce vibration and tremors that may affect nearby buildings and structure. This machine should be operated away from permanent building and other permanent structures to avoid the risk of cracks due to vibration during construction. The continuous high decibel noise causes irritation and anxiety to workers and peoples. Workers shall follow safety guidelines during work. Works should be scheduled during daytime.

Access to people and animals: Provision of alternative access must be provided to local people and animals at bridge sites during construction.

## Environmental Screening

3.12 Every proposal of road and bridges subprojects to be funded under SNRTP will undergo an environmental screening before it is selected for implementation. DDC/DTO with support from Environmental Specialist is responsible for environmental screening. The screening will be reviewed by PSC and approved by CPCU/ DoLIDAR (see Chapter IV for details on screening). The objectives of screening process are (i) to establish the level of environmental assessment required, and (ii) to help the project offices understand environmental issues related to the project before they are considered for implementation, and (iii) assist in decision making process. Environmental screening will be done together with technical, economic and social screening. Screening will be done on the basis of (i) criteria mentioned in Schedule 1 and 2 of Environmental Protection Regulation (EPR) – 1997, (ii) other government acts and regulations (Forest, National Park and Wildlife Conservation, etc.) and (iii) potential impacts and risks. The screening report should compulsorily include the Topographical Map and sketch showing the environmentally risky area. Proposal will be forwarded only after preparation of environmental screening report. The Screening checklist is presented in Annex 2.

### Environment Management Plan (EMP)

3.11 By nature of the physical activities, road constructions bring about changes in natural environment and therefore, are considered environmentally sensitive. SNRTP intends to reduce environmental problems arising from such intervention to as minimum extent as is possible. Regardless of outcome of environmental screening, each subproject shall have its site specific EMP. Therefore, all subprojects will have their site specific EMP prepared for construction, upgrading and maintenance , during detail engineering design period.

3.12 Potential Impacts Identification and Analysis: Table 3.1 indicates potential environmental issues of SNRTP roads and bridges. Environmental issues will be identified and potential impacts will be assessed in site-specific manner for each subproject. The impacts shall be identified based on findings of screening report, other relevant secondary sources and verified through site visits during follow ups assessment and EMP preparation. Prediction and assessment will try to quantify the impacts as far as possible. Proper prediction of impact plays a vital role as these predictions are used for developing mitigation measures.

3.13 Environmental Mitigation Principles: The approaches to mitigation measure include avoidance of the impact by changing plan and design, minimization of the impact by reducing the level of intervention at that site, mitigation of impact by proposing curative/ stabilizing measures, and implementing compensatory measures for unavoidable impacts. Viable, practical, sustainable and cost effective mitigation and enhancement measures for environmental impacts will be developed and integrated in plan and design, cost estimates, Bill of Quantities, which in turn would supplement its environmental sustainability. Site Specific EMP will address environmental problems, potential problems and corresponding mitigation measures.

3.14 The tender instruction to bidders shall explicitly mention the site-specific mitigation measures to be performed, the materials to be used, labor camp arrangements, and waste disposal areas, as well as other site specific environmental requirements. The final acceptance of the completed works shall not occur until the EMP recommendations have been satisfactorily implemented. The general mitigation

approaches to reduce environmental impacts are presented in Table 3.1, 3.2 , 3.3 and section—3.11

3.15 Site Specific Environmental Management Plan (EMP): The activities of SNRTP subprojects involve upgrading works on existing roads/tracks and construction of bridges, so only minor adverse environmental impacts are expected in most cases. In order to manage environmental issues/ impacts specific to a road contract package and bridges, site specific EMP for the subproject should be prepared. The site specific EMP has to be prepared and submitted along with the bid documents: it is a part of the bidding document, cost estimates, specification, and contract agreement clauses. The site specific EMP shall be prepared following Annex 3. A simple hazard mapping will also be incorporated in EMP.

3.16 Other Plans: Any other environmental plans as required such as bioengineering plan, compensatory plantation plan etc. shall be prepared and included in EMP. If the slope to be protected is small then mitigation measures (including number and type of species to be used, plantation pattern, toe protection and drainage management measures) can be included in site specific EMP. If the area is large a separate plan, including site plans like tipping site plan, quarry site plan, quarry site reclamation plan, burrow pit reclamation plan etc. are necessary.

**Tree Cutting and Re-plantation Principles**

3.17 A service-oriented project should follow following principles for tree cutting and re-plantation:

- The DDC has to prepare, verify and approve Compensatory Plantation Plan and get consent with DFO for implementation.
- The project should request with DFO. The request letter should also include letter from National Planning Commission stating that the project is national priority project.
- Concerned DDC should send a request letter to DFO for forest clearance. The DFO surveyor will count and mark the trees to be cut in field in presence of DDC engineer, and Community Forest User Group (CFUG).
- Concerned DFO will send approval letter to CFUG to cut the marked trees, if the forest is handed over to Community Forest User Groups. If the forest is under the government then DFO will cut the tree according to its procedures and make necessary agreement with concerned DDC for re-plantation. DDC will do compensatory re-plantation in the ratio of 1:25 as per plan.
- If construction work is to be carried out in buffer zone of Protected Areas then DDC has to undertake Initial Environmental Examination (IEE) of the proposal. The DDC will send a request letter to Department of National Parks and Wildlife Conservation for permission. The letter should define the area needed, type of intervention, possible impacts and mitigation measures. The Department of National Parks and Wildlife Conservation will recommend Ministry of Forest, Soil and Water Conservation for approval if no adverse impact is noticed in IEE report.
- The cost of Compensatory plantation and protection for five years will be included in EMP.
- The DDC in consent with DFO shall make agreement with CFUG along with Community Based Organizations (local clubs, Ammasamuha, local groups etcs) for plantation and protection of saplings. The performance of plantation and protection of saplings will be closely monitored by LRUC/VRCC.

**Extraction of Construction Materials**

3.18 Following conditions has to be met while extracting construction materials;

- The DDC has to prepare, verify and approve the quarry site management plan. The sample of quarry site management plan is in ANNEX.
- The contractor should follow the quarry site management plan
- The contractor should collect materials from approved quarry site by DDC (Approved quarry site means the site whose IEE/EIA had approved)
- IEE/EIA has to be done as per legal requirement. The contractor should submit the proof letter to DDC before extracting materials.
- Copy of valid tender award certificate.
- Material should be extracted at least 15 m away from riverbank, extraction site should be 100 m upstream and 100 m downstream from bridges, materials should be extracted in pits at regular interval, the quarry site should be 50 m far from road and 500 m away from settlement.

## Social Impacts

3.19 On the basis of past experience, the project will attempt to capture all possible social issues and impacts that are likely to arise due to project interventions from the beginning of a sub-project planning so that all range of impacts are well assessed and managed with due diligence

3.20 For any social impact related activities, the project will carry out free, prior informed consultation with affected people including indigenous groups and other vulnerable groups. The consultation will be documented and the project will develop social management plan.

3.21 The project experience shows limited social adverse impacts in comparison to the benefits that the people have been able to realize at large. Community members observed couples of tangible benefits due to road improvement. These include sudden appreciation in the land value, enhanced access to motorable roads, reduction in travel time and transport costs, and employment opportunities and income generation from the construction works. The negative impacts identified are loss of small parcel of land and structures to the project in some sections where improvement works required additional land strip for widening

### Social screening

3.22 Social screening will be undertaken at an early stage in all subprojects, which will provide necessary information on the potential social impacts likely to be encountered during implementation. This screening will be carried out in close consultation with various primary stakeholders: beneficiaries; roadside farmers; shopkeepers; indigenous community, women, dalits and other local key informants. Social screening report will provide all information as determined by screening questionnaire presented in Annex 4.

3.23 Social screening provides first stage information about the road subproject which also identifies: (i) beneficiary population living within various impact zones of the project based on distance; (ii) extent of land required and number of land owners affected; (iii) impacts on poor and vulnerable groups including needs and priority for social and economic betterment; (iv) willingness of people for voluntary land donation; and v) other impacts.

3.24 Screening report also provides information about the potential damage / loss of common community structures such as resting place (Chautaro), water tank including pipelines, religious cultural monuments / sites, foot trail, Trial Bridge and so on. The project on the basis of assessment takes responsibility to repair and restore the damaged structure in consultation and participation with the local people and the committees like Local Road Users Committee (LRUC) Village Road Coordination Committee (VRCC).

3.25 Social screening reports are crucial to decide whether or not a particular subproject should be considered under the project. A particular subproject will be considered for inclusion in the project only if the following is confirmed during the social screening:

- The sub-project should be part of wider master plan prepared for the district;
- There must be a request from the local people for the proposed road improvement/ widening;
- The owners must have passed a resolution for voluntary land donation;
- The social screening should confirm that the subproject will not result serious / adverse social impacts
- In RAIDP it was noticed that certain households very close to road alignment were adversely impacted due to construction related activities. In view of that repair and restoration assistance has been proposed in this project to mitigate construction related impacts. In case of few additional impacts beyond voluntary land donation principles, the affected persons shall be willing to accept Repair & Restoration (R and R) assistance in line with entitlement provisions of ESMF; and
- The landowners are willing to transfer the land ownership to DDC.

**Beneficiary Identification**

3.26 The project beneficiaries include people of different zone of influence of the subproject as per the following criteria.

- $Z_0$: up to 10 mins in Terai, up to 30 mins in Hill,
- $Z_1$: 10 – 30 mins in Teria, 30 – 60 mins in Hill
- $Z_2$: 30 – 60 mins in Terai, 1 – 2 hrs in Hill
- $Z_3$: 1 – 2 hrs in Terai, 4 hrs in Hill and 6 hrs in Mountain

3.27 Beneficiary population of the road subproject will be identified from different sources like VDC, DDC and Central Bureau of Statistics (CBS) and data will be validated in consultation with local people during walk through survey and social screening.

3.28 On the basis of screening report prepared during feasibility stage, site-specific social impacts will be thoroughly identified along with the appropriate mitigation measures. All the adverse impacts identified during social screening will be worked out in details while preparing site specific Social Mitigation Plan during detail engineering design phase. The plan identifies vulnerable communities, damage and loss of structures, land and community infrastructures. A separate cost estimate will be prepared and incorporated in the mitigation plan.

## Voluntary Land Donation

3.29 As mentioned earlier, most of subprojects proposed under the project are

improvement of existing roads. So, it is expected that there will be either no or marginal loss of land, damage and disturbance in structures and livelihood. As the adverse impacts are likely to be limited compared to potential benefits, the affected people are expected to contribute their land and other impacts through donation for road improvement.

3.30 The project will comply with the practical safeguard measures to reduce impact to people due to the loss of land, damage of residential and other structures, livelihood and minor assets to as minimum level as possible by (i) avoiding loss or acquisition of land, damages or loss of structures and livelihoods as far as possible by seeking alternative options, and (ii) extending repair and restoration assistance and cash assistance to the affected families as per Entitlement Matrix provisions. The outline of VDIMP is presented in Annex 5.

3.31 Voluntary Land Donation Criteria: The project envisages acquisition of land through voluntarily donations, which will be based on the following donation criteria

- Voluntary land donation will be limited to " Corridor of Impact" area only;
- Impacts on individual households should be marginal limiting up to 10 percent of the productive assets and the remaining assets are economically viable to ensure livelihood or shelter;
- The individuals / households making voluntary donation will be considered as direct beneficiaries of the project;
- The land donation is made freely in public and without coercion and shall not affect household's food security;
- In the event of few people's remaining assets becomes unviable, they will be provided suitable assistance and support as outlined in the Entitlement Matrix.
- Project affected people are fully aware of required procedures and entitlement as well as principle of land donation to the road; and
- In case of public or government land, the encroacher cannot claim such land as donation

3.32 **Land Donation process**: The main steps of land and other permanent assets acquisition process are:

a) The Village Road Coordination Committee and Local Road Users Committee will inform local people about the road corridor,

b) The NGOs and individual consultants will identify individual land donors, amount of donated land and remaining holding, damage / loss of residential structure and its percentage and loss of livelihood and minor structural damage or loss, at the time of social screening and inform the affected people about their damage/loss,

c) After availability of detail records of impacts, the DDC through Local Road Users Committee will publish notice about land and other permanent assets acquisition.

d) The local NGOs and individual consultants will raise awareness of local people about the benefit of the road and inform them about the provision of the project about land donation and structural damage.

e) The DDC, in coordination with Assistance Distribution Committee, local NGO and individual consultant and Local Road Users Committee, will distribute assistance to seriously project affected people (above 10 percent land donors and structural damage household) and will fill the voluntary land donation form of the land donors. In case of any complaints, the people can approach the grievance redress committees formed to hear complaints related to voluntary donation process.

f) The DDC in coordination with District Cadastral Survey Office will initiate cadastral survey of affected land parcels,

g) The DDC will bear cadastral survey and land transfer cost and will take lead role for land ownership transfer and,

h) The DDC through SMO / SDC will prepare documents of each event and finally forward it to PCU in monthly, quarterly and annual report

Following factors will be considered to ensure that land is voluntarily donated:

- To the extent possible, the impacts will be minor (no more than 10 percent of the total land holding) and require no physical relocation. In case of donation less than 10%, project will provide incentive and in case of more than 10% additional assistances will be provided as per the entitlement matrix.
- The land required to meet technical project criteria will be identified by the affected community, not by line agencies or project authorities (nonetheless, technical authorities can help ensure that the land is appropriate for project purposes and that the project will produce no health or environmental safety hazards). The alignment of the road will be finalized in consultation with the community.
- The land in question will be free of squatters, encroachers, or other encumbrances.
- Verification (for example, notarized or witnessed statements) of the voluntary nature of land donations will be obtained from *each* person donating land. MOA will be signed by each land donor.
- If any loss of income or physical displacement is envisaged, verification of voluntary acceptance of community-devised mitigatory measures will be obtained from those expected to be adversely affected as described in entitlement matrix.
- Grievance mechanisms will be made available to the land donor.

3.33 **Land transfer process**: Transfer of donated land to DDC is the last part of voluntary land donation process. Once the group and individual consent is obtained and legible assistance is provided, DDC will initiate the process for land transfer. In coordination with District Cadastral Survey Office, the actual extent of land lost will be identified and on mutual convenient date both the representatives of DDC and landowners will visit Land Revenue Office and complete the process. All those who are donating less than 10 percent of their total land holding will be offered an incentive amount of NR.5000 to complete the process for land transfer. Those donating more than 10 percent of their land holding will receive additional assistance as per the entitlement matrix. The DDC will maintain the record of land donors properly by the help of NGO and individual consultant. DDC will be responsible to record the process of land transfer, problem faced, lesson learnt and so on which will be reflected in the periodic reports of the project. Land ownership transfer will start from the beginning of construction period and continue until the transfer is completed for all affected families/ parcels. The land transfer process involves different stages: (i) obtaining group consent in written form from the affected people; (ii) mobilization of cadastral survey / surveyors from DDC; (ii), assistance distribution as per the entitlement matrix, and (iv) formal land transfer. The DDC will transfer the voluntarily donated land in the name of DDC by taking approval from District Land Acquisition Committee constituted under the clause no 13 of Land Acquisition Act 1977. The land donation form is attached in Annex 6. The land donors will be exempted from the tax of the government and other costs incurred during land ownership transfer.

3.34 The project will adopt different methods of social recognition viz; writing names in the hoarding board, and/ or offering letter of appreciation to the owners for voluntary land donation

3.35 All voluntary land donors having remaining land area of less than 1692Sqm, irrespective of percentage of donated land area, the project considers them as

Seriously Project Affected People / Family (SPAP/F). For such SPAP/F, the project will offer assistance in two categories: one group having remaining land holding between 850 to 1692Sqm; and other group having remaining land holding less than 849 Sqm as per the Entitlement Policy Matrix (Table 3.4). This implies that RAIDP does not accept voluntary land donation without assistance if the voluntary land donor holds less than minimum economic land holding size i.e. 5 Kattha in Terai or 3.5 Ropani in hill (1692 Sqm). This area of land is considered as minimum economic land holding size for livelihood in rural Nepal. The land donation format is attached in Annex 6

3.36 **Damage / Loss of Residential Structures**: Based on past experience, the road improvement works under the project are likely to cause damages of various extents to the residential structures while widening the roads. The likely structural damages shall be categorized as follows;

- Damage or loss up to 10 percent is considered as marginal impacts. Project shall undertake necessary repairs of such damage.
- The damage or loss 10 to 50 percent will be regarded as severely project-affected person /family (SPAP/F). Project shall provide cash assistance for such households.
- The damage or loss beyond 50 percent will be considered as total loss implying full displacement of the families and consider them as SPAP/F. Project shall provide cash assistance according to the entitlement matrix

However, project will review the economic feasibility and stability to ensure safety of the residue structure before categorizing the loss as marginal / severe / total.

3.37 In the case of structural damage or loss the project will treat titleholders and non-title holders differently because the titleholders lose land along with the structure whereas the non-title holders lose structure only. Damage or loss of other private structures such as compound wall, cowshed, water tap, tape pillar, tube wells, etc. are considered minor structures. In minor structural damage, the project will provide fixed assistance as per the entitlement matrix. For the damage and loss of common community structures such as resting place, water tank, temple, foot trail, trial-bridge, and so on, the project would undertake repairs and renovations of damaged structures through the local committees such as Local Road User Committees (LRUCs) and Village Road Construction Committees (VRCCs).

3.38 **Loss of Livelihood / Income Source**: In case of loss of livelihood or income sources such as petty shops like teashops, Ghumti (mobile shop) and, whose land holdings become less than minimum economic land holdings and so on, the project shall provide rehabilitation assistance to the affected people. The livelihood assistance shall be provided calculating daily wage rate of the district for maximum of one economically active (16 to 60 years) members of a family for three months.

3.39 **Crop Damage**: In case of possible damage of crops by the subproject the concerned people will be informed in advance giving time to harvest the crops from the field. However, in case of crop damage due to subproject activities, it will be considered as direct impacts for which the project shall provide replacement value of the crops as per current market price in the same vicinity.

**Voluntary Donation Impact Mitigation Fund (VDIMF) as Mitigation Measure for Voluntary Land Donation**

3.40 Although the Government of Nepal acquires the land as per the Land Acquisition Act for the national level projects, SNRTP will pursue the principles of limited voluntary land acquisition from owners who will be provided with some cash assistance as

incentive in lieu of their contribution. In response to GoN policies of guarantying property rights and World Bank social safeguard policies, the project has devised the VDIMP to ensure some cash assistance and rehabilitation supports to project affected people of various categories even if the impacts are marginal as a result of voluntary donation.

3.41 Since the magnitude of impacts cannot be identified upfront it is proposed to create a "Voluntary Donation Impact Mitigation Fund". This fund will be used to undertake repair and restore damage and loss of residential structures, rehabilitation of income sources and cash assistance for seriously project affected people / families by voluntary donation of their permanent assets and land transfer process.

3.42 **Three percent** of total project cost will be contributed by the project for this fund. The fund will be created out of counterpart funding of the project. The use of fund will be made as per the Vulnerable Donation Impact Mitigation Plan (VDIMP) and implemented according to the established procedures.

3.43 The VDIMP includes the total cost required for voluntary donation impact mitigation which includes, (i) repair and restoration cost for damaged structures, (ii) assistance for land donors above 10%, (iii) incentive for land donors; (iv) livelihood assistance, (v) land transfer cost, (vi) vulnerable community development, and any other cost to cover adverse social impact. The concerned DDC will forward the plan with the estimated budget to PCU about voluntary donation impacts mitigation and vulnerable community development. PCU reconfirm the estimated cost and in coordination with DoLIDAR and MoFALD approve it. Then the DDC through assistance distribution committee provide the assistance to concerned individuals / families in coordination with local NGO and local road user committees. In the case of structural damage below 25%, the concerned DDC will undertake the repairs through LRUC.

3.44 Past experiences of RAIDP reveal that there have been accidental damages of residential structures and minor structures in some road subprojects during road upgrading/construction. The cost for mitigating such damages was not included in the VDIMP since such damages were not identified during VDIMP preparation. In such cases, PCU shall include at least NRs 100,000 as accidental damage cost for each subproject VDIMP and this fund will be disbursed to the concerned district as needed.

3.45 Voluntary Donation Impact Mitigation Plan (VDIMP): Based on the findings of the Social screening report, the subproject specific Voluntary Donation Impact Mitigation Plans (VDIMP) will be prepared to address impacts associated with donation irrespective of the type and scale of impacts that could arise in various forms: (i) loss of land; (ii) loss of houses /structures; (iii) loss of livelihood systems/income sources; and (iv) loss of community property resources. The VDIMP (Annex 5) presents total land of the donors, donated land and its percentage, percentage of structural damage and loss or disturbance in income source and common community property. Moreover, it presents category of land donors as less than 10 % land donors, above 10% land donors whose remaining holding is above 1693 Sqm, in between 850 to 1692 Sqm and below 849 Sqm. The VDIMP will also suggest cost effective mitigation measures, required budget as per Entitlement Matrix and detail time frame to implement all activities starting from the beginning to land ownership transfer. The SMO / SDCs will be responsible for preparing a VDIMP in coordination with DDC. The mitigation measures and budget of VDIMP will depend upon the magnitude of impacts identified in the screening reports. As part of Mitigation plan, the key socio-economic characteristics of all the affected families (who need livelihood assistance

and support for construction of houses) will be collected for assessing the impacts and estimating the required assistance. The key information relates to land holding, income, employment, assets, indebtedness, houses' and related conditions, etc. This will be undertaken by the NGOs, SDCs/ SMOs who will also provide implementation support.

3.46 The VDIMP defines the legal, institutional and implementation principle to guide the assistance for loss / damage of social assets, and proposes rehabilitation assistance. The concept of VDIMP was developed after the mid term review of the project, which identified some gaps in the implementation of social safeguard measures to support the livelihood of project affected people.

3.47 Regular free prior informed consultations will be held with the affected people (PAPs) and indigenous/vulnerable groups. SMO and SDC are responsible for regular consultation and communication with PAPs and other community members. Consultation process begins in the site from the selection of the subproject and awareness creation about the project. The main event of community consultation are formation of LRUC and VRCC, awareness campaign on the project itself and ESMF among locals including LRUC and VRCC members, project information dissemination; benefits of the project' social screening, COI fixation, land survey, impact verification, disclosure of the list of PAPs, distribution of entitlement, assistance distribution and impact study. The main steps of consultation are during (a) social screening in which SMO/SDC inform them about probable impact and benefits of the project;(b) land survey identifies actual loss of land which is inform to the donor and, (c) collect land resolution letter, and basic socio-economic information (d) publishes the list of land donors, amount of land to be donated, parcel number, (e) verifies the name in consultation with locals and LRUC members, (f) prepare VDIMP and (g) disclose the list of affected people in Nepali language (h) distribute entitlement matrix to APs, (i) inform them about their assistance amount, (j) inform them the date and time to go to District Land Revenue Office for land ownership transfer, (K) handover their assistance in public place at locality, (l) inform them to gather in public place for awarding letter of appreciation (m) consult them through LRUC and VRCC members for the use of assistance and finally at the time of (N) impact study.

## Entitlement policy Matrix

3.48 The Entitlement Policy Matrix as given below has been developed in consultation with stakeholders to mitigate adverse impacts of the sub projects and improve the standard of living of the PAPs.

Table 3.4: Entitlement Policy Matrix

| Impact Category | Entitlement Unit | Entitlement | Remarks |
|---|---|---|---|
| 1. Land donors | | | |
| A. Land donors donating land up to 10% of the total land Holding | Title holders | • Considered to be Voluntary donation<br>• Land Transfer Incentives of amount NRs. 5000 shall be provided to each land donor | |
| B. Land donors donating land above 10% of the total holding and remaining land holding is:<br>Above 1693Sqm<br><br>C. Land donors having remaining land holding between 850 to 1692Sqm<br><br><br><br><br>D. Land donors having remaining land holding below 849Sqm | Title holders | • Assistance will be provided @ NRs 30 in hill and 40 in Tarai per Sqm for only the land area more than 10% of the loss of total land area: Subject to minimum NRs 5000 for the land.<br><br>• Assistance shall be provided @ NRs 30 in hill and 40 in Tarai per Sqm for the land area donated: subject to minimum NRs 5000. In addition, project will also offer livelihood assistance equivalent to minimum wages of the district for two months for one adult member.<br><br>• Assistance shall be provided @ NRs 30 in hill and 40 in Tarai per Sqm for the land area donated; subject to minimum NRs. 5000. In addition, Project will also offer livelihood assistance equivalent to minimum wages of the district for four months for one adult member. | Considered local price of the land in the subproject areas of RAIDP and considered the price of land fixed by Napal Bank Limited for mortgaging the land and decided the amount which covers more than 60% of the actual price at present.<br><br>Land occupied by non title holders will not be considered as land donation |
| 2. Loss of Residential Structure | | | |
| A. Loss up to 10 % of the structure | Both title holders and non-title Holder | • Project shall undertake repairs | |
| B. Loss between 10 to 50 % of the structure | Title holders and Non titleholders | • Support for repairs<br>@ NRs. 300/Sqft for Kachhi<br>@ NRs. 500/Sqft for Semi-Pakki<br>@ NRs. 700/Sqft for Pakki | Considered local price of the residential structure in the subproject areas of SNRTP and also considered the price of types of residential structure fixed by Nepal Bank Limited for |
| | | | |
| C. Full loss (50.1 to 100%) of the structure | Title holders and non titlehoders | • Support for restoration<br>@ NRs. 300/Sqft for Kachhi<br>@ NRs. 500/Sqft for Semi-Pakki<br>@ NRs. 700/Sqft for Pakki<br>• Additional support Nrs 10000 | |

| Impact Category | Entitlement Unit | Entitlement | Remarks |
|---|---|---|---|
| | | for total loss | mortgaging the residential structure and decided the amount which covers more than 70% of the actual price at present. |
| | | | |
| 3. Loss of Livelihood / Income Sources | | | |
| A. Loss of livelihood / income source | All land donors donating more than 10% of their land holdings<br>All vulnerable land donors irrespective of percentage of land donated | • Rehabilitation assistance @ NRs District wage rate for one adult (16 to 60 years of age) of a family for 2 months | Employment opportunities with contractors, if interested |
| 4. Community Facilities / structures | | | |
| A. Loss of community building, temple, irrigation canals, drinking water pipe, culvert, bridge, etc | | • Repairs and restoration will be undertaken by the project | " |
| 5. Loss of other assets | | | |
| Minor structure / assets<br>(i) Up to 10%<br>(ii) 10 to 50%<br>(iii) 50.1 to 100% | Title holders and Non-titleholders | • Repair by the project<br>• Assistance @ NRs. 3000.0<br>• Assistance @ NRs 5000.0 | |
| | | | |
| 6. Loss / damage of crops | | | |

| Impact Category | Entitlement Unit | Entitlement | Remarks |
|---|---|---|---|
| A. Crop damage / loss | Title holders | • Advance notice for harvesting<br>• Avoid damage as far as possible<br>• Crop damage compensation if advance notice is not possible | |
| B. Crop damage / loss | Non-title holders | • Advance notice for harvesting<br>• Avoid damage as far as possible<br>• Crop damage compensation if advance notice is not provided | |
| Unidentified Impacts | | • Mitigation measures will be proposed based on the principle of assistance and support. | |

## Other Social Mitigation Plan

3.49 *Vulnerable Community Development Plan (VCDP)*: Vulnerable Community Development Plan (VCDP) will be prepared for the betterment of vulnerable people (within $Z_0$ population). The targeted beneficiaries of VCDP include mainly the following groups of people.

- Severely Project Affected Persons/ Families,
- Marginalized groups such as indigenous community (janjati / adivasi), dalits, ethnic minorities and poorest people,
- Single women/ women headed households, and
- Landless, old aged and disabled people

3.50 A free prior and informed consultation will be carried out with indigenous communities as well as other vulnerable communities as part of VCDP preparation. The VCDP will identify the needs and priority of indigenous community and other vulnerable groups and proposes need-based programs to uplift their socio-economic condition through appropriate training and skill transfer. Following steps will be followed to prepare VCDP:

- Inform affected indigenous communities and other vulnerable community members about project objectives and activities
- Discuss the alignment and assess possible adverse impacts and ways to avoid or mitigate them
- Discuss and inform about the potential project benefits and how these can be enhanced
- Identify customary rights to land and natural resource use and possible ways of enhancing these
- Discuss and assess food security and how it might be enhanced through project interventions
- Elicit and incorporate indigenous knowledge into project design
- Facilitate and ascertain the affected communities' broad support to the project
- Develop a strategy for participation and consultation during project implementation, including monitoring and evaluation.

A brief outline of the Vulnerable Community Development Plan is presented in Annex 17. The SMOs / SDCs discuss with village road coordination committee (VRCC)/ local road users committee (LRUC) about the vulnerable groups identifies their problems, needs and priorities and then prepare the detail plan of VCDP which will be included in SMP. The VCDP preparation process involves; (i) identification of vulnerable groups / communities, (ii) consultation with the group / community and identification of needs, and (iii) preparation of VCDP. Concerned members of VRCC / LRUC will assist to SMO / SDC for the preparation of VCDP.

3.51 Income generation activities: For identifying needs of vulnerable individuals and indigenous groups, several round discussions and consultations are required. At first, SMO/SDC will consult LURC members for identifying the needy people of subproject area for VCDP and organize a mass meeting with them for objective clarification and need assessment. The SMO/SDC will describe the objectives of VCDP, its type and nature and obligation of the training. Thereafter, SMO/SDC in coordination with LRUC will organize a meeting again in which interested vulnerable/indigenous individuals for the income restoration training will be identified. In the same meeting, the options of training skill applicable in the locality will be explored, short listed the types of viable training and number of interested individuals for the training will be identified. The LRUC members will collect a bond letter from each individuals interested in the training for the application of the knowledge and skill learnt from the training. VCDP will be implemented through an NGO but SMO/SDC will be responsible for regular consultation to vulnerable/indigenous people during and after training for the implication of the training knowledge/skill. The SMO/SDC will be responsible for ensuring that training received is translated in practice. The SMO/SDC will regularly monitor the trained person in his/her new avocation. In case of any issue / shortfall, corrective measures will be taken. The effectiveness of training will be measured during midterm evaluation of the VCDP implementation. The measures recommended in the midterm evaluation report to enhance the effectiveness of the training program will be implemented by the project.

3.52 *Gender framework*: Gender and social inclusion is the main concern of the project. Mainstreaming of gender and socially excluded group is a focus area of the country. The project will also pay high attention to gender and socially deprived groups of people in different stages of a subproject preparation and implementation. Mainly, gender analysis will be an integral part of Social Screening, Impact Assessment and VDIMP, VCDP and other related plan and program preparation of a subproject. Gender analysis will be a compulsory component of primary data generation, analysis and preparation of social and plans and program of a sub-project. Hence, sex disaggregated data of beneficiary population will be collected, analyzed and prepared the social plans of a sub-project focusing on gender issue. The gender related primary data collected during social plan preparation will describe gender disparity, needs, constraints, and priorities; as well as understanding whether there is a potential gender based inequitable risks, benefits and opportunities.

3.53 As women population is more than half of the total population of the country, their meaningful participation in project designing, implementation, benefit sharing and monitoring and evaluation is must for the promotion of equitable and inclusive development practices. Participation of women, marginalized groups, ethnic minorities and indigenous people ensure the goal of sustainable development practices. Therefore, gender participation and inclusion in sub-project activities including Local Road Users

Committee, Grievance Hearing Committee, District Monitoring Committee is considered essential. Mainly, the project will assess:

- Disaggregate population of male and female of different zones of a subproject,
- Total women headed households,
- Project affected women headed households,
- Socio-economic and ethnic profile of affected women headed households,
- Main concerns and priority of the women in influence zone zero,
- Practices of child labor in the locality, and
- Gender disparity.

## Contractor's compliance on Environmental and Social Safeguard Measures

3.54 The contractors are also principle stakeholders in the project whose roles and responsibilities are to identify and mitigate the adverse impacts right from the beginning. Therefore, contract document needs to clarify the following roles / responsibility of contractors:

a) Use construction materials form approved site, and of standard quality,
b) Reclaim the quarry site and fill up borrow pit after the completion of the work,
c) Keep the bitumen at least 1 Km far from the village/settlement
d) Maintain health and sanitation of the labor camp,
e) Provide health and safety gears to the labors,
f) Keep records of periodic health check up of labour
g) Do not allow haphazard disposal of spoil along hill slopes, vegetated areas, water bodies and other environmentally sensitive areas,
h) Enforce use of recommended disposal sites that are approved by project manager,
i) Restrict labors' use of forest products, hunting and poaching,
j) Hire as many local laborer as possible (priority has to be given for poor, marginalized and Dalits),
k) Avoid use of child labor (below 16 years age),
l) Employ as many women laborer as possible in construction,
m) Pay equal wage for male and female laborers for similar work and maintain a payment register.
n) Contractors have to pay minimum wage fixed by the concerned district to both male and female labors.
o) Ensure life insurance of the laborers,
p) Avoid damage / disturbance to historical / cultural / archeological sites / natural habitats,
q) Relocate public infrastructure such as; electricity pole, telephone pole, taps, irrigation, etc.

Above mentioned and additional requirements such as health & safety relevant to a subproject activities of contractor will be supervised and monitored by the technical supervision team as well as by the environmental specialist besides district level and central level monitoring.

## Process of land acquisition of absentee land lord

3.55 Concerned DDC should publish a notice of land requirement in national daily newspaper that should mention purpose of requirement, name of the road and its length and width, name of the affected VDC and wards, name of the land holders, area of land to be acquired, etc. DDC shall publish the same notice in the DDC office, district land

revenue office, district administration office, concerned VDC office, and other public offices and in the impact area where people gather regularly (public place).

3.56 DDC shall provide the name of landholder with full postal address to the district land revenue office. The later one will stop land transaction of the concerned landowners.

3.57 If the absentee landlord is alive, one can come with power of attorney of the landholder to claim the assistance. The power of attorney holder will sign the land donation form but the power of attorney should be attached with the form.

3.58 If the absentee landlord is not alive, his kin member/s can come with the death registration certificate of the land holder along with legal heir certificate/documents proving his/her as legal inheritor of the affected piece of land in order to claim the assistance. In case no other evidence is available, a relation certificate issued by VDC/municipality in favor of the claimant may be considered for granting the assistance. All recipients of assistance other than owners shall be asked to declare that in case the assistance is found to have been wrongfully claimed they shall be liable for punishment and will return the assistance to the VDC, which will then give it to the rightful claimant. All recipients of assistance is case of absentee owners will have to produce proof of identify with photo and signature.

3.59 In case where the legal owner is not deceased but is not traceable or is found hard to contact, the assistance shall be deposited with the VDC for disbursement to the owner as and when he/she shows up or to the next kin or legal heir in case of his/her reported death. If nobody comes to claim the assistance then the DDC will complete the process, after a week of serving a final notice to the known family of the owner and also pasting the notice at a public place in the village / at the VDC office and deposit the assistance in the VDC in the name of absentee landlord. The money would be returned to DDC after three years if nobody comes forward to claim the amount. In this situation, VDC will write a letter to district land revenue office for land transfer.

**Multiple Owners**

3.60 If a land owner is already died and the land is owned jointly by his sons or kin members, the DDC shall offer the assistance amount for the donated land dividing to all the claimants. But the claimants have to come with the application including attachment of a copy of death registration certificate and a recommendation letter of the VDC/ municipality. All the claimants have to sign the land donation form before receiving assistance and then have to go to land revenue office for land ownership transfer. In case of dispute regarding ownership or problems of equitable sharing of assistance amongst the multiple inheritors, the DDC will serve two notices of one week's time each requesting the group of claimants to come up for receiving the assistance, failing which it will deposit the assistance with the VDC for distributing to the multiple claimants and take possession of the land for road work. In this situation, VDC will write a letter to district land revenue office for land transfer.

# Chapter IV: PLANNING AND IMPLEMENTATION MECHANISM

4.1 The project requires effective mechanism and process to implement its rural road construction, improvement, maintenance and construction of bridges activities and proposed interventions to mitigate the impacts. This chapter presents planning and implementation mechanism to be followed in addressing the environmental and social safeguard issues arising from the project.

4.2 The Environmental Assessment and Social Assessment are the integral part of the project cycle beginning with project identification to operation stage. All subprojects will start from screening, identification of impacts, preparation of action plan for mitigation of adverse impacts, implementation of action plans, monitoring, evaluation, and auditing of the project. The main aim of the planning is to address the environment and social impacts properly. However, planning includes activities from the beginning of identification and pre-feasibility study to post construction phase. A short summary of project planning including stages, steps in the assessment process and responsibility is presented in table 4.1. The detail steps are presented in Annex 9.

Table 4.1: Environmental and Social Management within the Project Cycle

<table>
<tr><th>Stages in Project</th><th colspan="4">Environmental and Social Activities</th><th>Responsibility</th></tr>
<tr><td>Project Identification</td><td colspan="4">Selection of Sub-project: Brief outline of environmental issues / problems with initial consultation of stakeholders</td><td>DDC/DTO SMO/Environment/Social safeguard specialist</td></tr>
<tr><td>Project Screening</td><td colspan="4">Environmental and Social Screening together with Technical and Economic Screening – screening will be incomplete if any of the four screening is not included.</td><td>DDC/DTO SMO/ ES/SS / PSE</td></tr>
<tr><td></td><td colspan="4">Submission of Screening Report to CPCU</td><td>DDC</td></tr>
<tr><td rowspan="2">Appraisal and Approval</td><td colspan="4">Review of environmental and social screening</td><td rowspan="2">CPCU</td></tr>
<tr><td colspan="4">IEE</td></tr>
<tr><td>Detail Engineering Design</td><td colspan="2">Environmental Plan: Site specific EMP,</td><td colspan="2">Social Management Plan: VCDP, VDIMP, GAP</td><td>DDC-PSE/ ES/SS</td></tr>
<tr><td>Construction Period</td><td colspan="2">EMP Implementation</td><td colspan="2">SMP Implementation</td><td>DDC/DTO/PSE/ SMO/ES/SS</td></tr>
<tr><td></td><td>Supervision</td><td>Reporting</td><td>Monitoring</td><td>Independent Compliance Audit</td><td>DDC/DTO<br>DRCC<br>Independent 3rd party /PSE/SMO/ES/SS</td></tr>
<tr><td>Operation Period</td><td colspan="4">Technical, Environmental and Social Audit</td><td>NVC</td></tr>
</table>

# Environmental Impact Mitigation Mechanism

## Environmental Screening Criteria

4.3 To determine the level of environmental assessment required, the screening criteria as mentioned in Environmental Protection Regulation (EPR, -1997 and its amendments) shall be used. The EPR criteria (Schedule 1 and 2) most likely to be applicable for construction, improvement and maintenance of road and construction of bridges under SNRTP are presented in Table 4.2.

Table 4.2: The EPR Criteria for IEE and EIA

| Roads Requiring IEE | Roads requiring EIA |
|---|---|
| • Construction of District Roads<br>• Construction of Urban Roads Improvement<br>• Rehabilitation and reconstruction of Feeder Roads<br>• Any other projects with cost NRs 50 million to 250 million | • Construction of Main Feeder Roads<br><u>Road Construction in Sensitive areas:</u><br>• Historical, cultural, religious and archeological sites Environmentally weak and wet area<br>• National parks, wild life sanctuaries and conservation areas, Semi-arid<br>• mountainous and Himalayan regions<br>• Flood prone and other dangerous areas<br>• Residential, school and hospital areas<br>• Areas with main sources of public water supply<br>• Any other projects with total cost more than NRs.250 million[1] |
| Other legal requirements (Forest Act, National Park and Wildlife Conservation Act, etc.)<br>Adverse impact on the following<br>• Protected Areas<br>• Forest<br>• Landslide and erosion<br>• Flood prone areas<br>• Areas prone to water logging<br>• Water sources and water bodies<br>• Historical, cultural and religious areas<br>• Open public spaces<br>• Community infrastructures<br>• Special groups of people<br>• View points<br>• Development potential sites<br><br>Level of Environmental assessment will also depend on magnitude, extent and duration of the predicted impact. If impacts are serious the assessment team can recommend IEE/EIA. But if the impacts are of low magnitude, extent and duration site specific EMP will be prepared for all road subprojects. | |

[1] The GoN project cost criteria is applicable for a specific subproject, such as a road or a bridge. Screening of each subproject during implementation will check this.

4.4 Environmental Management Plan (EMP) prepared based on approved IEE or EMP only shall full fill the requirement of Environmental Assessment of road subproject if the road does not pass through the sensitive areas.

4.5 The road and bridges proposed in any protected areas (conservation, national parks, etc.) and in heritage site (such as listed in UNESCO), road traversing through highly significant major landslide and vulnerable areas, and major/ long-span bridge that will lead to significant conversion of natural habitat of critical endangered species will be screened out for implementation. The road and bridges proposed in other areas where environmental risks are relatively higher such as buffer zone and areas with physical/cultural/religious significance will need prior approval from competent authority, DoLIDAR and WB before being considered for implementation.

4.6 Prior approval is also needed in the road or bridge is located in fragile area (land slide risky area, Main Central Thrust (MCT) and Main Boundary Thrust (MBT) areas, historic, cultural and archeological sites, wet lands, flood prone and other areas of major sources of drinking water, buffer zone of protected area, requires pre approval from the DoLIDAR and the World Bank.

4.7 The responsibility of environmental screening, and IEE (if any) will fall on DDC/DTO. Environmental Specialists (ES) will support DDC to carryout screening. Screening has to be submitted along with technical, economical and social screening report during Project Screening Stage. Environmental screening will be reviwed by PSC and approved by CPCU/DoLIDAR. Subproject screening is not completed without environmental screening, and will not be considered for further processing. If IEE is done, it will include EMP chapter. If screening determines that no IEE is required then site specific EMP will be prepared separately by DDC during detail engineering design stage.

4.8 The main roles of ES are;

- Support to prepare, verify and approve ES and EMP of SNRTP sub projects.
- Support to DDC for overall implementation of environmental safeguard measures of SNRTP sub projects
- Awareness creation about environmental issues and preparation of environmental plans.
- Organize workshop, training and meetings.
- Monitoring and supervision of implementation of EMP.
- Reporting to DDC and PSE.

4.9 The PSC will forward the environmental screening summary report along with recommendations to CPCU for approval. In recommendation of CPCU, DoLIDAR will

approve screening report in the recommendation of DoLIDAR.

**Initial Environmental Examination**

4.10 If the screening team determines that Initial Environmental Examination (IEE) is required, the DDC will carryout IEE after screening and before detail engineering design survey is started. IEE will be done as per the format given by EPR and approved by concerned ministry. The public consultation will be collected once during baseline survey and another after preparation of draft IEE report but before approval. Suggestions from peoples will be incorporated in final IEE report.

**Site Specific Environmental Management Plan (EMP)**

4.11 Bidding process will not begin without approved site specific EMP. Site-specific EMP of construction section must be prepared during detailed engineering survey and design. The EMP includes following components;

4.12 Issues: The EMP presents detail pictures of the project impacts and mitigation measures. It includes environmental issues, and its significance for consideration under the subproject. An issue's significance should be based on supporting information and their explanation.. These may include erosion control, slope protection measure, burrow pit management, vibration control, dust and noise control, protection of water sources, tree cutting, protection of road side vegetation and disturbance to wildlife, quarry site management, management of spoil, drainage management (impoundment and water logging / drainage congestion), conservation of cultural and historical monuments, social services relocation/maintenance (water supply lines, irrigation canals, telephone, electricity lines, etc).

4.13 Alternatives: The EMP can also recommend any alternative measures for avoiding impacts on existing design (like shifting the alignment with approval with DDC and discussion with community).

4.14 Mitigation: The EMP identifies site-specific, cost effective and detailed measures for each impact that will reduce the identified adverse impact to acceptable levels. The plan should include compensatory measures (such as tree plantation, relocation, rehabilitation, etc.) if mitigation measures are not feasible, cost effective, or sufficient.

4.15 Capacity Development and Training: If necessary, EMP can recommend specific, targeted training for project staff, contractors, and community groups to ensure the implementation of environmental recommendation.

4.16 Implementation Schedule and Cost Estimates: For all mitigation and capacity development, the EMP provides (a) an implementation schedule for measures that must be carried as a part of the project, and (b) cost estimates for implementing the EMP.

4.17 Integration: The EMP must be integrated into the project's plan and design, budget, specifications, cost estimated, bid documents, contract/agreement clauses. DDC/ DTO is responsible, but can mobilize ESSS for this, and help in proper implementation. Bid documents are finalized only after CPCU/PSC certifies that site-specific EMP recommendations are adequately and appropriately incorporated in the plan and design, cost estimates, specification, BoQ, and contract clauses.

4.18 Timing: Site-specific EMP shall be prepared and approved by CPCU at initial stage of detail engineering design. This will allow EMP activities to be incorporated in detail design. CPCU will certify that EMP recommendations are incorporated in Bid documents. CPCU will consult DoLIDAR in case of complexity in EMP.

## Social Management Plans

4.19 As part of planning, social screening will be carried out by the NGOs/SDC in collaboration with DDCs to identify the potential impacts and accordingly prepare the corresponding mitigation plans. Various possible options will be explored to minimize the impacts. The Screening reports will also include the initial requests form the local villagers for the proposed road widening, community resolution for voluntary donation, etc. PSC will recommend PCU for approval of screening report. The PCU will consult DoLIDAR as necessary in the approval process of the screening reports.

4.20 Subsequent to social screening findings, the mitigation plans will be prepared in accordance with the Entitlement Matrix. The socio-economic data for all those who are categorized as seriously affected households will be carried out. The baseline data will be analyzed and incorporated in the Mitigation Plan. This will become basis for assessing the impact of assistance provided to the seriously affected households during the project implementation. Social Management Plan includes Voluntary Donation Impact Mitigation Plan (VDIMP), Gender Development Plan (GAP) and Vulnerable Community Development Plan.

### Vulnerable Community Development Program (VCDP)

4.21 Vulnerable community development is a component of the project to enhance the livelihood of the SPAP/F, Dalits, poor, marginalized groups and single / women headed household of Zo zone. This component directly assists to achieve the goal of poverty reduction by enhancing their income generation capacity through various skills and occupational development training. The project will carry out free prior informed consultation with indigenous people and other

vulnerable groups. The VCDP contains provisions to offer different types of training to vulnerable communities which are, however, not limited to the followings:

- Skill development training such as , driving, anvil work, mechanics, hair cutting, plumbing, masonry, carpentry, handicrafts, sewing, etc.
- Income generation training such as micro-enterprise, vegetable production, poultry, piggery, etc.,
- Safe motherhood, women empowerment, leadership, health and hygiene,
- Nursery establishment, plantation of fruits and fodder and so on, and
- Other appropriate skill development and vocation training as per the need of the people

4.22 The DDC through SMO / ESSS will prepare VCDP immediately after social screening and will attach in SMP. The plan will present number of vulnerable people, their occupations, prioritized needs, proposed training / program, required resources, and date and time of its implementation. Approval of SMP by project allows SMO / ESSS to proceed for necessary preparation. The concerned DDC through NGOs and Individual Consultants in coordination with VRCC/LRUC will organize vulnerable community development training / program. DDC will report project about the event and its achievement regularly (monthly, trimester and annual).

**Gender Action Plan (GAP)**

4.32 Although females are identified as vulnerable groups and included amongst the potential beneficiaries under the vulnerable plan, this alone does not suffice to address the deep rooted social, cultural and economic issues of females. Regardless of caste and ethnicities, females in general, suffer more than their male counterparts on various grounds warranting special treatment or mitigation measures in order to be able to sustain better livelihood. The social screening and consultations will help in generating information, about the issues and concerns of men and women in sub-project areas which will help project to prepare a full-fledged Gender Action Plan (GAP). This section, based on the available information and experience from the on-going project provides a

generic framework serving as a guideline for the preparation of Gender Action Plan (GAP) before the subproject comes into implementation.

### 4.33 GON Policies on Gender Mainstreaming

- GON, in its national level policies and plans, has duly emphasized the importance of women in all spheres ranging from household to community and national level. Realizing the increased potentiality of women in the socio-economic and political sectors, the government has increasingly provided more space for increased participation of women. In addition, GON has established the National Women Commission, a national level well empowered body to look after the issues of women and take protective and defensive measures to address the issues and problems encountered by the women at all levels and in any forms viz domestic violence, women's right to properties and representation in the key positions with fair proportions.

- The Government of Nepal (GON), since the early 1990s, has been making important commitments to gender equity, equality and the empowerment of women in its policies, plans and programs. The GON introduced a Gender Approach to Development (GAD) in 1990 to enable women and men to participate equally in public and private life and realize their full potential in development. The Tenth Plan (2002-2007) as a Poverty Reduction Strategy Paper (PRSP) identified gender and inclusion as its main strategies for reducing poverty. 'Social inclusion and targeted programs' was one of the four major pillars of the Tenth Plan/PRSP. The Plan, instead of relying only on targeted programs, tried to address gender and caste related issues by mainstreaming all of the four pillars of PRSP along with envisaged strategies to achieve gender equality and empowerment of women. The Three Year Interim Plan (TYIP) during 2008-2010, which emphasizes post conflict reconstruction, rehabilitation and reconciliation, continued the long-term goal of poverty reduction through gender mainstreaming and social inclusion.

- Similarly, Nepal is signatory of number of international human rights related conventions and declarations, which call for the elimination of all forms of gender based discrimination, including those related to access to education, health and other services. The Convention on the Elimination of all forms of Discrimination against Women (CEDAW), signed by the GoN in 1991, commits Nepal to constitutional and legal equality, particularly in the fields of education, health, citizenship, property and employment. It also guarantees freedom from all kinds of violence and sexual exploitation

### 4.33 Gender Inclusive Design and Preparation of GAP

- The gender inclusive design criteria emphasizes on the initiatives and promotion of women focused and women friendly activities through which their potentiality could be utilized in the action. This will require targeting the women in providing the project supports that match well with their needs, interest and abilities in the following ways.

- Targets for women's participation and / or access to project benefits viz education, skill training, forming/ strengthening beneficiary groups;
- Women representation in different forums and local development activities inclusive working opportunities in project supported works;
- Hiring / recruitment of females in the project both at central and field level such as local social mobilizers, trainers and facilitators;
- Special or separate facilities for women or girls to facilitate their participation in project activities;
- Design of gender sensitive physical facilities i.e separate sanitation facilities in school, construction site if women are employed; public places like markets, etc, and
- Provision for women or joint ownership of assets viz land and houses
- The cost of GAP will be included in Social Management Plan.

Table 4.3: General Framework for the Preparation and Monitoring of GAP

| • Activities | • Indicators and Target | • Responsible Agencies |
|---|---|---|
| • Group formation /strengthening PAF or other groups already in existence | • No. of groups | • ESSS/ SM |
| • Engage women in economic activities – in project construction activities and other sources | • No. of women employed against set target | • Project incharge; contractor; ESSS/ SM |
| • Skill training to women in vocational fields and support for IGAs in farm and off-farm sector | • No. of women trained and engaged in different IGAs | • Project; ESSS/ SM |

| | | |
|---|---|---|
| • Inputs and technologies distributed to women groups that are culturally appropriate and economically viable | • Quantity of inputs/ technologies provided to the groups | • Project; ESSS/ SM |
| • Distribution of seed money by the Project and resource generation, mobilization and utilization by the groups | • Savings generated and utilized by different groups by purpose (Rs) | • Project; ESSS/ SM |
| • Conduct health related trainings (Awareness on HIV/AIDS, child nutrition etc) | • No. of programs launched and targeted beneficiaries covered | • Project; local health functionaries; local NGOs; ESSS/ SM |
| • Awareness raising to reduce domestic violence | • No. of cases reported in the community/ police | • Project; local NGOs; ESSS/ SM |

**Implementation Arrangement**

4.23 Assistance Distribution Committee: The mitigation plan will be implemented through respective DDCs with the following arrangements. The Assistance Distribution Committee will be formed under the chairmanship of Local Development Officer (LDO) in DDCs. The composition of the committee is as follows:

- Local Development Officer (LDO) : Chairperson
- District Technical Office Chief : Member
- Chairperson of LRUC / VRCC : Member
- A woman LRUC member :member : Member
- SMO/ESSS and PSE : Facilitator

4.24 The office of the Assistance Distribution Committee will be established within the premises of DDCs. The committee will carry out the following responsibilities:

a) Receive the name list of those donating land to DDC and disclose the name list in the DDC office and in the concerned VDC office.

b) Publish notice of assistance distribution through local newspaper and F.M. Radios prior to at least fifteen days.

c) Inform the affected people by SMO/ESSS through LRUC/VRCC about the proposed action,

d) Fix the date and time of assistance distribution and inform to the concerned people at least one week before,

e) Distribute the assistance amount in public places (most probably in VDC office). All amounts above NRs. 5,000 will be paid through cheques. If the recipient does not have Bank accounts, NGOs will assist them to open Bank accounts. In case of cash payments, they will be distributed in public places in the presence of some witness.

f) Keep proper account of assistance distribution, and

g) Keep proper record of the assistance recipient (receive signatures), types of effect, assistance amount and purpose of the use of assistance and the time of land transfer.

4.25 The beneficiaries of assistance are expected to use the assistance for repair and restoration of losses and damages suffered due to land donation. The DDC through LRUC / VRCC and local NGO and individual consultant regularly monitor the use of fund and forward the progress report to CPCU.

4.26 **Grievance Hearing and Readdress Mechanism**: Informal dispute resolution mechanism and practices, based primarily on negotiation between disputing parties with the involvement of third party, are common in most of the communities in Nepal. Following the local tradition and cultural practices, unsatisfied people will go to VRCC and LRUC with their complaints at first. The VRCC / LRUC are knowledgeable people of the localities, will receive complaints and hear the grievances of people. Local Road Users Committee and Village Road Users Committee can resolve minor problems because laws allow resolving minor civil cases in the community. If they cannot resolve, then they forward such cases to Grievance Hearing Committee.

4.27 The project will organize dispute resolution training once every year to ESSS/SMO, GHC, and LRUC members involved in grievance handling process in the project.

4.28 The grievances escalated due to land acquisition, structural damage, loss of livelihood

and minor assets and related to assistance distribution, etc. directly goes to Grievance Hearing Committee. The Grievance Hearing Committee receives the complaints, examines the case with the support of SMO / ESSS and from VRCC and LRUC and verifies the information and then gives its decision.

4.29 The grievance redress committee will consist of the following members at each district level. The Grievance Hearing Committee's composition will be as follows:

- Nominee of District Road Coordination Committee as Chairperson
- Planning, Monitoring and Administrative Office in DDC as Member
- SMO of the concerned sub project as invitee member and facilitator
- Representative of PAPs from the concerned sub project as invitee members

4.30 The office of the Grievance Hearing Committee will be established in the premises of the DDCs. The decision of Grievance Hearing Committee will be final for the project but it does not restrict an individual to seek further legal recourse. The Grievance Hearing Committee will perform the following responsibilities:

- Receive the complaint in written letter and register and record it properly,
- Keep the complaint confidential and go through the issue / case by the support of SMO / ESSS and concerned VRCC / LRUC members, check if there is any mistake made in the process,
- Based on the nature of compliant, the committee will verify all the supporting information and also hear the compliant views personally and other witnesses as needed and give their final verdict accordingly.

4.31 The project proposes to create a separate **Assistance Distribution Committee** and a Grievance Hearing Committee than the Government's Compensation Fixation Committee, which is led by District Administration Office (DAO) on the basis of the discussion with other project staff within DoLIDAR and observing a lengthy and troublesome process followed by them.

## Disclosure

4.34 All the documents such as ESMF and Mitigation Plans will be disclosed in the web sites of MoFALD, DoLIDAR, SNRTP, DDC and also in Bank's InfoShop. The reports will also be made available in Nepali languages in the project districts. Disclosure of name list of project affected people / family is a crucial step towards assistance handover process. The Project Coordination Unit will disclose the summary report of project affected individuals/ families in its website at the centre, DDC will disclose individual name list of the project affected individuals / families at the district and VDC at local level. Moreover, DDC will publish / broad-cast notice about the publication of

name list of eligible for assistance through local News Paper and Media especially through FM Radios.

## Role of NGO and Social Development Consultant

4.35 The project has hired some NGOs and individual consultants to assist DDC for implementing local level activities of the project. There are Social Mobilization Officers in the districts where NGOs-SMO have been involved, where there are not, Individual Consultants hired by the project directly. These professional have appropriate experience and understanding for undertaking social screening other related activities and accordingly their qualifications and experiences are defined in Terms of Reference. The main roles of Social Mobilization Officer and SDC are:

b) Mobilization of local communities: Orientation on ESMF to locals including LRUC and VRCC, awareness creation about the road sub-project activities, voluntary land donation, formation of LRUC / VRCC, assist them for meeting and minuting, coordination, community auditing and so on;
c) Carry sub-project level social screening and baseline socio-economic surveys among seriously affected land donors;
d) Preparation of Voluntary Land donation Mitigation plan and Vulnerable community development program; planning and assist LRUC / VRCC / DRCC and DDC for implementation;
e) Conduct workshops/trainings/meetings on concepts and procedures of the CBPM and other activities of social and environmental concern;
f) Assist DDCs to implement VDIMP and VCDPs as needed;
g) Reporting to the DDC/DTO, PSC team and the Project Coordination Unit regarding progress of community audit exercise and other sub-project related social activities.

NGOs will be hired for implementation of VCDPs through competitive selection. The specific role of NGOs is as under.

- Review the VCDP prepared by the project and update if required
- Conduct free, prior informed consultations with the indigenous community and other vulnerable groups
- Implement the VCDP as per the description of the plan.
- Motivate and impart training to the participants and ensure implementation of the skill and knowledge gained/learnt from the training in practice.
- Establish a working relationship with the DDC/DTO, SDC and Vulnerable groups of people identified for the training and support and act effectively for the change in livelihood of the vulnerable groups

The terms of reference for hiring NGOs is given in Annex 22.

## Consultation and Dissemination Strategy Framework

4.36 According to Nepal Environmental Protection Regulation 1997 and World Bank Operational Policies 4.12 on involuntary resettlement and 4.10 on indigenous people, consultations with the project's beneficiaries including local population and NGOs must be conducted ensuring their participation at all stages of project implementation. These consultations are important particularly when project activities start directly affecting these communities. Changes in natural and social environment must be made conditional to the prior consent of the affected communities. Representatives of local communities affected by the project and NGOs should be involved in consultations.

Public consultations will be conducted during project implementation in compliance with local laws with NGOs and Media and World Bank Policies The project's information such as sites, scale of impacts- adverse and beneficial social and environmental benefits, sustainability, monitoring system and the outcome of the project etc. need to be compiled.

Table 5.5 bwlow presents potential stakeholders for consultation, mode of consultation and ways of dissemination at various stages of consultation. Project Management Unit at regional level and district offices will take all the responsibilities for the consultation.

**Table 5.5: Potential Stakeholders for Consultation**

| Stages for the Consultation | Strategic Works | Mode of Consultations | Whom to consult |
|---|---|---|---|
| Screening | Site visits (if necessary )and desk work | Public Meetings, Interaction, FGDs and transect walk together with the local residents.<br><br>Provide information about project's activities using local language/Nepali language | Community |
| Project Formulation | Identification of interest parties, development of | Community consultation at village | Land donors, VRCC and |

| | | | |
|---|---|---|---|
| | consultation methodology & Schedule, consultation with interest parties, and Consideration of necessary changes in alignment | level; Group discussion and handouts in local language | LRUC members, local NGOs |
| Impact Assessment | Scoping, assessment and management process, alternative option, mitigation measures | On site meetings, FGDs, one to one surveys in local language | Land donors, VRCC and LRUC members, local NGOs |
| Implementation and monitoring | Consultation and collaboration on the basis of project activities | Workshop, On site meetings, FGDs | Land donors, VRCC and LRUC members, local NGOs, members of social accountability group |

## Institutional strengthening and Capacity Building

4.36 Capacity of DoLIDAR to address environmental and social aspects is limited. In the case of donor funded projects, the resources are allocated for social and environmental mitigation and management. Necessary human resources may be hired under project to meet project requirements. The social and environmental aspects are looked at project level and as per emphasis given by donor. Through the project, some of DoLIDAR's staff, most of whom come from engineering background, are exposed to social and environmental mitigations and management. However, there is no long-term institutional perspective and no permanent institutional arrangement within DoLIDAR dedicated to social and environmental aspects. At present DoLIDAR's Monitoring and Evaluation unit is asked also to look after social and environmental matters when needed. DDCs capacity is weaker than the DoLIDAR's. Hence, under the proposed project, it has been proposed to establish a dedicated unit within DoLIDAR responsible and authorized for all social and environmental oversight, management, coordination and capacity building support to DDCs. A departmental social and environmental policy document is also bne prepared during the early stage of project implementation. The proposed project also includes support to hire necessary social and environmental

human resources at CPCU and satellite PCUs, for conducting social and environmental awareness and training, as well as monitoring costs.

4.37 The various agencies at different level involved in the planning and implementation of environmental and social safeguard functions. The, PSE/ESSS/SMO, along with members of LRUC, VRCC and field level workers (labor-gang leader, machine operators etc.) will be given orientation and other capacity building, training from time to time to sensitize and familiarize with the ESMF provisions and processes at district level. After awarding contract, the contractor will be given capacity enhancement orientation on ESMF provisions and processes. Besides this human resources for environmental and social management will be provided at CPCU/PSC and for independent third party audit. In addition, cluster level environmental expert, NGO, ESSS at district level has been provided to strengthen the capacity of the project. Site-specific EMP and SMP will propose training and orientation plan, including cost for the subproject in question, based on the need to enhance capacity of stakeholders. The capacity development of DTO technical staff and DDC sub- engineer overseer on environmental safeguard activities and will support in empowering institutional strength of DTO and DDC for safeguard compliance.

4.38 SNRTP can benefit if ESU is established at DoLIDAR and building capacity at DTO and DDC staff in environmental and social safeguards planning and implementation activities. As per the revised ESMF, provision has been made for monitoring by Central Project Coordination Unit, Satellite Project Implementation Unit, and District Level offices which will assist in enforcing compliance at three different levels central, regional and district levels respectively in sample basis. SNRTP has made provisions to hire environmental and social safeguard specialists to implement mitigation measures and monitoring.

## 4.39 Budget for implementing the ESMF

Budget for subproject level social and environmental mitigations will be known during subproject preparation, and will be internalized during subproject planning, design, costing and implementation.

Proposed project internalized cost for hiring social and environmental human resources at center, at satellite PCU/ regions, and additional as per the need, as well as cost for awareness & training, and monitoring at different levels (see Supervision , Monitoring and Evaluation in the following page for monitoring responsibilities and frequencies).

## Role and Responsibilities of Various Organizations

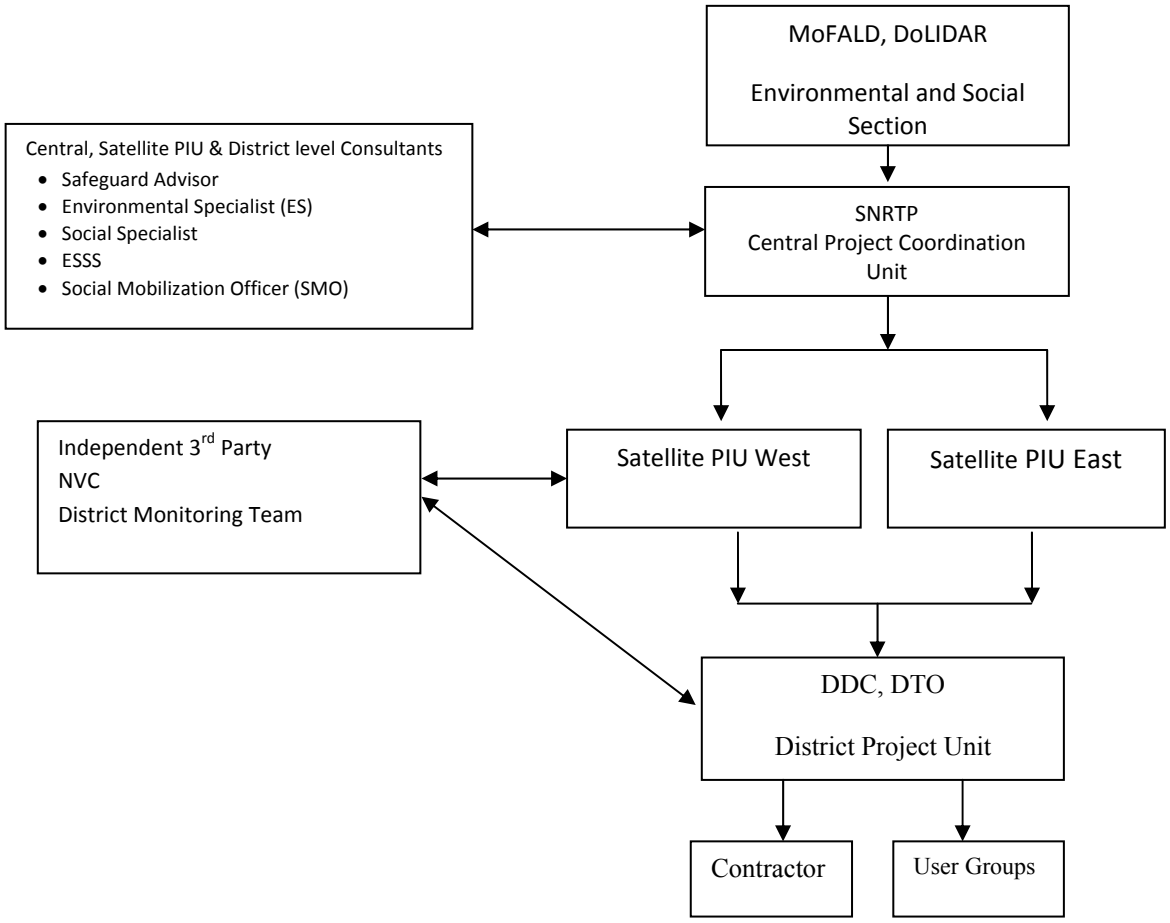
4.37 The implementation of the ESMF/EMAP will be the responsibility of officers of the implementing agencies.

4.38 The table 4.3 identifies the responsible agencies for various activities related to implementation of project activities pertaining to social and environmental impacts.

Table 4.4: Responsibilities of key agencies

| SN | Mechanism | Responsibility |
|---|---|---|
| 1 | Defining policy directions for SNRTP in light of the GoN policies and legislation. | MoFALD, DoLIDAR |
| 2 | Drafting Term of Reference for specific subproject. | DoLIDAR, concerned DDC |
| 3 | Assembling teams to conduct environmental and social assessments. | Concerned DDC, Project Unit |
| 4 | Ensure internal coordination among different level of authorities within the government agency. | DDC and DoLIDAR |
| 5 | Getting up-dated with regulations and developments relevant to SNRTP. | DoLIDAR, DDC, Project Unit |
| 6 | Defining priorities for SNRTP. | DoLIDAR, DDC, Project Unit |
| 7 | Organizing consultations in public participation to ensure environmental and social assessment obligations. | DoLIDAR, DDC, Project Unit, NGOs |
| 8 | Develop methods and operational tools for environmental and Social awareness at policy, program, and operations level. | DoLIDAR, DDC |
| 9 | Organizing training and information campaigns. | DoLIDAR, DDC with project support |

4.40 Institutional arrangement to implement ESMF in RAIDP project shall be as follows:



## Supervision, Monitoring and Evaluation

4.41 Overall sustainability of a project depends on how well the social and environmental issues are managed during the implementation. The following mechanisms are proposed to ensure successful implementation of environmental and social impacts

4.42 Central Level Supervision: Central level supervision shall be carried out to check progress and correct shortcomings of the project, the main aim of central level supervision is to observe the problem and to support the implementation team at local level. Central Level Supervision will be carried by CPCU/PSC team in sample and high-risk roads at least once every four month. The supervision team will brief environmental and social findings at district and PCU after site visit and submit the field-visit report to CPCU with recommendations and gaps for corrective measures. Findings of this will fed into GoN portfolio four monthly review.

4.43 Regional level Supervision. Two satellite project implementation units will supervise the environmental and safeguards compliance for east and west cluster of districts.

4.44 District Level Supervision: District Level Supervision will be carried out by DDC/DTO with the help of ESSS; they will brief DDC/ DTO together with contractor on status, program and problems; and will submit their report, of each road subproject, once every two months, through DDC to CPCU.

4.45 District Level Independent Monitoring: District level monitoring is a component of the project that is carried out by monitoring committee formed by District Road Coordination Committee (DRCC) every six months for each road under construction. But one monitoring must be done after claim of construction completion by contractor and before awarding construction completion certificate by DDC. Any rectification of substantial mitigation works, and/or outstanding works defined under EMP should be completed before issuing construction completion certificate. The District Level Monitoring format is presented in Annex- 11. The DRCC forms a separate monitoring subcommittee of three members under the leadership of nominee of DRCC, which will be facilitated by ESSS as follows;

| | |
|---|---|
| DRCC nominee | : Team Leader |
| Line Agencies[2] | : Members |

4.46 The Committee is also responsible for certification of completion of various tasks

as envisioned by ESMF prior to invitation of bids, award of contracts, and award of construction completion certificate.

## Coordination between Civil works and Mitigation of social impacts

4.47 In order to ensure that social impacts will be mitigated timely along with civil works, the following coordination will be followed. Prior to invitation of bids for civil works, the following activities will be completed.

- Social Screening Report;
- Beneficiary Identification in the Impact Zone;
- Individual / Group consent from the land owners for voluntary land donation;
- VDIMP (endorsed by the World Bank and approved by the GoN including the budget): and,

Prior to award of contract for civil work, the following activities would have been completed substantially

- Payment of assistance to eligible affected households of land donation;
- Land ownership transfer (the donors should handover the land to GoN)
- Repairs to be undertaken by the project for affected structures;
- Reconstruction of the affected community assets, if any; and,
- VCDP (approved by the GoN including budget)

The satisfactory completion of the above tasks will be evaluated and certified by the District Monitoring Committee for awarding contract to civil work.

## Environment and Social Auditing

4.48 Environmental and social audit will be done in two tiers; Central Level Audit and Local Level Audit.

### Central Level Audit

4.49 Central Level Environmental and Social Compliance Audit will be carried out by an independent 3rd party, once a year during construction period. This audit will be conducted on behalf of MoFALD/DoLIDAR. The auditing team will present a detail report of auditing to Bank and RAIDP. The auditing team will debrief district after site visit and also MoFALD/DoLIDAR before submission of the audit report. MoFALD/ DoLIDAR will accept this audit report as a substitute to central level environmental and social monitoring.

4.50 Technical, Environmental and Social Audit will also be conducted during operation stage. This will be done by National Vigilance Centre on sample basis. The audit will check whether process and provisions envisioned in EMSF is followed or not, and the general quality of work. The concerned DDC will make necessary corrections on the basis of Audit recommendations.

Local level Audit

4.51 The local level audit especially denotes Community Based Performance Monitoring (CBPM). The VRCC/LRUC in coordination with DDC, SMO, ESSS, and other line agencies will carry out CBPM, three times during the project period. First CBPM shall be carried out after awarding of tender, second CBPM during construction period and third immediately after completion of construction activities, but before awarding construction completion certificate. The CBPM report will be submitted to respective DDC for necessary actions. The CBPM will examine technical, social, financial and environmental performance of the project from peoples' perspective.

Evaluation

4.52 The objective of evaluation is to judge the impact of implementation effectiveness. It will be done through independent consultants having experience in similar tasks. This will be undertaken during midterm and end of the project. The evaluation will assess ESMF's effectiveness in addressing environmental and social impacts of the project. The midterm evaluation will give feedback for implementation of the ESMF.

# ANNEXES

Annex 1 :Protected Plant Species by Law

The protected species are mainly found in the protected areas. However, their existence outside the protected areas may not be ruled out. The proposed projects will cover 35 districts and there will be several subprojects in different locations. Some of the protected areas are located in the project district also. However, subproject located in defined protected areas or in the known habitat of critical endangered species is ineligible for project funding. Subproject located in moderate risk areas such as buffer zones will require prior approval of competent authority, DoLIDAR and World Bank. During subproject preparation, screening of a subproject check this and for eligible subproject specific environmental management plan will be prepared which will incorporate mitigation measures relevant to the subproject.

Plant Species and Forest products protected under the Forest Regulations, 1995 (amended 2001)

| SN | Botanical name or forest resources[1*] | Vernacular name | IUCN Status | CITES code |
|---|---|---|---|---|
| | Species banned for collection and export | | | |
| 1 | Dactylorhiza hatagirea | Panch Ounle | | II |
| 2 | Picrorhiza scrophulariiflora | Kutki | | |
| 3 | Juglans regia (bark) | Okhar | | |
| | | | | |
| | Species banned for export without processing | | | |
| 1 | Abies spectalilis | Talis patra | | |
| 2 | Cinnamomum glaucescens | Sugandhakokila | | |
| 3 | Cordyceps sinensis | Yarsa gomba | | |
| 4 | Lichen species | Jhyau | | |
| 5 | Nardostachys grandifloral | Jatamansi | | |
| 6 | Rauvolfa serpentina | Sarpagandha, (harbaruwa) | V<br>E | II |
| 7 | Taxus buccata sub-sp. Wallichiana | Loth salla | | |
| 8 | Valerina jatamansii | Sugandabala | | II |
| | Timber tree banned for felling, transportation and export | | | |
| 1 | Acacia catechu | Khayer | | |

| | | | | |
|---|---|---|---|---|
| 2 | Bombax ceiba | Simal | T | |
| 3 | Dalbergia latifolia | Satisal | | |
| 4 | Juglans regia | Okhar | | |
| 5 | Michelia champaca | Champ | | |
| 6 | Petrocarpus marsupium | Bijaya sal | E | |
| 7 | Shorea robusta | Sal, Sakhuwa | | |

* Products processed in the country can be exported with special permission from the MFSC. IUCN Threat categories: E = endangered, T = threatened, V = vulnerable.

Ref:

Jnawali, S.R., Baral, H.S., Lee, S., Acharya, K.P., Upadhyay, G.P., Pandey, M., Shrestha, R., Joshi, D.,

Laminchhane, B.R., Griffiths, J., Khatiwada, A. P., Subedi, N., and Amin, R. (compilers) (2011)

The Status of Nepal Mammals: The National Red List Series,

Department of National Parks and Wildlife Conservation

Kathmandu, Nepal

Annex 2: List of Nepal's Protected Wildlife Species

Status of protected wildlife under the National Parks and Wildlife Conservation Act, 1973

(The protected species are mainly found in the protected areas. However, their existence outside the protcetd areas may not be ruled out. The proposed projects will cover 35 districts and there will be several subprojects in different locations. Some of the protected areas are located in the project district also. However, subproject located in defined protected areas or in the known habitat of critical endangered species is ineligible for project funding. Subproject located in moderate risk areas such as buffer zones will require prior approval of competent authority, DoLIDAR and World Bank. During subproject preparation, screening of a subproject check this and for eligible subproject specific environmental management plan will be prepared which will incorporate mitigation measures relevant to the subproject).

| SN | Scientific Name | Local Name | Common Name | Status | |
|---|---|---|---|---|---|
| | | | | IUCN | CITES |
| Mammals | | | | | |
| 1 | Ailurus flugens | Habre | Red Panda | V | I |
| 2 | Antilope carvicapra | Krishnasar | Black Buck | V | III |
| 3 | Bos gaurus | Gauri Gai | Gaur Bison | V | I |
| 4 | Bos mutus | Yak /Nak | Wild Yak | E | I |
| 5 | Bubalus arnee | Arna | Wild Water Buffalo | E | III |
| 6 | Canis lupus | Bwanso | Grey Wolf | V | I |
| 7 | Caprolagus hispidus | Hispid Kharayo | Hispid Hare | E | I |
| 8 | Cervus duvaceli | Barasinghe | Swamp Deer | E | I |

| | | | | | |
|---|---|---|---|---|---|
| 9 | Elephus maximus | Jangali Hatti | Asiatic Elephant | E | I |
| 10 | Felis lynx | Pahan Biralo | Lynx | E | II |
| 11 | Hyaena hyaena | Hundar | Striped Hyena | E | |
| 12 | Macaca assamensis | Asamese Rato Bander | Asamese Monkey | | II |
| 13 | Manis pantadactyla | Salak | Indian pangolin | | II |
| 14 | Moschus chrysogaster | Kasturi | Himalayan Musk Deer | E | I |
| 15 | Ovis ammon | Nayan | Great Tibetan Sheep | | I |
| 16 | Panthera tigris | Bagh | Bengal Tiger | E | I |
| 17 | Panthera uncia | Hiun Chituwa | Snow Leopard | E | I |
| 18 | Pantholops hodgsoni | Chiru | Tibetan Antelope | | I |
| 19 | Pardofelis nebulosa | Dhwanshe Chitwa | Clouded Leopard | V | I |
| 20 | Platanista gangetica | Sauns | Gangetic Dolphin | V | I |
| 21 | Prionailurus bengalensis | Chari Bagh | Leopard Cat | | II |
| 22 | Prionodon pardicolor | Silu | Spotted Lingsang | | I |
| 23 | Rhinoceros unicornis | Gainda | Asian One-horned Rhinoceros | E | I |
| 24 | Sus salvinus | Sano/Pudke Bandel | Pigmy Hog | EX(?) | I |
| 25 | Tetracerus quadricornis | Chauka | Four-horned Antelope | V | III |
| 26 | Ursus arctos | Himali Rato Bhalu | Brown Bear | | I |
| Birds | | | | | |
| 27 | Buceros bicornis | RajDhanesh | Great Pied Hornbill | | I |
| 28 | Catreus wallichil | Cheer | Cheer Pheasent | E | I |

| | | | | | |
|---|---|---|---|---|---|
| 29 | Ciconia ciconia | Seto Saras | White Strock | | |
| 30 | Ciconia nigra | Kalo Saras | Black Strock | | II |
| 31 | Eupodotis bengalensis | Khar Majur | Bengal Florican | E | I |
| 32 | Grus grus (G. antigone) | Saras | Common Crane | | I |
| 33 | Lophophorus impejanus | Danfe | Impeyan Pheasant | | I |
| 34 | Sypheotides inidica | Sano Khar Mujur | Lessor Florican | E | II |
| 35 | Tragopan satyra | Munal | Crimsom-horned Pheasant | | III |
| Reptiles | | | | | |
| 36 | Gavialis gangeticus | Ghadial Gohi | Gharial Crocodile | E | I |
| 37 | Python molurus | Ajingar | Asiatic Rock Python | V | I |
| 38 | Varanus flavescens | Sun Gohoro | Golden Monitor Lizard | I | I |

CITES status categories:

I = Appendix I: Species threatened with extinction

II = Appendix II: Species not yet threatened, but which could become endangered if trade is not controlled.

III = Appendix III: Species that are protected by individual countries within their borders, and for which co-operation of other convention signatories is sought.

IUCN threatened categories:

E= Endangered

V= Vulnerable

R= Rare

I = Indeterminate

Annex 3: Environmental Screening Format

Instructions for Completing Screening Checklist

1. The environmental screening checklist is designed to capture and record relevant environmental information needed for environmental screening of a proposed subproject. It also provides early warning to subproject preparation team about potential environmental concerns, and provides opportunity to address them in time.
2. The screening team must be familiar with subproject's background through secondary information before walk through.
3. During walkthrough the team should held discussion or inquire with communities along the way. Note a more detailed environmental investigation will follow at the later stage. The method to be follow include; observation, inspection and inquiry with local people.
4. Use ball pen or pencil to fill the checklist. Do not use washable ink or that can mutilate.
5. Insert new page if the spaces provided is not sufficient.
6. The team must carry topographical map with them, mark important environmental features on the map and refer to appropriate section of the checklist. The map should be included as annex to the screening report.
7. The team should take photographs of areas with environmental implications, and attach in the report with caption.
8. The team should include summary of the screening findings, listing main environmental issues / concerns related to subproject.

A. PROJECT BRIEF

| | |
|---|---|
| Name of Road and its length, Route (name of VDCs, main settlements and other identifying features) | |
| Proposed Work / Activities, and Approximate Investment Required | |
| Implementation approach and institutions involved (labor-based, user groups, contractor – DDC/DTO, community) | |

B. ENVIRONMENTAL SETTING OF THE PROJECT LOCALITY

| B1. | Protected Areas and/or Forest | | | | |
|---|---|---|---|---|---|
| | Are there any Protected Areas or Forest along impact corridor ? (Tick) | | | Yes | No |
| | If yes, please provide following information | | | | |
| | Name of Forest / PA | Location in relation to road (Chainage, distance from road, direction) | Existing conditions (including size, species found, ownership type), problems and causes of problems: | | |
| | | | | | |
| | | | Potential problems from road works: | | |
| | Check if any forest clearance is required<br>Check possibility of impact on any protected or endangered species. | | | | |

| B2. | Landslides and Erosion Prone Areas | | | | |
|---|---|---|---|---|---|
| | Are there any Landslide and Erosion prone areas along impact corridor ? (Tick) | | | Yes | No |
| | If yes, please provide following information. | | | | |
| | Name of Forest | Location in relation to road (Chainage, distance from road, direction) | Existing conditions (including type, tentative size, relative stability), problems and causes of problems: | | |
| | | | Potential problems from road works: | | |

| B3. | Flood Prone / River Cutting / Low Lying Areas | | | | |
|---|---|---|---|---|---|
| | Are there any Flood Prone / River Cutting / Low Lying areas along impact corridor ? (Tick) | | | Yes | No |
| | If yes, please provide following information. | | | | |
| | Name of Place | Location in relation to road (chainage, distance from road, direction) | Existing conditions (including tentative area to be affected, risky areas), problems and causes of problems: | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | | | Potential problems from road works: | | |
| | | | | | |

| B4. | Water Sources / Water Bodies such as pond, lakes, springs etc. | | | | |
|---|---|---|---|---|---|
| | Are there any Water Sources / Water Bodies along road corridor ? (Tick) | | | Yes | No |
| | If yes, please provide following information. | | | | |
| | Name of Place | Location in relation to road (chainage, distance from road, direction) | Existing conditions (type, including purpose of use, number of users, areas served), problems and causes of problems: | | |
| | | | Potential problems from road works: | | |
| | | | | | |

| B5. | Historical / Religious / Cultural Sites such as temple, mosque, palace, etc. | | | | |
|---|---|---|---|---|---|
| | Are there any Historical / Religious / Cultural sites along impact corridor ? (Tick) | | | Yes | No |
| | If yes, please provide following information. | | | | |
| | Name of Site/Place | Location in relation to road (chainage, distance from road, direction) | Existing conditions, problems and causes of problems: | | |
| | | | Potential problem from road works: | | |
| | | | | | |

| B6. | Open Public Spaces | | | | |
|---|---|---|---|---|---|
| | Are there any Open Public Spaces along impact corridor ? (Tick) | | | Yes | No |
| | If yes, please provide following information. | | | | |
| | Name of Place | Location in relation to road (chainage, distance from road, direction) | Existing conditions (including type, tentative size, use), problems and causes of problems: | | |
| | | | Potential problem from road works: | | |
| | | | | | |

| B7. | Aesthetically Important Viewpoints | | | | |
|---|---|---|---|---|---|
| | Are there any Aesthetically Important Viewpoints along impact corridor ? (Tick) | | | Yes | No |
| | If yes, please provide following information. | | | | |
| | Name of Place | Location in relation to road (distance from road, direction) | Existing conditions, problems and causes of problems: | | |
| | | | | | |
| | | | Potential problem from road works: | | |
| | | | | | |

| B8. | Relocation of Community Infrastructures (Irrigation canal, water supply, foot trails, trails bridges, chautara, electricity poles, telephone poles etc.) | | | | |
|---|---|---|---|---|---|
| | Are there any Community Infrastructures to be relocated along impact corridor ? (Tick) | | | Yes | No |
| | If yes, please provide following information. | | | | |
| | Name of Community Infrastructure | Location in relation to road (distance from road, direction) | Existing conditions, problems and causes of problems: | | |
| | | | | | |
| | | | Potential problem from road works: | | |
| | | | | | |

| B8. | Main Settlement and Trade Centre: Bazaar areas, major settlements, settlement of special groups. | | |
|---|---|---|---|
| | Name of Settlement and Trade Centre, Location in relation to road | Description (approximate no. of HH and population, nature and special feature / importance / significance) | Potential problems to these settlements due to proposed road works. |
| | | | |

| B9. | Area or site of Significant Development Potential (tourism potential sites, deposits of construction materials, highly fertile land, horticulture etc.) | |
|---|---|---|
| | Place | Potential benefit or problem from proposed road works |
| | | |

| B10. | Induced Impacts (Road site settlements, encroachment of forest / marginal lands / common property, quarrying, health impact, change in agricultural practices, girl trafficking etc.) | |
|---|---|---|
| | Place | Induced Impacts |
| | | |

Prepare and attach Environmental map or strip map along the road alignment showing existing features (land use – forest, agriculture, grass land etc.; water bodies, rivers, land slide zone, proposed tipping and quarry sites; social infrastructures – irrigation canal, taps, other water sources; protected areas; etc) and environmentally risky areas (possible sliding areas, forest that needs tree cutting, water bodies that could be damaged, river cutting, and all other possible risky features are areas).

Summary of Screening Findings and Recommendations

| Findings | Recommendations |
|---|---|
| | |
| | |
| | |

Annex 4: Sample Site-Specific Environmental Management Plan (EMP) Format

1. Introduction

Makawanpur District is situated in Narayani Zone and is bounded by Bagmati river in east and Lothar river in west. The district is bounded in west by Chitwan district; in north by Dhading and Kathmandu districts; in east by Kathmandu, Lalitpur, Kavre, and Sindhuli district; and in south by Bara, Parsa and Rautahat Districts.

The Daman-Dandabas road lies in northern part of Makawanpur District. The road is 11.22 Km long starting at Nagdaha, Sikharakot of Daman VDC (Ward no. 4) and ends at Kalikhola of Gogane VDC. This road links northern part of Mawawanpur district with Tribhuvan Highway at Nagdaha, Daman VDC. The road passes through Daman VDC, Gogane VDC and ends at Dandabas Bazaar of Agra VDC. The existing road width varies from 3 to 4 with average width of 3.5 m. The road is earthen and poorly graveled. The main settlements from which the road passes through are Dobato, Shikharkot, Gopali gaun, Dada gaun, Baghe Khola, Chauki Bhanjyang, Lamachaur, Aaldanda, Damki and Dandabas. The road mainly passes through hilly terrain having sub-tropical to cool temperate climate.

Objectives

Though the track already exists some environmental problems are observed. This EMP has been prepared to address the site-specific environmental problem arising from construction of the road.

2. Project Information

1.56 Km of the total road section is blacktopped. So, remaining 9.66 Km is proposed for consideration under SNRTP. This road belongs to Class-A, District Road standard. This road improvement work includes widening of the road, road slope and hill slope grading, embankment construction (1.5 m high), drainage and slope protection measures, gravelling, compaction, otta seal over sub-base course with road width 4.5 m excluding drain. Other road associated activities includes quarrying of river bed material from Risheshwor River, disposal of excess earth material, tree cutting in the area needing widening, etc. The total cost of the road is NRs. 33,620,134.09 (excluding VAT). The estimated total Environmental Management Plan (EMP) cost is NRs. 155,153.30.

The impact includes scouring, soil slip, relocation of drinking water tap, landslide, erosion, trees loss, water logging, and gully advancement. To mitigate these impacts bioengineering measures, water management, gully protection, toe protection measures and re-plantation of lost trees and cross drainage structure have been proposed.

2.1 EMP Salient Features:

- Total EMP Cost: NRs. 378657.25
- Bioengineering: Gabion Wall (1320 $m^3$), Grassing (320 $m^2$)

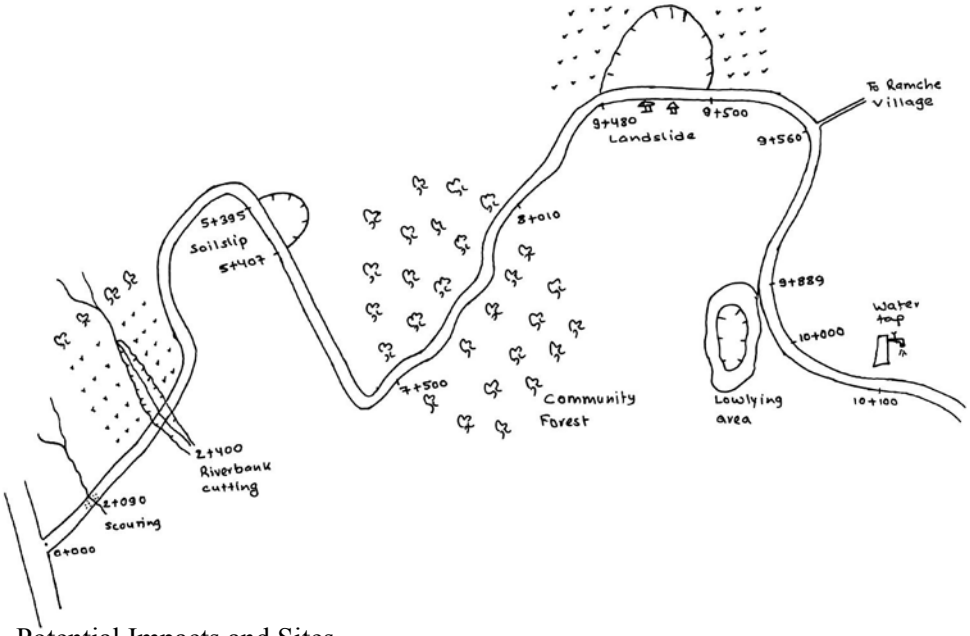
- Service Maintenance: 3.75 $m^3$ stone soling
- Hume pipe: 1 (7 m)
- Drinking water tap and pipeline relocation
- Compensatory Re-plantation: 625 trees

2.2 Existing Condition along the alignment

The land use pattern along the road includes barren land, agriculture, settlement and forest. There is no any protected area located within 1.5 Km of the subproject corridor. The road passes through three-community forest area (Bageshwor CF, Daman-3; Rikheshwor CF, Daman-2; Bhairab Kali CF, Daman-2).

| Chainage/ location | Description of Features observed | |
|---|---|---|
| | Right side | Left side |
| 1+500, Nagdaha | Drinking water-tank | Cultivated land |
| 2+400, Daman-1 | Risheshwor / Khaire Stream | |
| 3+340, Danda Gaun | Cultivated Land | Temple |
| 4+450, Bahun Gaun | Cultivated land | Scouring to the road edge due to flow natural surface water in high velocity |
| 5+395, Tallogaun | Soil slip | Fruits farm |
| 7+450 to 8+600 | Community Forestry | Community Forestry |
| 8+600 to 9+000 | Private forest | Cultivated land |
| 9+ 480 – 9+500 | Land slide | A house |
| 9+560 | Access trail to Ramche Gaun | Private Forest |
| 10+100 | Water Tap | Cultivated Land |
| 10+740 | Dry stone causeway on the road | Private forest |

2.3 Road Strip Map Showing Risky Areas




3. Potential Impacts and Sites

i. Scouring [2+090, Bahun Gaun]: A small rivulet comes from left side of road, crosses the road and flows down hill. The width of the channel is about 2 m only but is steep. The existing road section has been damaged due to scouring activity of the rivulet. There is no drain facility so water flows over the road, crosses it and flows down hill. Widening of road has to cut the slope that will create vertical drop. Increased velocity of water due to vertical drop will increase scouring and formation of gully. This may also induce slide on downhill side of the road, affecting stability of the road and dumping debris in agricultural land down hill. Line drain of 50 m length will be provided to safely collect water up to the point of drainage outfall.

ii. River Crossing [2+400]: Risheshwor / Khaire river crosses the road. The river is epimeral in type and has high flow during monsoon season. The river channel is narrow and has adequate vegetation in upper part of hill but above about 50 m the land use/land cover changes from forestland to agricultural land, where there are no vegetation along the bank. So, the river width increases to 12 m. There also sign of bank cutting by the river on both sides of river. The bank cutting has affected the agricultural land. There is no cross drainage structure. The cross drainage structure has been proposed in technical part. Expansion of river channel could damage more land, shift its current and make the proposed cross drainage structure useless. So, there is a need to protect the bank as well. Though this is not the effect of the project activities, this problem will be addressed as a enhancement measure. As the

foundation is soft gabion wall has been proposed to reduce bank cutting in short time. Tree plantation has also been proposed to stabilize the riverbank in long run. This protection will be provided on both side of the bank and both sides of road up to 50 m.

iii. Soil Slip [5+395 to 5+407, Tallo gaun]: On the right side of the road there is area of high seepage. The depth of soil is also shallow, which has caused soil slip. The crown height of the slip is about 1.5 m from slip surface. The width is about 8 m and height is about 12 m. The slip material is silty in nature so, there is possibility of secondary slip in the area during widening, which may damage the road and fruit farm on the other side of the road. As the protective measure the slope of the hill has to be reduced to avoid possible danger of landslide in future, provide toe wall to support the toe and plantation in upper part of slope to provide anchoring and grassing for armoring.

iv. Forest [7+500 to 8+010, Tallo gaun]: The road passes through Bangaphanta Community forest. The total area of the community forest is 546 ha. Many wild animals and plants are found in the area. Some important mammals include clouded leopard, barking deer, jackals, jungle cats, ghoral etc. The district considers this community forestry as an important forest supporting biodiversity. The road width is also narrow (3.5 m) in this section of the road. Widening of the road requires cutting of 15 trees of Chilaune (>10 cm dBh) and 10 trees of Uttis (>10 cm dBh). Discussion with users identified following options: (a) maintaining road width of 3.5 m in this section of road, (b) widening the road and cutting trees. Of the two possibilities the locals seems willing to sacrifice the trees and widening the road up to 5 m. But for protection of the forest they have demanded support for fencing of the forest along the roadside, they have also signed MoU with the project. According to the MoU the project will plant trees at a ratio of 1:25 for every tree cut. No proper area for compensatory re-plantation is found, so it is agreed that plantation will be done along the roadside where there are no trees between chainage 2+000 to 4+270. Plantation cost will be borne by DDC and maintained for one year.

v. Landslide [9+480 to 9+500]: There is a landslide about 20 m wide near road surface and 15 m long on left side of the road. The slip surface is located above the road surface. The road is covered by debris brought by the landslide. The area is very sparsely vegetated, and annual precipitation in this area is also high. Due to high precipitation, it is highly likely that the landslide will be reactivated. There is a feeling of risk among the locals as this slide swept one house last year, although, no life was lost. This also blocked traffic for one week. There are three houses on the other side of the road. Locals have demanded some measures to be taken at this site of the road. For the stabilization of landslide toe wall (gabion) 4 m high and 20 m long (320 $m^3$) has been proposed. As the moisture content in this area is high grass plantation will be done vertically constructing alternating ditch in 300 $m^2$ area with the view to promote efficient drainage. Masonry line drain will also be provided and discharged in natural drain 30 m away.

vi. Foot trail [9+560, Ramche Dobato]: An access trail to Ramche Gaun starts from this

point of the road. The village is about 15 minutes walk from the road and there are about 35 households. Everyday about 25 people use this foot trail. The road width is also narrow at this place that increases chances of accidents. The discussion with locals has suggested that the road be widened and opening of access trail also be made wide. The foot trail will be leveled and stone soling will be done up to 15 m from roadside.

vii. Low lying area [9+880 to 10+000, Sitapur]: The altitude of the area is comparatively low in this road and there is only one natural drain. This drain has helped drain out the water of this area. Construction of embankment will led to impoundment of water in the right side of the road. There are about 10 HH on the right side that are at the risk of water impoundment. This could lead to problem in movement, increased possibility of water borne diseases etc. Extra cross drainage structure is required to drain the water out of this area. A hume pipe has been proposed. The embankment height will be 0.5 m lower in this area.

viii. Drinking watertap [10+100, Dadagaun] and Pipe line [10+100 to 10+500]: The tap is improved local source and never dries. It provides service for 15 households and maintained by tap user groups. Road widening requires demolition of the tap. There is no option to widen road on the other side because there is another house adjoining the road. Discussion with the users put forward following options; (a) project will shift the tap by 10 m before starting widening activity. The new location is owned by one of the users, who is willing to permit the tap is the proposed location;

(b) provide the cost required for shifting the tap to the users and they will shift the tap by themselves before widening. Of these two options 1st option is agreed by all. The landowner also signed the agreement to provide land voluntarily during the group meeting.

The pipeline is also along roadside and needs relocation. The locals have agreed to contribute voluntarily to shift pipeline but they have demanded additional 20 m of pipeline needed to shift the tap.

ix. Electricity poles [9+580]: An electricity pole is located 2.5 m from centerline. The pole has two-phase line and provides electricity to about 35 HH in Ramche VDC. If the road width is maintained as per the standard the pole has to be relocated. In meeting with locals, they said that if the pole is not relocated during this project, no one will think after it. So, they have demand that the pole be relocated and road width be maintained. As relocating pole requires help and permission from electricity authority, locals agreed to submit request letter to electricity authority demanding relocation of the pole. LRUC has agreed to take initiation in this matter. The minute of meeting is attached in Annex. As, this comes under jurisdiction of electricity authority no extra cost is needed for this.

x. Widening in settlement areas: Among three major settlements along this road, Samser Tole has narrow width. The issue of damage during widening has been addressed in Social Management Plan (SMP) but locals have complained about dust problem in

bazaar areas. Discussion with locals proposed three options; (i) installing traffic signal and encouraging drivers to reduce speed in bazaar area, (ii) regular watering in bazaar area, and (iii) sealing in bazaar areas. From discussion with locals and DDC officials the first and second option together have been recommended. Two traffic signals will be installed on starting and ending point of bazaar in Samser Tole, Bahun Gaun and Talo Gaun. LRUC have agreed to allocate the job of watering once during morning and once during late afternoon on rotation basis. This will be done voluntarily.

xi. View Point [6+000]: Road passes close to popular viewpoint named Ramailo Danda. The road width is narrow and widening will damage the access trail to view point and also expose cut slopes making it aesthetically unpleasing. The foot trail to view point about 15 m will be improved by stone pitching. The exposed cut slope of 250$m^2$ will be covered by grassing.

3.1 Cost estimate of EMP mitigation measures

| S.N. | Item | Quantity | Rate (NRs) | Amount | BoQ no |
|---|---|---|---|---|---|
| 1. | Stone masonry line drain | 5 $m^3$ | 1233/$m^3$ | 6165 | 7.1 |
| 2. | River Bank Protection | | | | |
| | 2.1 Gabion box | 1000 $m^3$ | 250/$m^3$ | 250000 | 8.1 |
| | 2.1 Tree plantation | 200 nos | 5/ individual | 1000 | 12.1 |
| 3. | Landslide protection | | | | |
| | 3.1 Stone masonry toe wall | 4 $m^3$ | 950/$m^3$ | 3800 | 5 |
| | 3.2 Gabion wall | 320 $m^3$ | 250/$m^3$ | 80000 | 8 |
| | 3.3 Grassing | 320 $m^2$ | 50 / $m^2$ | 16000 | 12 |
| 4. | Forest Protection | | | | |
| | 4.1 Compensatory re-plantation | 625 seedlings | 5/seedling | 3125 | 12 |
| | 4.2 Maintenance* | 1 day per week for 52 weeks = 52 days | 160 / day | 8320 | Com. |
| 5. | Maintenance of foot trail | | | | |
| | 5.1 Dry stone soling | 3.75 $m^3$ | 975 | 3656.25 | 1 |
| 6. | Drainage Improvement | | | | |
| | 6.1 600 mm Hume pipe | 7 m | 713 / m | 4991 | 6 |
| 7. | Tap and pipe relocation | | | | |
| | 7.1 Stone masonry | 2 $m^3$ | 800/$m^3$ | 1600 | 1 |
| | 7.2 Pipe 1” GI | 20 m | 150/m | 3000 | 1 |

*Note = done by community

3.2 Site Specific EMP Matrix

| Chainage | Location | Issues/Significance | Likely Potential Impact | Suggested Mitigation Measures | BoQ/ Cost | Time of action | Respon-sibility | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1+500 | Nagdaha | No | No | No | | No | No | Starting point |
| 2+090 | Bahun Gaun | Scouring: Water from rivulet crosses the road and scours. | Induce land slides/ erosion and Gully formation | Masonry line drain approx. 50 m length | 7.1 | During construction | DTO/CLE | |
| 2+400 | | River Crossing: Risheshwor / Khaire river crosses the road and has started bank cutting. | Wash away road and cultivated land. | Gabion wall and tree plantation on both sides of road. | 8.1, 12.1 | During construction | DTO/CLE | |
| 5+395 to 5+407 | Tallogaun | Soil slip: Towards the right side there is area of seepage and the area has been newly filled which has caused soil to slip about 3 m height and 2 m wide. | Risk of land slide, there by damaging the road and fruit farm | Slop maintenance while earth cutting, bio-engineering works (use of plants that provide anchoring and armoring), provide toe wall | 12.1 | During construction | DTO/CLE | |
| 7+500 to 8+010 | Do | Forest: The road is narrow. There is community forestry on both sides of road. | 25 trees needs to be cut. | Permission from CFUG is taken, Tree re-plantation at a rate of 1:25 along road side between 2+000 to 4+270 | 12.1 | During construction | VRCC/ LRUC/ CLE | |
| 9+480 to 9+500 | | Land Slide: A landslide 15 m high and 20 m wide is | Re-occurrence of landslide will damage the | Gabion wall 4 m high and 20 m long for toe protection, grassing | 8.1, 12.2 | During construction | | |

| Chainage | Location | Issues/Significance | Likely Potential Impact | Suggested Mitigation Measures | BoQ/ Cost | Time of action | Respon-sibility | Remarks |
|---|---|---|---|---|---|---|---|---|
| 9+560 | Ramche | Access Trail: There | other side Difficulty in | Improvement of access foot | 1 | During | | |
| | Dobato | is an access trail to Ramche gaun. | movement. | trail by stone pitching for 15 m (3 $m^3$) and leveling. | | construction | | |
| 9+880 to 10+ 000 | Sitapur | Low lying area: The area is low lying that could lead to inundation | Risk to damage the road, blockage of side drain | Hume pipe installation, embankment height 0.5 m lower in this section | 13.6 | During construction | DTO/ CLE | |
| 10+100 | Dadagaun | Drinking Water Tap and Pipeline: Water tap with 1 inch GI pipe is installed within 2 m from centre line. 25 HH use this tap for drinking and household water. | Damage to the pipe will interrupt water supply for 25 HH | Tap will be relocated 20 m towards the road end, where there is a small parcel of barren land. | 1.1 | | | Consent of locals to relocate tap has been collected. (See Annex) Water Users committee will be informed in advance during relocation. |

Other environmental Safeguards:

Besides the impacts identified above following safeguards have been proposed to make the subproject environmentally responsible.

i. Tipping Site: For disposal of excessive wastes following Chainage are identified: Ch. 1+700, 8+500, 6+058. Permission from Project Manager is necessary before using tipping sites. Quantity of earthwork excavation will be paid to contractor by measuring the quantity dumped in tipping site. Contractor will follow contractor's clause 65.1 and Table 3.2 of ESMF while selecting tipping site.

ii. Borrow Pits: Contractor shall reclaim borrow pits. Contractor, in no cases shall construct borrow pits in settlement areas and other sensitive areas as mentioned in ESMF table 3.2. Contractors shall not construct borrow pits in 9+880 to 10+000 as these are low-lying areas. Contractor shall follow contractors' clause 66.1 of bid document and Table 3.2 of ESMF while extracting material from borrow pits. Consultation was done with locals for providing soil for embankment. Two local peoples are ready to provide their land (10 Kattha) for extraction of soil (Ch. 1+700 and 8+090), but they have demanded that the extraction should be done in such way that the pit should be useful to be used as pond for fisheries. The agreements of minute are attached in Annex. In other places locals were told that soil would be stripped from agricultural land for depth of 30 cm, after removing 15 m topsoil. This topsoil will again be spread in agricultural land and leveled. Locals have agreed to provide their land for soil extraction during fallow period. The minute of meeting is attached in Annex.

iii. Quarry Sites: The possible quarry sites are Bhut Khola and Thulo Khahare. Both of the places are contracted by DDC for quarrying of riverbed material. IEE for both of these places have also been prepared. If contractor wants to use other sites he/she shall secure government permit and other relevant environmental requirements for operation of quarry site with recommendation from project engineer. During extraction of material contractor will follow ESMF provisions mentioned in paragraph 3.15.

iv. Labor Camp: The possible area suitable for labor camps are 1+010, 3+330, 6+000, and 10+050. Contractors shall restrict labors' use of forest products, hunting and poaching. He shall provide at his own cost all lights, guards, fencing, warning signs, and watching when necessary. Contractors shall follow contractors' clause no 66.1 and ESMF provisions mentioned in paragraph 3.47.

5. ANNEXES

- Table: Details of EMP (Matrix of Structures for EMP)
- Table: Detail Quantity Calculation for EMP
- Bioengineering Site Plan
- Compensatory Re-plantation plan
- List of team members (With Signatures)
- Photographs

## Annex 5 Guidelines For Quarry Areas Management

**Selection of Quarry sites:**

1. Quarry site should be located away from the villages/settlement area, drinking water supply sources, community infrastructure such as school, health post, bridge, etc., religious sites, cultivated land, protected forests, natural drainage systems.
2. Quarry will not be located at wildlife conservation area.
3. River gravel will not be extracted from flowing water due the disturbance of raising sediment and danger of resulting oil/fuel leaks.
4. Quarry sites should be selected in stable area, in agriculturally unsuitable land
5. Local communities will be consulted and take approval from respective owner before selecting the place for quarry operation

**Potential Environmental Impacts**

- Disruption of natural landscape and vegetation,
- Accelerated erosion and landslides,
- Disturbance in natural drainage patterns / Siltation due to surface water,
- Water pollution and dust pollution.
- Scouring of riverbeds resulting endangerment of bridges and continuous degradation of river regime and detrimental effects on aquatic lives and their habitats

**Quarry Operation**

- Working should be prohibited during the night time
- Barricade to site to control free movement of local people

**Contract Obligation**:

- Contractor will secure government permit and other relevant environmental requirements for operation of quarry site with recommendation from project engineer.

**Quarry management & Restoration Plan**

1. The plan must contain site restoration measures such as spoil management, slope stabilization/erosion control measures, drainage pattern management, etc.
2. Suitability of proposed mitigation measures is needed to be verified and conformed.

3. Provision of drainage system during operation to ensure no risk of depositions of debris from quarry to lower catchments area and to prevent the flooding of excavated area..
4. The plan should mention use of safety gears during working hours in the quarry site, and appropriate means of safeguarding for passer-by and nearby households.
5. The plan should include suitable bioengineering techniques where appropriate with reapplication of stored top soil.

**Acceptance of Restoration Work:**

- The Supervision Consultant should verify and recommend for approval the restoration plan submitted by contractor.
- The Supervision Consultant will make sure that quarries are operated and closed according to the submitted plan.
- The payment of each works structure should only be made after filling of the data by the Contractor for quarry management and restoration plan and acceptance by the Supervision Consultant.
- Final payment will be dependent on verification and approval by SC at the end construction of each respective structure.

**Parameters and indicators for supervision/Monitoring:**

- Implementation of mitigation measures as per design plan;
- No evidence of water ponding or presence of fresh gullies;
- Proper site closure;
- Natural contours and vegetation restoration;
- Engineer's report testifying to completion of restoration work.

**ANNEX 6 Datasheet for Quarry Management and Restoration Plan**

**1.** Name of Subproject: .....

Contract No:.....

Locations of Civil Works:.....

Required Type of Material from Local Sources: Stone / Gravel / Sand / Soil.

Required quantity of material from local quarry (in cum): .....

**2.** Selection of Quarry Sites:

Parameter for quarry site selection: (e.g. unsuitable land for cultivation, stable slope, minimum environmental hazard etc.).....

Sources of Material: Within RoW / Private land / Public land / Forest (community/ private/government)/Surplus material extracted / River / Borrow pit / Roadway.....

Available quantity in Selected Source (in cum): .....

**3.** Approval for Quarry site: GON Organizations/ Private Party/ Community / Land Owner (Attach agreement herewith).....

**4.** Method of extraction and transportation: Depth of cut / Height of cut / and Tractor / Tipper / manually or any means.....

**5.** Precaution measures during excavation:.....

**6.** Likely negative environmental impacts:.....

**7.** Restoration Plan

- Trimming of slope /
- Filling of quarry /
- Need of check wall / Toe wall / Plantation / Benching etc.

**8.** Any special safety arrangement required:

**9.** Mitigation measures for negative environmental impacts:

**10.** Verification of Restoration Work as Planned by the Supervision Consultant Engineer/ES:

**11.** Design & Drawings of Quarry plan:

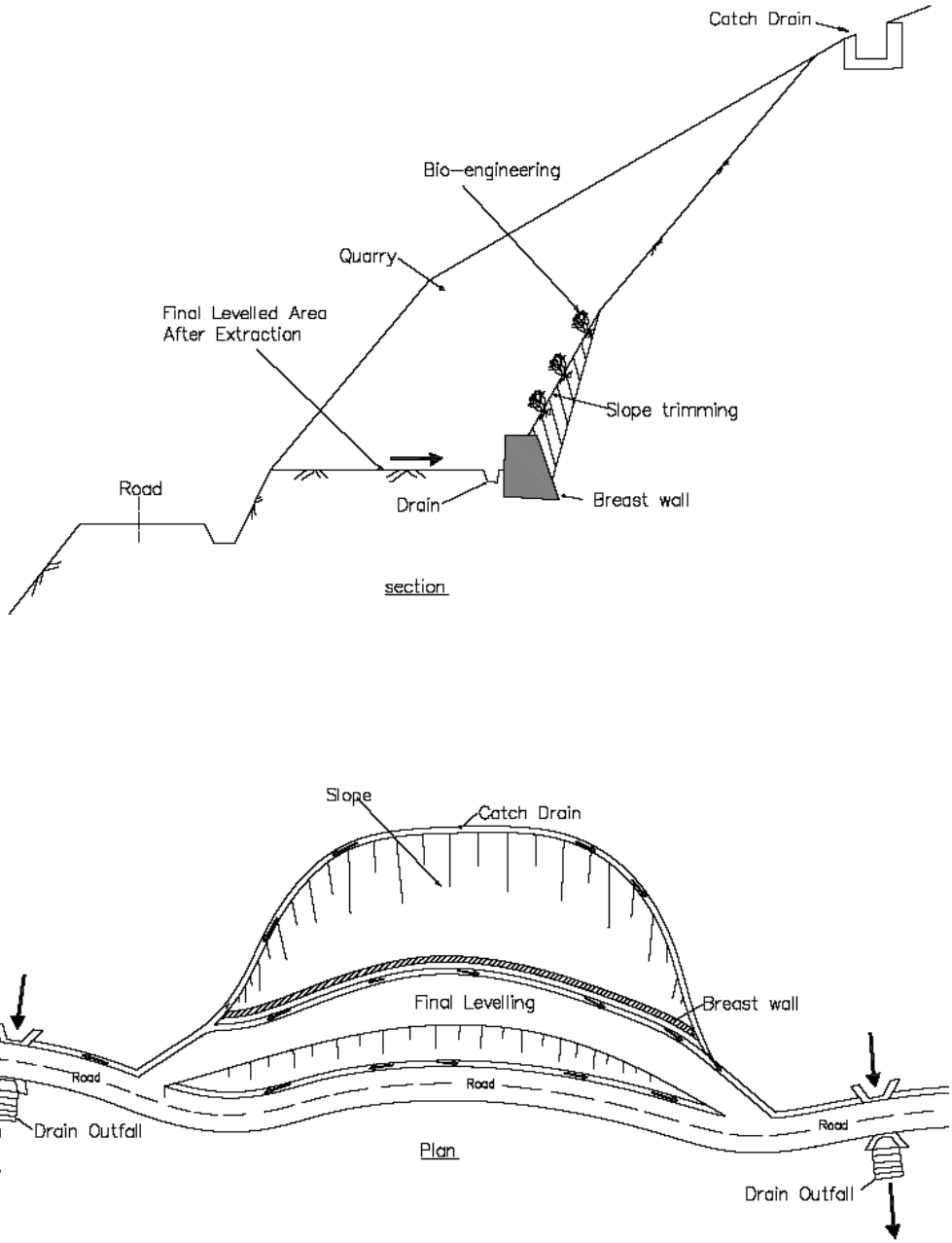
X-section @ of 5-10m intervals (where appropriate)

Quantity estimation sheets

Restoration design on X-section and plan

Submitted by: Checked by: Approved by:

Note: The payment of each structure will be made only after filling of the data by the contractor for Quarry Management and Restoration Plan. Final payment will be dependent on verification and approval by SC at the end construction of each respective structure.




**Site Plan & Section of Quarry Management**

**ANNEX 7: Guidelines for Burrow Pit Management**

**Selection Criteria of Borrow Pit Sites:**

1. Pits shall not be located in natural and design drainage areas /water bodies
2. Pit should be avoided in land close to embankment (i.e. should be more than 1.5 m) and irrigated agricultural land.
3. In case of agricultural land depth of pit shall not exceed 45 cm.
4. In case of riverside, pit should be located at more than 15 m from toe of bank
5. Avoid borrow pit in grazing land, land within 0.8 km of settlement , protected areas, forests, unstable site-hills, wetlands, stream and seepage areas, areas supporting rare plant/animal species
6. The clearing of trees and other vegetation shall be discourage

**Potential Environmental Impact**

- Disruption of natural landscape and vegetation
- Disturbance to natural drainage resulting ponding, water logging and water pollution.

**Borrow Pit Operation / Restoration**

7. In Terai borrow pit areas shall be restored with adequate slope and cross drain at regular interval to facilitate drainage.
8. Stripped material shall be stored so as to not disrupt natural drainage
9. The ponding of surface water shall be prevented through adequate drainage.
10. Site shall be left in a stable condition without steep slopes.
11. Exposed area shall be planted with suitable vegetation

**Design & Estimate of Borrow Pit**

- Using site selection and restoration criteria and the consultant shall specify borrow pit location in drawing (plan) and specification.
- In case of additional pits required during construction the contractor shall use the site selection and restoration criteria to select new pits with approval of the Engineer.
- The cost of compliance with above requirement shall be included in Contractor's rate for supplying of materials.
- The cost of mitigation measures and restoration plan will be prepared separately under EMP item.

**Parameters and indicators for supervision/Monitoring:**

- The Engineer shall ensure that the bowwow pits are operated and closed according to design.
- Implementation of erosion control work - no evidence of water ponding, no increased visual turbidity in surface water
- Natural contoured and vegetation are restored.
- Engineer's report on compliance of restoration work.

## ANNEX 8 Guidelines for Spoil Mass Management

### Selection of tipping sites:

1. Possible tipping site should be identified right from feasibility study / walkover survey phase and should be selected with details during detailed engineering / preparation of EMP
2. Following consideration will be made while selecting tipping sites:
    a. Nearby barren land within RoW with flat/rolling terrain slope.
    b. Can be used in making passing nays, extra widened sections etc
    c. For reclamation of public private/land
    d. In building other community infrastructures like play ground of school etc
    e. If appropriate site is not found nearby spoil mass can be use for overlay over the existing road surface
3. Site should not be weak, fragile and unstable area susceptible to erosion and landslides and that will collapse by surcharge mass. Avoid wetland or other prohibited areas.
4. This would not cause disturbance in natural drainage patterns, damage public property and infrastructures.

### Potential Environmental Impact

- Damage of vegetative cover with scouring of valley slope resulting in landslide and removal of vegetation and top soil causing slope instability.
- Damage of private property, land, public infrastructures
- Disruption of natural drainage system and water pollution.

### Design & Estimate of tipping site

5. Tipping site should be located and shown in road plan inclusive of retaining and other protection structures.
6. There should be a column for calculation of surplus mass from excavation in Earthwork Calculation Sheet (see table below).
7. The quantities & haulage distance of spoil mass will be incorporated in detail quantity/cost estimate and BoQ of works with detailing of means of transportation.
8. If any changes/revision needed contractor will identify and submit the detail of tipping site for approval by Project Manager.
9. Mitigation measures should be design & estimated for possible impact against disturbance to natural drainage system and other likely instability

### Construction & Operation of tipping site:

10. Stones extracted during excavation should not be thrown away, but need to be stacked along not disturbing the road for future use.
11. Landfill is constructed using a series of small spoil benches to prevent slope overloading. Earth mass should be dumped and stacked in design slope of filling mass.
12. The dumped spoil mass will be protected using toe/check walls and exposed areas will be strengthened with application of bioengineering over it.
13. Disposal area should be leveled & compacted after disposal.

**Parameters and indicators for supervision/Monitoring:**

- stability of spoil area – no presence of slides, scouring, erosion, or destruction of public utilities and infrastructures
- Vegetative cover is maintained – survival rate of plant.

**Table: Earthwork Quantity calculation Sheet**

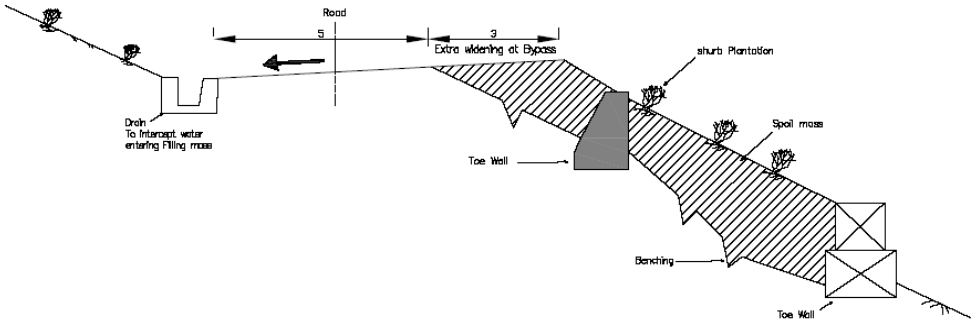
| S.No. | Chainage | Distance | X-sectional Area (m2) | | Mean Area (m2) | | Earthwork Volume (m3) | | Surplus Mass (m3) | Qty need to nearby fill areas | | Spoil mass | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | km | m | Cut | Fill | Cut | Fill | Cut | Fill | ('8-9) | Qty (m3) | Haulage distance (m) | Qty (m3) (10-11) | Haulage distance (m) |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

## ANNEX 9 Spoil Disposal Plan

**District:**
**Name of road:**
**Chainage:**
**Total quantity of spoil generated that to be disposed**

| Spoil Source | | | Identified Tipping Site | | | | Management measures | Remarks |
|---|---|---|---|---|---|---|---|---|
| Section (km) | | Quantity* | Chainage | Land use | Area | Haulage Distance from spoil Source | | |
| From | To | (m3) | (km) | | (m2) | (Km) | | |
| Fill this from earthwork calculation sheet | | | | Barren land. / gulley/ reclamation of bari etc | | | Describe about drainage management, provision of toe/check wall / bioengineering measures etc | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

*The Quantity and haulage distance of spoil soil to be disposed goes to as an item of Cost estimate/BoQ of civil works.




**Spoil Management Plan**

**ANNEX 10 Guideline for Water management**

**Potential Environmental Impact**

- Overloading of natural drain channels due to accumulation of surplus surface runoff.
- erosion, formation of new gullies, slope instability and sedimentation of surface water
- Destruction of vegetation, agricultural land, forest and other public infrastructures and utilities

**Selection of Drainage Works Safe Discharge Point**

- Once we disrupted the natural drainage pattern, there may be need management of surface and slope water with provision of rip-rap drain, catch drain and other means safely to natural water course.
- As far as possible natural drainage channel and gullies should be used for discharge of road surface & drain water
- If there is need of discharge accumulated surface water to other place, intensive consultation with local people should be done for location of drainage outfall.
- If it is paddy field areas adequate irrigation crossing points should be identified in consultation with local farmers

**Design & Estimate**

- Inlet and outlet of cross drainages/culverts should be design with adequate protective measures so as to prevent the uphill and downhill sides from possible scouring, gulling, water logging, flooding, erosion and other damages.
- Hydraulic energy of drain water and Kholsi's shall be reduced through outlet cascades, chutes, check dams etc before discharging in to natural water course.
- Cascades and series of check dams are constructed along and across the steep Kholsi's, streams to dissipate the water velocity and prevent from further deepening and side erosion.
- Irrigation crossings need to be designed with adequate protection of inlet and outlet.
- Considering the above criteria the consultant shall prepare design, drawings and cost estimate of water management works.

**Parameters and Indicators of Supervision & monitoring**

- The engineer shall ensure that water management works are constructed according to design & specification.
- Effectiveness of water management = no evidence of fresh surface erosion or presence of new gullies on valley side / no evidence of loss of agriculture land and forests, no slope failure on road corridor.

## ANNEX 11 Bioengineering Works

| **I. Guideline for Site Assessment** | | | |
|---|---|---|---|
| **Parameters** | | **Category** | |
| **1. Measure average slope angle of slope segment** | | Less than $30^o$ | |
| | | In between $30^o$ to $45^o$ | |
| | | $>45^o$ | |
| **2. Measure slope length of slope segment** | | <15 meters | |
| | | >15 meters | |
| **3. Define material Drainage Property of slope soil and categorize them in to "Good" or "Poor" using following characteristics ↓** | | **Good Drainage↓** | **Poor Drainage↓** |
| | Overall drainage | Freely draining material; dries quickly after rain storms | Slowly draining material; tends to remain wet for long periods after rain; behaves like dahi |
| | Soil particle size | Coarse textures; loams and sandy soils | Fine textures; clays and silts |
| | Porosity | Large inter-connecting pores | Small pores |
| | Material types | Stony colluvial debris; fragmented rock; sandy and gravelly river deposits | Residual soils of fine texture; debris from mud flows, slumps, *etc*; rato mato |
| | Slope types | Fill slopes; cut slopes in stony debris (colluvium) | Cut slopes in original consolidated ground |

| | | |
|---|---|---|
| 4. **Define segment moisture and categorize in to one of 4 classes ↓** | | |
| | Wet | permanently damp sites (e.g. northFacing gully sites). |
| | Moist | sites that are reasonably well shaded or moist for some other reason |
| | Dry | generally dry sites |
| | Very Dry | Sites that are very dry; these are usually quite hot as well (*e.g.* south-facing cut slopes at low altitudes). |
| 5. **Altitude** | | |
| | | Determine site altitude in: ± 100 metres. Use an altimeter, map or site drawing |
| 6. **Land management practices** | | • excessive grazing;<br>• excessive cutting of trees, shrubs or grasses;<br>• cultivation in marginal areas<br>• leakage of water from Kulo channels |
| **7. Existing Vegetation Types** | | • Dominant & associated tree species<br>• Dominant & associated shrub species<br>• Dominant & associated grass species |
| **8. Plan or front elevation / section of slope** | | Show the slope in relation to road with length, breadth and other features |

**II. Choice of Bioengineering Techniques**

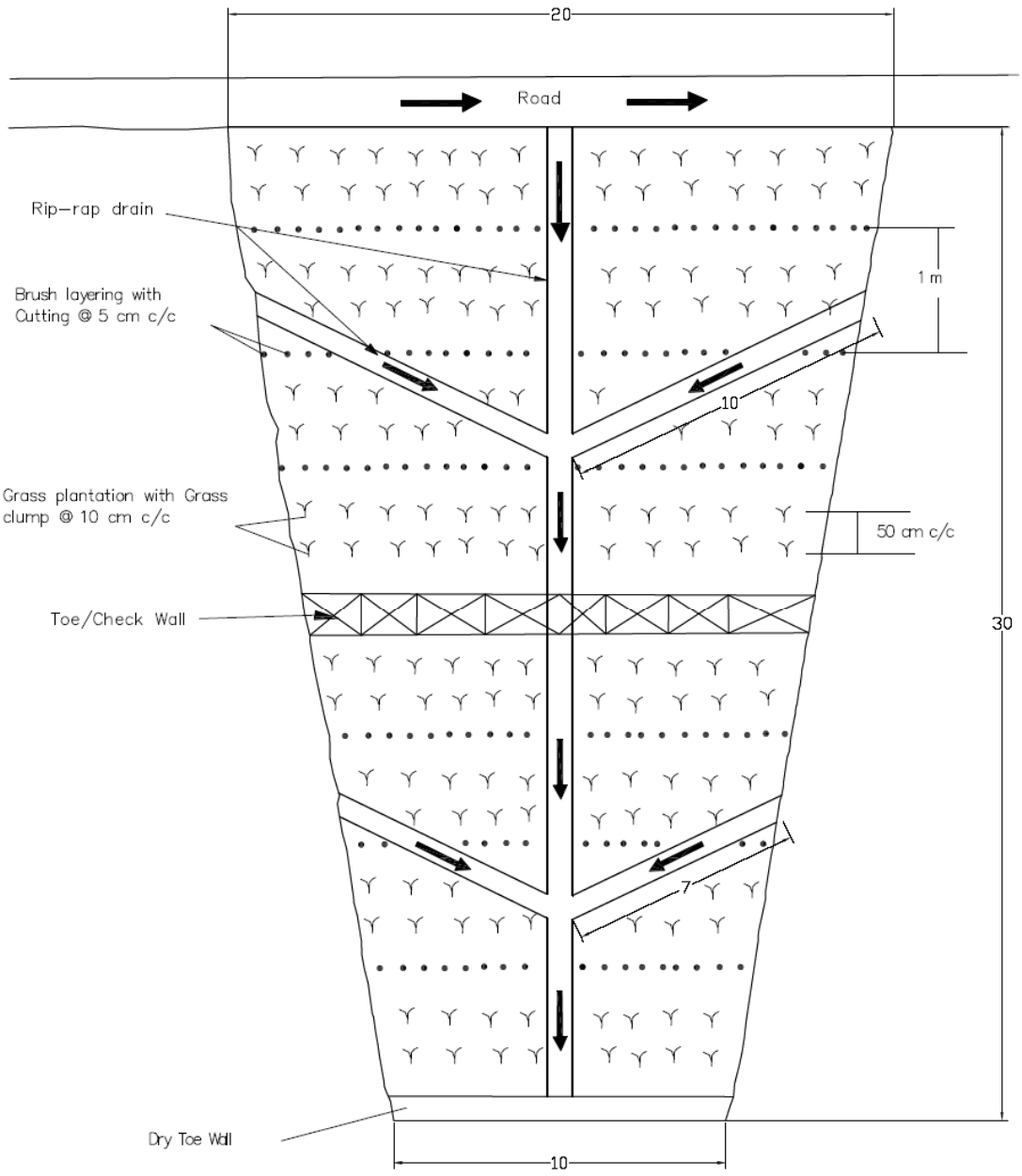
As per different parameters like slope length, slope angle, material drainage property and site moisture assessed in table ….above of we select appropriate vegetation technique following table ….below. This is general guidelines; hence other site specific variation must be determined by engineer.

## Guidelines for applying bio-engineering techniques to all slopes

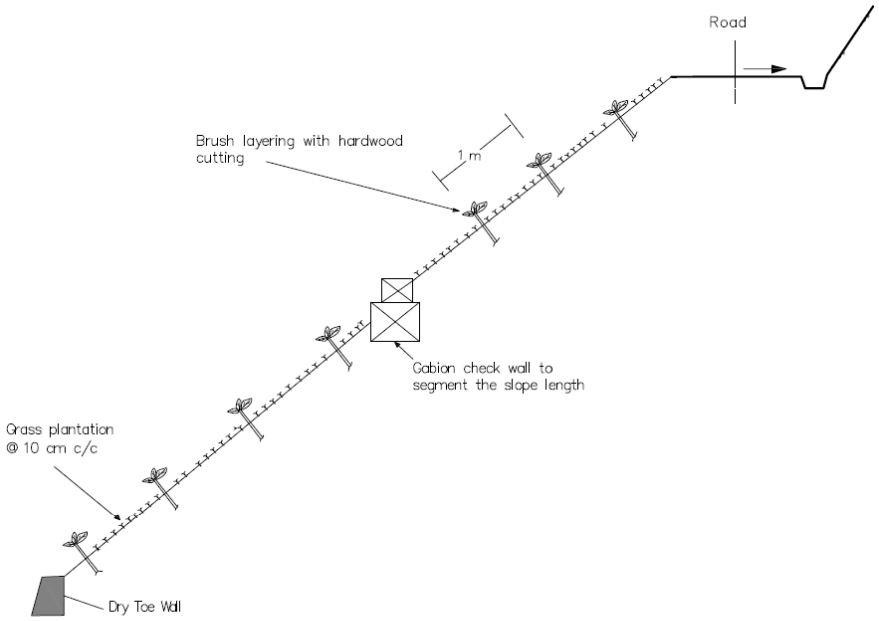
| Slope angle | Slope length | Material drainage | Site moisture | Optimal technique |
|---|---|---|---|---|
| START | → | → | → | → |
| > 50° | > 15 metres | Good | Damp | Diagonal grass lines |
| | | | Dry | Contour grass lines |
| | | Poor | Damp | 1 Downslope grass lines and strengthened rills or<br>2 Chevron grass lines and strengthened rills |
| | | | Dry | Diagonal grass lines |
| | < 15 metres | Good | Any | Jute netting and planted grass |
| | | Poor | Damp | 1 Downslope grass lines or<br>2 Diagonal grass lines |
| | | | Dry | 1 Jute netting and planted grass or<br>2 Contour grass lines or<br>3 Diagonal grass lines |
| 35 - 50° | > 15 metres | Good | Any | 1 Horizontal bolster cylinders and shrub/tree planting or<br>2 Downslope grass lines and strengthened rills or<br>3 Grass seeding, mulch and wide mesh jute netting |
| | | Poor | Any | 1 Herringbone bolster cylinders and shrub/tree planting or<br>2 Another drainage system and shrub/tree planting |
| | < 15 metres | Good | Any | 1 Brush layers of woody cuttings or<br>2 Contour grass lines or<br>3 Grass seeding, mulch and wide mesh jute netting |
| | | Poor | Any | 1 Diagonal grass lines or<br>2 Herringbone fascines and shrub/tree planting or<br>3 Herringbone bolster cylinders and shrub/tree planting or<br>4 Another drainage system and shrub/tree planting |
| <35° | Any | Good | Any | 1 Contour strips of grass and shrubs/trees or<br>2 Shrub/tree planting |
| | | Poor | Any | 1 Diagonal lines of grass and shrubs/trees or<br>2 Shrub/tree planting |
| Any | Any | Any rocky material | | Direct seeding of shrubs or shrubs/small trees |

Notes. 'Any rocky material' is defined as material into which rooted plants cannot be planted but seeds can be inserted in holes made with a steel bar.

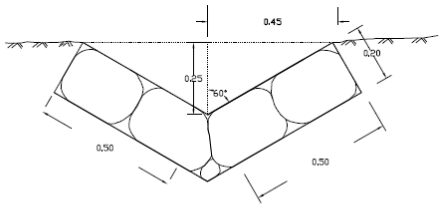
Chevron pattern: <<<<< Herringbone pattern: ⇇⇇⇇ (like the bones of a fish).




Sample Elevational Plan of Bio-engineering work




Sample Sectional View of Plantaion




Rip-rap drain

# III. Sample Cost Estimate of Bioengineering Works

**Rural Access Improvement and Decentralization Project**

**Dry Season Road Component**

## DETAILED QUANTITY ESTIMATE

## (Bio-engineering Works)

**Name of Road: Rudrabeni-Dhuseni, Padigaon** **Ch0+000 Ch9+400**

**District: Gulmi**

| S.N. | Name of Work | Nos | Length (m) | Breadth (m) | Height (m) | Quantity | Unit | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | Slope trimming works: with stripping of top soil of about 15 cm deep or reapplication it at depression within a lead up to 100 m along the lead route | 1 | 30.00 | 15.00 | | 450.00 | m2 | B=(20+10)/2 = 15 m |
| 2 | Construction of check walls with gabion retaining wall | 1 | 15.00 | 2.50 | m2 | 37.50 | m3 | |
| 3 | Construction of Dry stone toe wall | 1 | 10.00 | 0.80 | m2 | 8.00 | m3 | |
| 4 | Construction of Rip-rap drains with the stone pitching work. | | | | | | | |
| | Main drain | 1 | 30 | 1 | 0.2 | 6 | | |
| | Branch drain | 2 | 10 | 1 | 0.2 | 4 | | |
| | Branch drain | 2 | 7 | 1 | 0.2 | 2.8 | | |
| | **Sub total** | | | | | **12.8** | m3 | |
| 5 | Planting rooted grass slips on slopes < 45˚ including preparation of slips on site. Operation includes digging planting holes to a maximum of 5 cm depth with metal or hardwood peg, depending on nature of soil. The planting drills should be spaced 10 cm apart. | 1 | 30.00 | 15.00 | | 450.00 | m2 | B=(20+10)/2 = 15. Area of brush layer has to be deducted |
| 6 | Brush layering work: including preparation of terraces of 30 - 40 cm wide and laying live cuttings of selected species along the terrace @ 5 cm c/c with 2/3 of cuttings in to terrace and leaving one bud and up to 1/3 of the cuttings sticking beyond the terrace edge ( Cutting can be of assuro, simali | 30 | 15 | | | 450 | m | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | etc of 45 - 60 m length) | | | | | | | |
| 7 | Preparation and planting of live pegs of selected species (e.g. assuro, namdiphul,simali) of minimum 1 m length to 0.5 m depth into hard ground. Pegs spaced at 5 cm centers within rows, | LS | | | | 40 | m | This item is also termed as palisade |

## ANNEX 12 LABOUR CAMP GUIDELINES

### ESTABLISHING LABOUR CAMP

The main purpose for the preparation of camp standard is to assist in the effective implementation of Environmental and Social Management Framework (ESMF) and to achieve sustainable development ensuring no any adverse impacts upon environment and society. An attempt has been made to prepare this standard for RAIDP funding rural & agricultural roads and bridge referencing other manuals for environmental and social aspects published by GESU-DOR. The establishment and operation of a camp is likely to produce adverse impacts upon the bio-physical as well as the social and economic environments. It is imperative to safeguard the environment and society and to reduce and mitigate the negative impacts that are likely to be produced for the operation of camps. It is envisaged that a contractor will follow the following guidelines during the operation of camps in the project areas and hope that the project will be accomplished and benefited including local community and labor workers. Similarly, central level monitoring will be executed for the proposed camp sites under the consideration of following guidelines.

After the selection of the camp site by the project, the contractor shall submit to the project a detailed layout plan for development of the construction camp, indicating the various structures to be constructed including the temporary structures to be put up, drainage and other facilities. The plan will include the redevelopment of sites to pre-construction stage.

The contractor shall provide temporary accommodation to all the workers employed by him for such a period as the construction work is in progress. The contractor shall not charge any cost to the residents labour.

### LODGING FACILITIES

1. For non-local workers, a contractor shall provide adequate lodging/accommodation. Separate compartment shall be provided for male and female workers for their accommodation. If couples live in the camp then they shall be provided with separate compartments.

2. The accommodation areas for workers shall be designed, constructed and furnished having regard to the working conditions and the number and gender of the workers.
3. Changing rooms shall be provided for workers who are required to wear working clothes. Provision shall be made for separate changing rooms for men and women.
4. A contractor shall prevent labor workers to sleep on the open floor. Wooden or bamboo beds shall be provided and elevated at least 12 inches from the floor. If double-deck bunk is used, it shall be spaced not less than 48 inches laterally. The

minimum clear space between the lower and upper bunk shall be not less than 27 inches. Triple-deck bunks are prohibited.

**FOOD AND ENERGY**

5. The availability and proper storage of quality food and potable water is also the responsibility of a contractor. The quality of food grains and other consumable items and water must be provided. In case labors wish to prepare their own meals, the contractor shall provide adequate cooking facilities. In camps where cooking facilities are used in common, legal source of energy shall be provided. Such kitchen shall be established at least 10m distance from any sort of water sources.

6. If a camp is used during cold weather, adequate heating equipment/insulation shall be provided. Camp members shall be provided with adequate bedding material sufficient to prevent cold.

7. Workers shall be provided with facilities enabling them to take their meals and rest in satisfactory conditions. If meals are not provided for the workers on the site, they shall be provided with facilities enabling them to preserve the foodstuffs they have brought with them and, if necessary, to heat them.

**WATER AND SANITATION**

8. Adequate water storage facility shall be provided in a proposed camp site.

9. Workers working on a construction site shall be provided with drinking water which meets the standards established for drinking water.

10. Lavatories facilities should be adequate for the capacity of a camp. The lavatories to labor ration should not be less than 1:15.

11. The lavatories shall be adequately lighted and shall be maintained in a clean sanitary condition at all times. Water shall be provided in or near the lavatories by storage in suitable containers (tank, buckets etc)

12. If proper sewerage system is not available at the proposed camp site, contractor shall established eco-friendly toilets with septic tank for the proper disposal of waste. Bamboos and plastic sheets shall be used as encircle material for the establishment of temporary toilets. However, contractor shall ensure that the site is free from open defecation.

13. Provision shall be made for separate lavatories for men and women on the camp site and these rooms shall be distinctly marked "for men" and "for women" by signs printed in native language of the persons occupying the camp, or marked with easily understood pictures or symbols. If the facilities for each sex are in the same building,

they shall be separated by solid walls or partitions extending from the floor to the roof or ceiling.

14. According to the nature of the work, a sufficient number of suitable washbasins or showers with running water shall be provided for workers, meaning not less than one washbasin for every 5-10 workers or one shower for every 10-15 workers. Provision shall be made for separate washbasins for men and women.

**LIGHTING**

15. "Lighting" where electric service is available, each habitable room in a camp shall be provided with at least one ceiling-type light fixture. Toilet rooms and rooms where people congregate shall contain at least one ceiling- or wall-type fixture lighting system. Utilization of electricity from a public supply source should not affect its availability and cost to the local population.

**WASTE DISPOSAL**

16. Contractor shall provide adequate waste disposal facilities for the storage of garbage and shall be located within 100 ft. of each shelter on a wooden, metal, or concrete stand. Waste disposal management, including burning, should not in any way disturb the neighboring population nor residents of the camp itself.

17. Garbage containers shall be kept clean and shall be emptied when full, but not less than twice a week.

18. Incase garbage is disposed, only biodegradable waste and organic kitchen waste shall be dumped in pit. Non-biodegradable wastes shall be kept in containers and shall be disposed into proper place. Pit shall be at least 150 ft. away from the camp site, whereas contractor shall ensure that diseases will not spread into nearby community and any sort of contamination into water bodies and ambient environment. Contractor shall also ensure that the pit is covered properly after disposal of degradable waste everyday to reduce spread of fly and rodents. Turn wise maintain of Pit shall be carried out by workers for maintain properly.

19. Liquid waste generated from the camp site shall not be disposed directly into any surface water bodies. The contractor shall ensure proper management of ground-drainage from camps as a preventive measure against breeding places of mosquitoes and other pests.

**HEALTH AND FIRST AID**

20. Contractor shall provide adequate health services to workers on the site. A permanent health worker is required in large work camps (100 workers or more).

27 Construction sites shall be equipped with First Aid Kit at every construction campsite with essential first aid equipment and stretchers.

28 One person should be assigned as in-charge who shall always be readily available during working hours of the work places.

29 He shall be adequately trained in administering first aid-treatment.

30 The contractor shall ensure that first aid can be provided to workers who have had an accident or have suddenly been taken ill on the site.

31 First Aid Kit, distinctly marked with Red Cross on white back ground and shall contain minimum of the following or similar items:

- Few Small, medium and large sterilized dressings
- 1 (30 ml.) bottles containing 2% alcoholic solution of iodine
- 1(30 ml) bottle containing salvolatile
- 1 snakebite lancet
- 1 pair sterilized scissors
- 1 copy of first-aid leaflet
- 1-2 leaf of Aspirin, Paracetamol, Diagine, Metronitazol tablet
- Ointment for burns
- A suitable antiseptic solution
- Eyewash, etc.

32 Suitable transport to the nearest approachable hospital should be made available. Formal arrangement shall be prescribed to make motor transport or ambulance available to carry injured person or person suddenly taken ill to the nearest hospital.

33 If hospital is far away, proper medical clinic facility should be made available at camp where emergency treatment is available. Thereafter, the injured shall be taken to hospital.

34 Effective measures for insect and rodent control shall be taken to prevent infestation by and harborage of animal or insect vectors or pests. Mosquito net shall be provided to workers during summer season.

**FIRE SAFETY**

35 The construction camps shall be equipped with fire-fighting equipment and facilities.

36 Fire extinguishing equipment shall be provided at readily accessible and adequately marked locations at Camp

37 Every worker should be trained in use of fire extinguishing equipment

38 At least one fire extinguisher shall be provided, where flammable liquids or combustible materials are stored, handled or used

39 Proper pictorial posters should be used to indicate to everyone the location of fire-fighting equipment.

40 Fire extinguishing equipment shall be of a suitable type and size to permit the evacuation of workers during a fire.

41 After a fire extinguisher is used, it shall be refilled or replaced immediately

42 Every fire extinguisher shall be inspected for defects or deterioration at least once a month by a competent worker who shall record the date of the inspection on a tag attached to it.

**OTHER**

43 A camp site shall be adequately drained. All temporary camps shall be constructed using tents, and shall be closed from all side to protect from wind and water, while at the same time ensuring ventilation.

44 The optimum size for the temporary tent camp should be of 10X8X8 ft. in which no more than 5 workers shall be accommodated.

45 Simple alarming system and a communication system shall be established in the vicinity of a proposed camp site for security and to avoid possible dangers.

46 The grounds and open areas surrounding the shelters shall be maintained in a clean and sanitary manner and shall be free from rubbish, debris, waste paper, garbage, or other refuse.

47 A contractor shall provide separate store room or compartment for the storage of handy construction equipments.

48 Play grounds and other recreational and refreshing activities shall be provided in a proposed camp site where a worker could spend his/her leisure time.

## ANNEX 13 OCCUPATIONAL HEALTH AND SAFETY GUIDELINES

A safe and healthy work environment for people at work is required to prevent loss of life or personal injury. The safety and health of the workers is important in successful completion of any project. A safety guideline developed with due considerations and identifications of hazards in the workplace and implemented will be adequate and effective in controlling the mishaps and accidents.

Safety hazards generally arise from the following aspects of work during rural road construction:

- Different construction activities (excavation, quarrying, filling)
- Construction equipment and materials used
- Management in the work place

The health and safety of both the general public and the workers must be of prime concern for all parties involved in with road and bridge construction activities. During the progress of work, following are the safety requirements that the contractor at the construction site shall ensure to the public and workers;

**(a) Health concern:**

1. Creation of stagnant water ponds / waterlogged areas near construction sites and labor camps have the potential to increase public health risks, as such locations will serve as breeding ground for water-borne disease vectors (e.g. malaria, dengue, intestinal worms).
2. Unauthorized use of local natural resources by work forces on items like medicinal plants, non-timber forest products, fire wood, hunting species, fish etc. may lead to resource depletion, inducing secondary side-effects like malnutrition that may harm public health.
3. Migrant workers, especially when under drug and alcohol influence, may cause social conflicts which can result in physical clashes with the general public and the workers, putting local health facilities under constraints. Similarly, migrant workers may act as vectors for sexually transmitted diseases such as HIV/AIDS. Migrant workers may become vectors for other endemic diseases.
4. Low quality drinking water as well as inappropriate storage of drinking water likely to cause water borne diseases among workers.

**(b) Safety Concerns:**

1. Personal protective equipment (such as footwear, gloves, boots and goggles, helmets, mask etc.) shall be made available to the workers and appropriate training in its use shall be provided.
2. A protective helmet is mandatory on a construction site in an area where, due to the work technology, the risk of head injury exists.
3. Non-slippery and non-penetrable safety footwear shall generally be used on construction sites. Kneepads shall be used while working on the floor or during other work involving kneeling.
4. Restricting the working hours to day time as far as possible
5. Adequate lighting arrangement if working hours are at night time due to unavoidable circumstances
6. If work is performed in the dark, a reflex reflector or a reflector-band shall be worn on clothing. If work is performed in places in the vicinity of traffic, the worker shall wear a bright waistcoat or clothing and, in the dark, also a reflector-band. A reflector-band shall be attached in a visible place and, if necessary, also to a protective helmet.
7. Improper handling of materials like bitumen, oil and other flammable/hazardous material at construction sites, likely to cause safety concerns to the workers.
8. Lack of safety measures such as fences, adequate lockers, alarm, awareness and safety equipment may result in accidents,
9. Lack of specific precautionary measures, especially at work sites with or around heavy machinery / equipments near rivers, steep slopes, equally bears many accident risks, partly with fatal consequences.
10. Proper and regular maintenance of vehicles and equipment used in the field
11. Facilities for administering first aid

**For general Public**

The contractor should ensure and avoid the following safety concern to the public

1. Parking of equipment and vehicles at the end of the day likely to cause accidents to the general public especially during night hours.
2. Transportation of uncovered loose material or spillage of material increases the chances of accidents to road users and surrounding settlements.
3. Children hanging on trucks and vehicles being at particular risks for fatal accidents.

**ANNEX 14** : **Survey Questionnaire for Social Screening**

A. BACKGROUND INFORMATION:

1. Name of the proposed road (including the length in km) :
2. Location of the road : From…. to ……..
3. DTMP Priority No:
4. Present condition of road (Specify type of quality and DTMP no.): …
5. Proposed works under SNRTP (Specify type and quality) :
6. Address : District…… VDCs…… and number of settlements covered……
7. Name of Key informants (list out):
8. When and how many people have forwarded the demand letter of road to DDC:……
9. When and how the road corridor is fixed (specially the breadth of the road):……
10. Location and physical characteristics of road: Please prepare a social map that shows physical characters of the road alignments including settlement, river, forest, public buildings, land use pattern (private, public and their use) and also marked probable population and property affect by the road, possible sliding areas, tree cutting, flood prone, etc.

B SOCIO-ECONOMIC INFORMATION:

11. Please fill the form if the road passes through villages / Settlements

| SN | Name of the VDC | Ward | Name of the Settlements | Major ethnic / Caste / Cultural groups | Total population | Divide the total population into different occupations |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |

12. Does the road need to acquire land, house and other private property ?

Yes: No:

If yes, please provide the following information

A. Land related information

| Full name of hh | VDC, ward & village | Chainage | Land for donation (Sqm) | Total land in his name Sqm | Main source of Livelihood |
|---|---|---|---|---|---|
| | | | | | |

B. Structural damage /loss

| Full name | VDC and | Chainage | Type of | % of damage | Main source | Land |
|---|---|---|---|---|---|---|

| of hh | ward | | structure | / loss* | of livelihood | ownership |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |

* Percentage of damage must be categorized as up to 25%, 25.1 to 50% and 50.1 to 100%.

13. Does the road disturb any public common community structure ? (e.g. irrigation, water supply, trail bridge, Chautara, etc)

    Yes: No:

If yes, please provide the following information

| Types of structure | Chainage | % of loss & damage | Number of depended people on the resources | Remarks |
|---|---|---|---|---|
| | | | | |

Please mention the name including number of the damage property/resource/structure. Write percentage of damage as up to 25%, 25.1 to 50% and 50.1 to 100%.

14. Is there any low caste Dalit or special marginal group of people on the road alignment and within the Zo population (10 minutes in Terai and 30 minutes in hill) ?

    Yes: No:

15. Is there any low caste Dalit or special marginal group of people affected by the road subproject ?

    Yes: No:

If yes please provide the following information

| Name of the affected hh head | Total family members | VDC and Ward | Types of affect | Percentage of affect |
|---|---|---|---|---|
| | | | | |

Percentage of affects should be written as: if land categorize as up to 10%, above 10% land donors whose remaining holding is above 1693Sqm, above 10 land donors and remaining holding is 850 to 1692Sqm and above 10% land donors whose remaining holding is below 849Sqm. If structure damage simple write up to 25%, 25.1 to 50% and 50.1 to 100%.

16. In case of Seriously Project Affected People what can be mitigation options / measures ?

    a)……..

    b)……

    c)……

D. DEMOGRAPHIC INFORMAITON

17. Please provide the following demographic information.

| Name of Settlement | Z0 Population | | | | Z1 population | | | | Z2 Popn | | | | Z3 Population | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total HH | M | F | T | Total HH | M | F | T | Total HH | M | F | T | Total HH | M | F | T |
| 1 | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | |

If relevant pleas provide the Z4 population adding a column in the format (draw format in axel).

18. What are the major settlements and caste / ethnicity in Z0 to Z3 population ?

$Z_O$ Population

| Caste / Ethnicity | VDC & ward | Male headed hh | Female headed hh | Total household |
|---|---|---|---|---|
| Brahmin | | | | |
| Chhetri | | | | |
| Magar | | | | |
| Kami | | | | |
| Sarki | | | | |

$Z_1$ Population

| Caste / Ethnicity | VDC & ward | Male headed hh | Female headed hh | Total household |
|---|---|---|---|---|
| | | | | |

$Z_2$ Population

| Caste / Ethnicity | VDC & ward | Male headed hh | Female headed hh | Total household |
|---|---|---|---|---|
| | | | | |

$Z_3$ Population

| Caste / Ethnicity | VDC & ward | Male headed hh | Female headed hh | Total household |
|---|---|---|---|---|
| | | | | |

19. Land Acquisitions / Donation Status

Is the acquisition of land based on voluntary donation ?

Yes.....No.....

If no, give reason…….

D. ACCESS ENHANCEMENT

20. Does the road provide better access to health facilities ?

Yes.....No.....

If yes, how and in what way ?

Please specify…….

21. Does the road provide better access to schools, education and communication ?
    Yes.....No.....
    If yes, how and in what way ?
    Please specify……

**22.** How the poor and disadvantaged people would benefit from RAIDP and to what extent ?
    .....

**23.** What are the potential income generating activities in the area following SNRTP ?
    Please list five options: ……..

**24.** Would SNRTP promote marketing opportunities of the local products ?
    Yes.....No.....
    If yes, how would that happen ? Please elaborate
    ……

**25.** Are people ready to co-operate the project ?
    Yes.....No.....
    Yes or no ? Please elaborate……

**26.** How would the project benefit to women, children and minorities ? Please specify details.
    ……..

**27.** Are there disputes which might hinder/delay for successful accomplishment of proposed SNRTP works in this road ?
    Yes.....No.....
    If yes, how could these be resolved ? How the ownership of locals could be ensured ?
    ……

E. LOCAL COMMUNITY MOBILISATION

**28.** Are there any groups similar to Local Road User Committee (LRUC) ?
    Yes.....No.....
    If yes, what would be their role in SNRTP works ?
    Please specify…….

**29.** What are the other needs of people for development ?
    Please specify main five needs:

**30.** How the project can enhance livelihood of local people ?
Please specify five points……

F. WAGE RATE

30. Please provide the daily rate fixed by government and prevalent local rate

| Types of labour | Government Rate | | Local Rate | | Remarks |
|---|---|---|---|---|---|
| | Male | Female | Male | Female | |
| Skilled labor | | | | | |
| Unskilled labor | | | | | |

**31.** Please assess the local production system (agriculture, horticulture and so on).

**32.** What is the situation of bazaar and access of local products to the bazaar (situation and constraints) ?

**33.** What are the possibilities of enhancing access of local people and their products to bazaar and other economic betterment ?

34. Trace out your own observation about socio-economic, physical betterment of local people (possibilities, problems and prospects).

Name of Surveyor: Date

Thank you

**ANNEX 15** : **Outline to prepare Voluntary Donation Impact Mitigation Plan** (VDIMP)

District:

Subproject:

I. Background

1. This Voluntary Donation Impact Mitigation Plan (VDIMP) describes legal, institutional and implementation framework to guide the assistance for lost assets, livelihoods, community property and repair, restore and rehabilitation of project affected people in accordance with the World Bank's Operational Policy 4.12 on Involuntary Resettlement and Government of Nepal's relevant guidelines It also explains implementation procedures that will be applied to the …… subproject of ……district.

II. Subproject Introduction

2. The road is DTMP priority no…….with total length of about …….km. SNRTP has proposed to upgrade …..km section of the entire road. The road section starts from ……tole/village of ……VDC/Municipality and ends in ……..tole/settlement of ……..VDC/Municipality. This road was originally constructed by ……to the earthen standard in …….. The DDC……has made it trafficable/……..in…..……improving the condition by putting river bed gravel. There is very low number of vehicle running on the road because of the bad road condition especially in dry season. The District Technical Office in consultation with locals has decided ……meter width of the road as Corridor of Impact (CoI) for upgrading works. However, the road requires additional lands for curves, lay-byes, extra widening and mass balance.

III. Likely Impacts of the Subproject

3. The proposed subproject will be constructed into all-weather condition by laying gravel with adoption of Rural Road Class A standard specification of DoLIDAR approach manual. The road will have 4.5 meter formation width including shoulder and drainage. The DDC has decided average…..m width as CoI with small strips of additional area in a few sections to meet the design requirement and 10 m either side from the center as Right of the Way (RoW) of the subproject. The land within CoI will

be acquired from the land owners on voluntary donation principle. The DDC with the help of SDC/SMO has done land donation impact assessment. After cadastral survey and impact assessment, detail socio-economic information of severely project affected people (SPAF) was collected by SMO/SDC and recorded it in the project.

4. Cadastral Survey which was conducted during…….to ……. Identified …… land owners to be affected by the construction of proposed subproject. The SMO/SDC with the help of LRUC and VRCC members identified the total land of the land donors and percentage of land loss/donation in consultation with locals and affected families. Some of the information was also verified with the records available in Land Revenue Office to ensure accuracy of the information. The detail list of the land donors with their per cent of loss is given in annex 4.1 the table 1 presents total land donors according to impact category:

Table 4.1: Land donors according to impact category

| SN | Land Category | Number of Land Donors |
|---|---|---|
| 1 | Donation of land less than 10% of the total holding | |
| 2 | Donation above 10% whose remaining holding is above 1693Sqm | |
| 3 | Above/below 10% whose remaining holding is between 850 to 1692Sqm | |
| 4 | Above/below 10% whose remaining holding is below 849Sqm | |
| Total | | |

5. The loss and damage of structure, livelihood and other property is documented through walkthrough survey jointly with the technical team with the verification of the detail design in the field. The road construction/upgrading will damage….. houses, …..Livelihoods of people and……..minor structures. The table 5.1 presents the number of structural damage according to impact category:

5.1 Number of Damage Structure and Livelihood loss

| SN | Impact Category | No of people affected by Structural damaged and livelihood loss |
|---|---|---|
| 1 | Up to 10% damage of residential structure | |

| | | |
|---|---|---|
| 2 | Between 10 to 50% damage of residential structure | |
| 3 | Above 50% of damage of residential structure | |
| 4 | Loss of livelihood (petty shops & earning sources) | |
| 5 | Minor Structure (tube well, wall and minor houses) | |
| Total | | |

IV. Other Impacts

6. The survey team has also assessed the impacts due to construction of proposed cross drainage structure along the alignment. Out of total …….such structures …… need to build in the private land. The land owners of such land were consulted and the following mitigation measures have been proposed.

Table 6.1 Cross drainage structures that directly impacts on private land

| SN | Name of cross drainage | Location/Chainage | Impact on private land | Mitigation Measures | Remarks |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |

V. Consultation, Participation and Disclosure

7. (Write a short paragraph on consultation meeting done with APs during different stage of assessment): major concern/issue raised and responses. Total number of people consulted including officials in the district).

VI. Mitigation Measures

8. The road upgrading needs to address social impacts arising from the road subproject. The number of impacts of land donation, residential structure damage, livelihood lost and other property damage and the provision of addressing social impact as per entitlement policy matrix are shown in table 8.1 below:

8.1 Mitigation Measures as per Entitlement Policy Matrix

| SN | Impact category | Types of entitlement | No of APs | Remarks |
|---|---|---|---|---|
| 1 | Types of land impact | | | |
| 1.1 | Below 10% donors | | | |
| 1.2 | Above 10% whose remaining holding is above 1693Sqm | | | |
| 1.3 | Land donors between 850 – 1692Sqm | | | |
| 1.4 | Land donors below 850Sqm | | | |
| 2 | Residential Structure | | | |
| 2.1 | Damage below 10% | Both title & non title | | |
| 2.2 | Damage between 10 – 50% | Both Title and non-title holder | | |
| 2.3 | Damage between 25.1 – 50% | Both title and Non-title holder | | |
| 3 | Livelihood loss | | | |
| 4 | Minor Structures | | | |
| 4.1 | Below 10% | Both title & nontitle | | |
| 4.2 | Damage between 10 – 50% | Both title and non-title holder | | |
| 4.4 | Damage above 50% | Both title and non title holder | | |
| 5. | Loss of other assets | | | |

VII Estimated Cost

9. The total expected budget for addressing social impacts of this road subproject is NRs…… The detail breakdown of the budget is shown in table 9.1.

Table 9.1: Estimated Budget for Addressing Social Impacts

| SN | Impact category | No of project affected people and their % | Budget Required in NRs |
|---|---|---|---|
| 1 | Land transfer incentive for those who have donated land below | | |

| | | | |
|---|---|---|---|
| | 10% of their holding | | |
| 2 | Assistance for those who have donated land above 10% | | |
| 3 | Repair cost for below 10% residential structure damage | | |
| 4 | Restoration cost for above 10% residential structure damage | | |
| 5 | Land transfer and administration cost (lump-sum) | | |
| 6 | Hoarding board and letter of appreciation cost | | |
| 7 | Contingency | | |
| Total cost | | | |

VIII Implementation Arrangement

10. The social impact will be addressed by the project before awarding the contract. The detail implementation action plan of social of social safeguards is presented in table 10.1

Table 10.1: Implementation Action Plan

| SN | Activities | Responsibility | Time for implementation | Remarks |
|---|---|---|---|---|
| 1 | Disclosure of affected people | DDC / SDC | | |
| 2 | Set of implementation arrangement | DDC/SDC | | |
| 3 | Completion of assistance distribution | DDC/SDC | | |
| 4 | Completion of land transfer | DDC/SDC | | |
| 5 | Issuance of monitoring report | DMC | | |
| 6 | Impact Evaluation (internal) | SNRTP-CPCU | | |

IX Monitoring and Supervision

The SMO/SDC of concerned district is mainly responsible for regular monitoring and supervision of the implementation arrangement of social safeguards. Moreover, CPCU regularly involves in monitoring of social safeguards activities. The main issues of

monitoring are disclosure procedures of the project affected people, assistance distribution and amount of assistance, performance of Assistance Distribution Committee and Grievance Hearing Committee, land transfer process and so on. Moreover, PCU will evaluate the whole process of social safeguards after 2 months of the completion of assistance distribution and land ownership transfer.

Annex 1: List of land donors

| SN | Name of the Land donors | Address | Plot No. | Donate Land (Sqm) | Total Land (Sqm) | % of Loss of Total Holding |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Annex 2: List of Affected People by the damage of Residential Structure

| SN | Name of People | Structure types | Total Sqft | Damage Sqft | Damage % | Remarks |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| | | | | | | |

Annex 3: List of Livelihood Losers

| SN | Name of people | Types of livelihood | Chainage/address | Remarks |
|---|---|---|---|---|
| 1 | | | | |
| | | | | |
| | | | | |

Annex 4: List of people lost minor structures

| SN | Name of People | Type of the damaged minor structure | Total Sqft | Total Damage Sqft | Percentage of damage | Remarks |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| | | | | | | |
| | | | | | | |

**ANNEX 16** :**Memorandum of agreement for Voluntary Land Donation Individual)**

1. I, Mr/Ms …… the grandson/grand daughter of …….. and son/daughter of ……., permanent resident of …….district……..VDC ward no …, have agreed to donate ……..Sqm land voluntarily as per ESMF provision to DDC……..on……. 200… for upgrading / improvement of the road……with the support of Strengthening National Rural Transport Program (SNRTP), DoLIDAR. To this effect, both parties have entered into agreement by consensus in presence of the witnesses signed below.

2. The land holding certificate no … contains …….land of which …Sqm only is donated. I also, hereby, declare that the donated land amounts to …….% of the total land holding.

3. That the donated land is surrounded towards the a) eastern side by…….b) western side by……c) northern side by……d) southern side by……

4. That the land owner testifies that the land / structure is free of squatters and encroachers and is not subject to any other claims.

5. That the owner will not claim any compensation against the grant of this asset nor obstruct the construction works on the land in case of which he/ she would be subject to sanctions according to law / regulations.

6. That the DDC ……. agrees to accept this grant of assets for the purpose.

7. That the DDC ……shall construct and develop the SNRTP subproject considering possible precautions to avoid damages to adjacent land / structure / other assets.

8. That both the parties agree that the SNRTP subproject construction shall be the community property.

9. That the provision mentioned in this document will come into force from the date of signing of this deed.

…… ……...
Signature of the Owner
Signature of the Chair of
Road User Committee

Name and Signature of Witnesses
1.……..
2.……..

Annex 16b. Memorandum of agreement for Voluntary Land Donation (Group)

We, the following permanent inhabitants of …….VDC have agreed through consensus to voluntarily donate our private land for construction/ upgrading of ……road under DDC through the support of SNRTP. We, hereby, provide our commitment to adhere the terms and conditions mentioned in this agreement and transfer the land rights to the DDC as per the rules of Land Revenue Office of Government of Nepal (GoN). All the donors have collectively signed this agreement after reaching common consensus for the donation upon informed choice from the project facilitators.

1. The land owner testifies that the land / structure is free of squatters and encroachers and is not subject to any other claims.

2. That the land donation is made to DDC…….… for the construction and development of …..……..road in ……VDC/s supported by SNRTP.

3. We, the owners of the donated land, will not claim any compensation against the grant of this asset nor obstruct the construction on the land and in case of which we would be subject to sanctions according to law / regulations.

4. That the DDC……..agrees to accept this grant of assets for the specified purpose.

5. That the DDC……shall construct or improve the road through Road User Committee considering possible precautions to avoid damages to adjacent land / structure / other assets.

6. Both the parties agree that the SNRTP subproject construction shall remain as community property.

7. The provision mentioned herein will come into force from the date of signing of this paper.

| SN | Name of the donors | Address | Total land holding in Sqm | Probable donated land in Sqm | Registration no of the donated plot | Lost land (as % of total) | Signatures of land Donors |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Date: Name and Signature of LRUC/VRCC

(……..)

Note: Individual land donation form will be required at a later stage while transferring the ownership of land to the DDC. Therefore, it is equally important for all SDCs/ SMOs to fill up the individual land donation forms as far as possible immediately after signing the collective agreement.

## Annex 17: Outline of Vulnerable Community Development Plan (VCDP)

Data Collection Process

The vulnerable community development plan presents vulnerable people of the $Z_0$ zone, their situation, livelihood occupations, need prioritized and also presents a suitable skill development and professional development training. The vulnerable community development plan identifies:

1. Subproject Description

- o Total population of $Z_0$ :
- o Male…….. and…….. Female
- o Caste-wise no of household / family :
- o Women headed household / family :

o Seriously project affected family (SPAF): o
Caste / ethnic-wise distribution of SPAF:
o Major occupations of occupational caste / ethnic groups: o
Main occupation of women headed households (WHhh):

- o Markets of the production of occupational groups and WHhh:
- o Common demand / need for enhancing their occupations:

2. The outline of the report is as follows:

1 A Brief Introduction: Summary of the sub-project
2 Vulnerable people, their occupations and situations
3 A short description of demand or priority needs identified by people
4 A short description of plan and the table

3. Detail VCDP of Action

| Activities | Required cost/item | Total time | Initiation Date | Ending date | Responsibility | Remarks |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |

4. Implementation arrangement

5. Recommendation of SMO / SDC:

**Brief Outline of the Vulnerable Community Development Plan**

1. The VCDP is prepared in a flexible and pragmatic manner, and its level of detail varies depending on the specific project and the nature of effects to be addressed.
2. The VCDP includes the following elements:

(i) A summary of the legal and institutional framework applicable to Indigenous Peoples in the area and a brief description of the demographic, social, cultural, and political characteristics of the affected Indigenous Peoples' and other vulnerable communities, the land and territories that they have traditionally owned or customarily used or occupied, and the natural resources on which they depend.
(ii) A summary of the social assessment.
(iii) A summary of results of the free, prior, and informed consultation with the affected Indigenous Peoples' and other vulnerable communities that was carried out during project preparation and that led to broad community support for the project.
(iv) A framework for ensuring free, prior, and informed consultation with the affected Indigenous Peoples' and other vulnerable communities during project implementation.
(v) An action plan of measures to ensure that the Indigenous Peoples and other vulnerable communities receive social and economic benefits that are culturally appropriate, including, if necessary, measures to enhance the capacity of the project implementing agencies.
(vi) When potential adverse effects on Indigenous Peoples and other vulnerable communities are identified, an appropriate action plan of measures to avoid, minimize, mitigate, or compensate for these adverse effects.
(vii) The cost estimates and financing plan for the VCDP.
(viii) Accessible procedures appropriate to the project to address grievances arising from project implementation. When designing the grievance procedures, project will take into account the availability of judicial recourse and customary dispute settlement mechanisms among the Indigenous Peoples.
(ix) Mechanisms and benchmarks appropriate to the project for monitoring, evaluating, and reporting on the implementation of the VCDP. The monitoring and evaluation mechanisms should include arrangements for the free, prior, and informed consultation with the affected Indigenous Peoples' and other vulnerable communities.

Annex 1 8: Format for Central Level Monitoring

The central level monitoring has to be carried out by representatives from central level organization. The member should be selected from any of the organizations as MoE, MoFALD, DoLIDAR etc. with knowledge on environmental and social issues. The monitoring team members are expected to visit sample district and will do review of overall work related to ESMF. The monitoring is mainly desk review supported by field visit to any section of sample road within the district.
The objective of Central Level Monitoring is to see if the procedure developed by ESMF is working properly or not.

Evaluation Parameters:

- Environmental Compliance and Implementation as per ESMF
- Social Compliance and Implementation as per ESMF
- Good practice and additional enhancement measures

Name of District: Date of Monitoring:

Monitoring Team:

| SN | Name of the Team Member | Position | Office | Signature |
|---|---|---|---|---|
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |

## Performance Categories:

1. ESMF Compliance

On the basis of review of supporting documents available at respective DDC the monitoring team is expected to complete the following table for determining ESMF compliance. Please provide the answer as yes [√] or no [×] in the empty boxes.

| S.N. | Query | Name of the Road | | | |
|---|---|---|---|---|---|
| | | 1. | 2. | 3. | 4. |
| | | Y/N | Y/N | Y/N | Y/N |
| 1. | Was Environmental Screening done before selection of the project ? | | | | |
| 2. | Was Social Screening done before selection of the project ? | | | | |
| 3. | Has Initial Environmental Examination (IEE) report been prepared ? | | | | |
| 4. | Has Site-specific Environmental Management Plan (EMP) been prepared ? | | | | |
| 5. | Is the Site Specific EMP incorporated in BoQ ? | | | | |
| 6. | Was variation asked for Environmental Management Plan (EMP) ? | | | | |
| 7. | Is there any displacement of people caused due to the project ? | | | | |
| 8. | Is there any damage to structures caused by construction of road ? | | | | |
| 9. | Has Voluntary Donation Impact Mitigation Plan (VDIMP) been prepared ? | | | | |
| 10. | Has Vulnerable Community Development Plan (VCDP) been prepared ? | | | | |
| 11. | Have VRCCs/LRUCs been formed ? | | | | |
| 12. | Are VRCC/LRUCs functioning ? | | | | |
| 13. | Has VDIMP budget approved and assistance distributed ? | | | | |
| 14. | Has land ownership transfer substantially completed before awarding of contract ? | | | | |
| 15. | Has employment been provided to local labors ? | | | | |
| 16. | Has monthly monitoring of Environmental and Social Management Plan (EMP/SMP) been done ? | | | | |
| 17. | Was the focal person for Environmental and Social Management Plan (EMP/ SMP) monitoring involved in the | | | | |

| S.N. | Query | Name of the Road | | | |
|---|---|---|---|---|---|
| | | 1. | 2. | 3. | 4. |
| | | Y/N | Y/N | Y/N | Y/N |
| | monitoring process ? | | | | |
| 18. | Has district level monitoring been done by the district and reported to centre ? | | | | |
| 19. | Were the monitoring findings discussed and used in correction ? | | | | |
| 20. | Has Community Based Performance Monitoring (CBPM) been carried out ? | | | | |
| 21. | Do the district have capacity to implement environmental and social issues ? | | | | |
| 22. | Are the district level staffs are provided with training ? | | | | |
| 23. | Are the given trainings sufficient to carryout the allocated responsibilities ? | | | | |
| | | | | | |
| | | | | | |

2. Field level monitoring

Monitoring team is expected to visit one or two sample sites that had problem and was mitigated. The team could select any section of the SNRTP roads within the districts that they think should be visited. The purpose is to match the desk level monitoring done by the team.

| Loation / Chainage | Identified Issue | Mitigation Measure Used | Condition / Quality | Remarks |
|---|---|---|---|---|
| | | | | |
| | | | | |

3. General Comments (Observed and Felt)

Also include good practices that are directly targeted to beneficiaries such as plantation, protections, awareness etc.

**ANNEX 19** : Format for District Monitoring Committee for Monitoring and Supervision
(Formed according to paragraph 4.45 of the ESMF)

Date:

Subject: District Monitoring Committee Report

To
The Project Coordinator
Strengthening National Rural Transport Program (SNRTP-CPCU)
Jawalekhel, Lalitpur

Dear sir,

The District Monitoring Committee (DMC) formed under the chair of Mr/MS…….has visited ……road subproject from ……to …….. and monitored and supervised the progress made in the implementation of Environmental and Social Safeguards. The monitoring committee reviewed the related progress documents of the subproject provided by DDC/DTO and talked to DDC/DTO authorities and SDC and ES. The DMC has also made a visit to the subproject, observed re-plantation site and restoration activities done by the project and consulted local people including the project affected people, VRCC and LRUC members. The progress made by the project in mitigation measures about environmental and social safeguards are presented below:

1. Status of the Progress on Social Safeguards

| SN | Types of impacts | Number of APs | Total | No of APs received assistance | No of land donors transfer their land ownership |
|---|---|---|---|---|---|
| 1 | Land donors less than 10% | | | | |
| 2 | Land donors above 10% | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 3 | Residential structure damage below 25% | | | | |
| 4 | Residential structure damage above 25% | | | | |
| 5 | Individual lost livelihood | | | | |
| 6 | Individual lost minor structure | | | | |
| 7 | Others | | | | |

2. Status of the Progress on Environmental Safeguard

| SN | Identified impact and location | Mitigation measures | Measures included in the EMP or not |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

3. Regarding Grievance Hearing Mechanism and Practices

- Is there Grievance Hearing Committee (GHC) office with its signboard in DDC/DTO?

a) Yes b)No

- Is there a case registration and resolving record?

a) Yes b)

- Does the GHC settle cases regularly?

a) Yes b) No

- If yes, what is the frequency of the meeting?

a) Weekly b) half a monthly c) Monthly
b) Bi-monthly c) once in three months d) after case receive

- Does the committee receive oral cases and record it?

a) Yes b) No

- Does LRUC also maintain grievance register?

a) Yes b) No

- Does LRUC settle cases regularly?

a) Yes b) No

- If yes, what is the frequency of the meeting?

c) Weekly b) half a monthly c) Monthly
d) Bi-monthly c) once in three months d) after case receive

4. Others (write a few points about positive and negative impression related to environmental and social safeguards observed in the visit)

Positive Impression

Negative Impression

The DMC certifies that environmental and social mitigation measures proposed by the ESMF have been followed and implemented in the subproject properly/improperly.

……. …….. ……..
DMC Member DMC Member Chair Member

**ANNEX 20**: Format for DDC and DTO Bimonthly Monitoring and Supervision

Name of the Road : District:
Date of Contract Award :
Date of Previous Supervision:
Types of Road upgrading/improvement:
Name and Designation of the staff involved in Supervision
a.
b.
c.
d.
e.

A. Technical Progress

| SN | Major Activities | Progress percentage | Remarks |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

B. Status of Social Safeguards

| SN | Description of impacts | Total No of APs | Received Assistance & transferred ownership | Progress percentage |
|---|---|---|---|---|
| 1 | Land donors | | | |
| 2 | Residential Structure damage (partially | | | |
| 3 | Residential Structure damage (fully) | | | |
| 4 | Livelihood lost | | | |
| 5 | Minor structure damage | | | |
| 6 | Other | | | |

C. Status of Environmental Safeguards

| SN | Major issues mentioned in EMP | Mitigation measure | Progress percentage |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

D. Is there an Office of Grievance Hearing Committee (GHC) in DDC?
:

E. Does the GHC register and settle grievances?
:

F. Is there a grievance registration and recording register given to LRUC?
:

G. Does the LRUC register and settles local grievances?
:

H. If any technical, social and environmental issue identified in the visit please note down below?
   a.
   b.
   c.
   d.
   e.

Signature of LDO Signature of DTO chief

Signature of other visiting staffs

## Performance Categories

1. Environmental Impact Mitigation

1.1 ESMF Compliance

(Please Tick [√] in the boxes below if your answer is Yes and put Cross mark [×] if the answer is no.)

| Screening done | IEE prepared | EMP prepared | Variation asked for EMP | Availability of approved copy of EMP and other plans | Last Monitoring and reporting date-mention | Monitoring findings discussed and used in correction |
|---|---|---|---|---|---|---|
| | | | | | | |

1.2 Environmental Performance

(Please Tick [√] in the boxes below if the answer is Yes and Cross mark [×] if it is no.

| Disposal Site Approved | Approved Disposal Sites used | Quarry Site Approved | Use of unapproved quarry sites | Proper Storage of construction materials |
|---|---|---|---|---|
| | | | | |

1.3 Environmental Impact Mitigations as per EMP:
Implementation of Site-specific Environmental Mitigation Measures as per ESMP and its Effectiveness

| Location / Chainage | Identified Issue/Significance | Recommended Mitigation and Enhancement Measures | Implemented Measure | Remarks |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Note: Attach additional Sheet if necessary.

1.4 Were there any special unforeseen issues that have been encountered during construction ? Please mention how was that solved ?

| What Issue ? | Where ? | How solved ? | Remarks |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| | | | |

1.5 Where there any unsolved environmental problems observed during monitoring ? Please mention.

2. Social Impacts Mitigated as per SMP

2.1 ESMF Compliance (Write yes or no)

| Formation of DRCC/VRCC/LRUC | Displaced hh | Land donation & Structure Damage | | | | Assistance distribution committee is functional | Employment of local labor | Training to user groups | CP\BPM carried out as per the principles | Assistances provide and imitated land transfer |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Total hh | Total land donation | No of Res. Hh | Repair by the project | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

2.2 Were there any special social issues that have been mitigated during the construction? Please mention how was that solved ?

3. Any impressive or good practices

4. Any comments on works done/not done and performance

**ANNEX 21** : Community Based Performance Monitoring (CBPM)

## PART ONE: INTRODUCTION

1. Background

   Strengthening the National Rural Transport Program (SNRTP), aimed at improving rural accessibility, is funded by the World Bank (WB) grant. SNRTP will target the 30 districts that previously participated in the Bank-supported Rural Access Improvement and Decentralization Project (RAIDP) plus an additional 5 districts. The main objective of the project is to enhance access of rural people to various physical and socio-economic services through the improvement of rural roads and construction of bridges. Finally, it aims to reduce poverty of the country through the enhancement of rural access to various social, economic and physical facilities. There are rural road improvements, bridge and maintenance components in the project. To address the environmental and social impacts of the project, "Environmental and Social Management Framework (ESMF)" is prepared and implemented from the beginning of the project. According to the ESMF, a Village Road Coordination Committee (VRCC) and a Local Road Users Committee (LRUC) are set up at local levels. These committees will be mobilized to examine the environmental and social impacts of each subproject including quality of improvements, people's participation in the improvement activities, and people satisfaction on the improvement through Community Based Performance Monitoring (CBPM).

2. What is CBPM ?

   CBPM is a useful tool for monitoring rural road construction and maintenance activities including coordination among the concerned stakeholders, progress of improvements (whether accomplish on time as planned or not), and to examine whether the project has addressed environmental and social impacts properly.

3. Why CBPM ?

   The general objective of CBPM is to find out whether subproject is going on according to the approved provisions and processes and maintained the quality of road or not. The specific objectives of CBPM are:

   - To find out whether the mitigation meanures applied to address the social and environment impacts of the subproject are appropriate, and.
   - To monitor whether the subproject will complete on time and as per the agreement.

4. When CBPM ?

   CBPM will be done compulsory after initiation of the construction activities, in the

middle of the project period, and at the end of the construction activities of a subproject. Moreover, CBPM can be done as per requirement.

5. Who should participate in CBPM ?

   In general, CBPM carries out by the members of VRCC. Moreover, the representatives of VDC \ Municipality, target groups, local community organizations, technical and transport representatives of concerned institutions, DDC, DTO, SNRTP, individual consultants and NGO representatives may participate in CBPM.

6. How to inform concerned stakeholders for CBPM ?

   The VRCC members and its subcommittees, who are going to conduct CBPM, have to publish a notice at least one week before in the subproject site and also inform DDC, DTO, and other concerned organizations and individuals about CBPM.

7. Area/ Issue for CBPM

   VRCC and its sub-committee members have to sit together to read the questionnaire given in the CBPM and fix the main area or issue for CBPM. They can also discuss about how to do it in the field. In general, the following issues\areas should be monitored by the CBPM team.

   Issue/Area no 1: About Planning

   The CBPM members will find out whether this road is prioritized in the District Transportation Master Plan (DTMP). Moreover, they have to find out whether this road is demand driven or not.

   Issue\Area no 2: About Contract

   The CBPM team will find out whether the contractor has followed provisions of the contract documents properly such as employment of local laborers, regular payment to them, camp management, avoidance of the employment of child labor, and so on.

   Issue/Area no 3: About Construction Work

   The CBPM team will also monitor whether DTO office with the meeting of local people have defined corridor of the proposed road before construction, whether construction is going on according to the schedule, whether physical work is according to technical standards, whether the quality materials used and whether the work is going on as per directory of working methods, procedures, technical measurements of the road, whether the local users are satisfied about the construction activities, and so on.

   Issue/Area no 4: Environmental Impact

   The team will also monitor whether there is environmental impacts of the road such as sound pollution, dust pollution, landslides, destruction on forest or tree, and so on.

Issue/Area no 5: Social Impact

The CBPM team will also have to monitor social impacts of the road sub-project as well as the process of addressing the impacts. Mainly, the team will monitor whether all the impacts are recorded and addressed properly. Moreover, they will check whether the road subproject disturbed social harmony, assistance provided to SPAF properly, prepared VDIMP, VCDP and GAP and so on.

Issue/Area no 6: About Preparation of ESMP

The CBPM team will monitor whether there is prepared an environmental and social management plan and implemented it properly to address the impacts.

Issue\Area no 7: Technical Impact

It is also essential to examine technical issues of the road subproject through CBPM. Hence, CBPM will monitor the issues faced by the subproject which were not included in detail design. Moreover, it will also examine whether such issues were addressed properly by the subproject.

Issue\Area no 8: About Activities of the Users

The CBPM team will monitor all activities of the Local Road Users committee and village Road coordination committee. If there is insufficient cooperation and coordination from or with the local road users then the CBPM will recommend for strong coordination and cooperation to the upgrading activities.

Issue\Area no 9: Other Impacts

The team will also monitor other issues related to a road subproject such as formation of VRCC and LRUC. Moreover, it will check whether road corridor has been defined of the subproject before social screening or not.

Issues\Area no 10: Recommendations

The team will submit a copy of its report to concerned DDC and SNRTP-CPCU after CBPM. The payment officer of the DDC will study the CBPM report thoroughly and will direct the concerned party\individuals to address the issues raised by the report.

PART TWO: FORMAT AND MONITORING ISSUES

# Community Based Performance Monitoring (CBPM)

District:

Road Name:

Date:

Place of Meeting:

Time Start:

Time End:

Total # of Participated:

Details of the CBPM .

1. About Contract Documents

| SN | Areas for Monitoring | Yes\No | If not, why? | Remarks |
|---|---|---|---|---|
| 1 | Local people hired (write % in remarks) | | | |
| 2 | Women and vulnerable groups \people employed (write % in remarks) | | | |
| 3 | Use of child labour (below 16 years only) | | | |
| 4 | Pay wage as per DDC rate | | | |
| 5 | Timely pay the wage of laborers | | | |
| 6 | Local shopkeepers receive payment of the goods regularly/timely | | | |
| 7 | Problem raise due to materials of contractors and camp of laborers | | | |
| 8 | Management of security of laborers (accidental insurance, safety equipments, etc.) | | | |

2. About Implementation of Plans

| SN | Areas for Monitoring | Yes\No | If not, why? | Remarks |
|---|---|---|---|---|
| 1 | Is the road mentioned in DTMP (write DTMP number in remarks) | | | |
| 2 | Technical examination held | | | |
| 3 | Construction work began and end on the given time | | | |

| | | | | |
|---|---|---|---|---|
| 4 | The DTO staff with locals defined the road corridor | | | |
| 5 | The road is demand driven | | | |

3. About Environment Impacts

| SN | Areas for Monitoring | Yes\No | If not, why? | Remarks |
|---|---|---|---|---|
| 1 | Forest, tree and plant destroyed | | | |
| 2 | Construct drainages as per requirements | | | |
| 3 | Impact of dust pollution (note down all the impacts) | | | |
| 4 | Landslide due to construction | | | |
| 5 | Increased poaching and stealing of Non timber forest products (NTFPs) | | | |
| 6 | Destroyed sources of water | | | |
| 7 | Destroyed infra-structures (Irrigation canal, pole of electricity and drinking water, etc) | | | |
| 8 | Consultation with Communities in selection of Quarry and Burrow sites | | | |

4. About Social Impact

| SN | Areas for Monitoring | Yes\No | If not, why? | Remark |
|---|---|---|---|---|
| 1 | Assured and recorded the loss of land and residential structures during social screening | | | |
| 2 | Applied mitigation measures to address the impact | | | |
| 3 | Recorded the Land donors whose remaining holding is less than 5 Kattha in Terai and 3.5 Ropani in Hill | | | |
| 4 | Repaired the damaged residential structures | | | |
| 5 | Recorded other loss and damages | | | |
| 6 | Constructed the required cause ways and cross ways | | | |
| 7 | Notified the people about loss \ damage properly | | | |

| | | | | |
|---|---|---|---|---|
| 8 | Provided letter of appreciation to Land donors | | | |
| 9 | Recorded who have donated land less than 10% | | | |
| 10 | Recorded who have donated land above 10% and remaining holding is above 1693 Sqm | | | |
| 11 | Recorded the land donors whose remaining holding is between 850 to 1692Sqm | | | |
| 12 | Recorded the land donors whose remaining holding is below 849Sqm | | | |
| 12 | Recorded the resident structure damage / loss below 25% | | | |
| 13 | Recorded the resident structure damage between 25%-50% | | | |
| 14 | Recorded the resident structure damaged above 50%-100% | | | |
| 15 | Is there an office and registration and hearing system of grievances in the DDC? | | | |
| 16 | Is there given a register to LRUC for receiving and handling grievances at local level? | | | |

5. Technical Impacts

| SN | Areas for Monitoring | Yes\No | If not, why? | Remarks |
|---|---|---|---|---|
| 1 | Faced the problem by the subproject which was not included in the detail design | | | |
| 2 | Applied appropriate mitigation measure whenever appeared the problems | | | |
| 3 | Use of quality materials (quality gravels and appropriate amount of cement, sand, etc) | | | |
| 4 | Conducted technical supervision regularly | | | |
| 5 | Properly managed water drainage cause ways and cross ways | | | |

| | | | | |
|---|---|---|---|---|
| 6 | Repairs and maintenance work timely | | | |

6. Other Issues/Impacts

| SN | Areas for Monitoring | Yes\No | If not, why? | Remarks |
|---|---|---|---|---|
| 1 | Set up VRCC\ LRUC and involved in monitoring regularly | | | |
| 2 | Organized training for VRCC\ LRUC | | | |
| 3 | Appropriate management of landslide and slope control | | | |
| 4 | Fill up land donation form | | | |
| 5 | Transform the ownership during construction phase of the road | | | |
| 6 | Prepared monitoring and supervision report by VRCC\ LRUC | | | |
| 7 | Quality maintained in the construction activities carried out by the users / group. | | | |
| 8 | Coordination between physical structure and investment | | | |

7. About Transportation

a. What is the percentage of the traffic volume of the road before construction?

=

b How much traffic volume increased after construction of the road?

=

c. How much Transportation cost reduced after construction?

=

d. What is the increased number of travelers (2 hrs distance in Hill & 4 hrs distance in Tarai?)

=

8. About Contractors' Obligation (ask these questions after 2nd round CBPM only)

a. What is the situation of local payment of the contractor (for labor, hoteliers, retail shops, and individuals providing land for material camping, etc)?

b. Have you heard any obligation of the contractor remaining to the locals?
   (i) Yes (ii) No
c. If yes, list such remaining obligations?

d. Are there any accidental damages of residential structures and minor structures during road upgrading/construction?

e. Did individuals who accidentally lost residential structures or minor structures receive restoration assistance for their damaged assets?

## Annex 22. Terms of Reference for NGOs to implement VCDP

**Terms for Reference (ToR)**
**for**
**Implementation of Vulnerable Community Development Plan (VCDP)**

### 1.0 INTRODUCTION

**1.1** Strengthening of National Rural Transport Program (SNRTP) is being implemented in XXX districts under the financing of World Bank IDA Grant. A part of this additional finance is to be used to meet the requirements and enhance the livelihood of indigenous community and other vulnerable communities along with the road subprojects by conducting the skill development trainings. The project wants to conduct the training program through local non-governmental organization (NGOs)

**1.2** The SNRTP is a continuation to the Rural Access Improvement and decentralization Project (RAIDP) started at 2005 and aims to supports the completion of remaining works in districts not covered under RAIDP. It also aims at continuing the good practices and positive lessons learned from implementation of the prevailing RAIDP. The primary objective of SNRTP is to provide beneficiary rural communities with improved and sustainable physical access to economic opportunities and social services.

**1.3** To facilitate the assessment and management of potential social impacts arising from SNRTP, The Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR) has developed an Environmental and Social Management Framework (ESMF). This framework formulated in accordance with GoN policies and the World Bank's environmental and social safeguard policies which will be used for environmental and social screening and developing appropriate mitigation measures of proposed works under the project.

**1.4** The government of Nepal agreed with the World Bank to provide 3 percent of the total cost of the project as voluntary donation impact

mitigation fund (social safeguards fund) which will be used for addressing all types of individual impacts arising from the project. According to the ESMF, the fund will be used for providing incentives for the land donors, assistance for the structure damage households and livelihood loss. Moreover, the project has to use the fund for income generation and skill development activities of the vulnerable people of the influence zone zero of the subproject.

**1.5** The SNRTP/DoLIDAR/MoLD/GoN now wishes to hire an NGO (s) for assisting the RAIDP/PCU and participating DDCs in the implementation of Vulnerable Community Development plan (VCDP).

**1.6** The participating district through Social Development Consultant (SDC) / Social Mobilization Officers (SMO) have submitted the number of interested individuals for skill development and income generation trainings, types of training and days for the training\ support to PCU. The PCU has prepared a detail VCDP which has to be implemented by the Firm in the zone of influence of identified roads of the participant districts.

**1.7** The NGOs has to implement the VCDP in coordination with the PCU and DDC/DTO. The SDC in coordination with DDC/DTO will assist to organize the training and support program in the district. However, the PCU and respective DDC/DTO will be responsible for supervision and monitoring of the activities of the NGO. On the behalf of the PCU and DDC/DTO, SDE, SSDC/SDC will continuously monitor and supervise the activities of the NGO

## 2.0 OBJECTIVES OF THE CONSULTANCY SERVICES

### 2.1 General objectives

The main objective of the consultancy services is to implement the VCDP in the given subproject in coordination with PCU and respective DDC/DTO.

### 2.2 Specific objectives

The specific objectives of the consultancy services are to:

- Develop relationship with SDC and DDC/DTO chiefs and staffs and work in coordination with them.
- Implement the VCDP as per the description of the plan.
- Motivate and impart training to the participants and ensure implementation of the skill and knowledge gained/learnt from the training in practice.
- Establish a working relationship with the DDC/DTO, SDC and Vulnerable groups of people identified for the training and support and act effectively for the change in livelihood of the vulnerable groups.

## 3.0 DETAILE SCOPE OF THE CONSULTANCY SERVICES

### 3.1 General

The NGO (s) shall work in the district mentioned in the agreement paper. The income generation and skill development training and support program has to organize the related area as far as possible. If it is impossible to conduct in the project site then it has to organize in the appropriate place of the district considering access of the target groups to the locality. The carious activities of the consultancy services to be carried out are described below. The NGO shall however ensure that the services carried out are fully adequate to attain the objectives set out in section 2.0 of these **Terms of Reference.** The duties of the NGO shall include but limited to:

**<u>TASK 1</u> Understanding of the project**

The NGO will be responsible for the implementation of VCDP. The implementation of VCDP apart from imparting training to eligible beneficiaries also includes generating awareness and motivating beneficiaries to participate in the training program. The following sub-activities shall carry out by the NGO to fulfill the objectives of Task 1:

- Review the ESMF and VCDP.
- Motivate women members to ensure participation of at least 30% women in all training/support program.
- Generate awareness among the vulnerable groups about the training program
- Conduct orientation program to explain the provisions of VCDP.
-

**TASK 2: Training Facilitation**

- Facilitate the training/support program in close coordination with the DDC / DTO authorities, SDC, PDE, Local Road Users Committee (LRUC) and Village Road coordination Committee (VRCC).
- Pre inform the intended beneficiaries about the training program date and venue
- Arrange for the transport facility if required
- Arrange for mater trainers either in-house or from the market or partner organization
- Provide skill enhancement training as described in VCDP
- Establish backward and forward linkages with the business/activities carried out by the vulnerable community to elevate their income.
- Promote the business prospects along with imparting knowledge and skill to vulnerable groups.
- Disburse the seed money allocated in VCDP to the participants of the training and support program during the certification ceremony of the training program.

In case of lack of in house capacity, NGO to identify suitable and competent partners for providing various types of training ranging from vegetable farming, house wiring to anvil repair.

- **<u>TASKS 3</u>: Facilitate support program**
  - Disburse the support amount to the identified vulnerable groups through the SDCs in coordination with DDC/DTO. . NGO to motivate and ensure that beneficiaries also contributes towards the support fund
  - Disburse the fund in the presence of DDC/DTO authorities and SDC.

**<u>TASK 4:</u> Other Tasks**

- The NGO is responsible to deliver the knowledge and skill of income generation and skill development in close coordination with PCU, DDC/DTO authorities and SDC.
- It has to organize the training / support program in coordination with DDC/DTO and SDC. In case selected NGO has to identify and hire partner organization for imparting specialized training, it shall inform the client in writing and the process followed for selection of partner organization.
- Design a completion certificate for successful participation of the training and award the same to the participants.
- The presence of the respective DDC/DTO authorities will be ensured in the initiation and end of the training.
- For the support program, the support amount has to be given by cheque directly to the group through the DDC/DTO authorities in public gathering.

## 4.0 REPORTING REQUIREMENT

The NGO should finalize the tentative schedule of the VCDP of each road sub-project after consulting the PCU and should inform the PCU the date of starting of any VCDP program at least 3 days earlier. The NGO is required to submit following report to SNRTP-PCU.

1. Activity completion report,

2. Monthly progress report, and
3. Final or Completion Report of the Task assigned to the NGO.

## 5.0 Submission of Expression of Interest (EoI)

The applicant shall show the Expression of Interest (EoI) stating their willingness, suitability and methodology to work with reference to the adjective and scope of the works. The applicants shall submit their financial proposal with detail action plan of the training and support program along with EoI.

## 6.0 REQUIRED QUALIFICATION

The NGO must have:

- Working experience of at least one similar type of training especially in social mobilization, income generation and skill development and support program.
- Working experience with vulnerable people/groups, dalits and marginalized communities of people, and
- Experiences of work related to livelihood improvement, social inclusion, resettlement and rehabilitation and so on.

## 7.0 Short Listing

The NGO shall be selected accordance with the CQS procedures in the World Bank's GUIDELINES "SELECTION AND EMPLOYEMENT OF CONSULTANTS UNDER IBRD LOANS AND IDA CREDITS AND GRANTS BY WORLD BANK BORROWERS" on the basis of approved criteria by the department. The firms having the required experience and competency relevance to the assignment shall be assessed and compared and best qualified and experienced firm shall be selected.

## 8.0 Evaluation of the selected firm

Only the selected firm shall be asked to submit a combined technical and financial proposal and if, such proposal is responsive and acceptable, be invited to negotiate the contract. Both technical and financial aspects of the proposal may be negotiated. If the negotiations fail with the selected firm, the next ranked firms shall be invited for negotiations.

## 9.0 LOGISITICs

The NGO shall not be provided any logistic support except the agreed amount during the contract for the implementation of VCDP. Whenever possible, the NGO can share the office space of SDC/PDE located in concerned project district during the service delivery period in the district.

## 10.0 Performance Evaluation:

The evaluation of the performance of the NGO shall be done on the basis of the effectiveness of the training /support program which will be the basis for the selection of similar type of works in the future.

## 11.0 Payment Schedule

The payment schedule will be as per the following:

- After submission of inception report = 20% of the total contract amount.
- After completion of 50% training and submission of the report = 30% of the total contract amount.
- After Completion of whole training and submission of the report = 50 % of the total contract amount.

## 12.0 DURATION OF CONSULTANCY SERVICE

The duration of the consultancy services shall be six months from the date of agreement. In case of delay or inability to complete the tasks on time the NGO has to come with the request letter. In this situation, SNRTP-PCU deserves full rights for extension or termination of the contract.

## 13.0 TAXATION

The NGO shall be fully responsible for all taxes imposed by Government of Nepal. It must be registered VAT.

## 14.0 AGREEMENT

The NGO shall be required to enter into an agreement with the SNRTP-PCU/ DoLIDAR on Lump-Sum basis.

## Annex 23: Guidelines for protecting Physical Cultural Resources

### Avoiding Impacts on Cultural and Historical Properties

Cultural heritage are sites, structures, and remains of archaeological, historical, religious, cultural, and aesthetic value. It is important to assess site to understand the significance of a site and to provide due protection according to its aesthetic, historic, scientific, and social value.

- Preventive Measures:
  - Specify in the works contracts all required steps, notifications and preservative actions in case new / undiscovered archaeological or other culturally interesting items are encountered during excavation works. The clauses will specify whom to inform and how to proceed with works after the respective approval.
  - Align the road such that acquisition of sites known for cultural heritage is avoided at good distance (to prevent possible damage by road-induced emissions like air pollutants, vibrations and noise).

- Mitigative Measures:
  - The contractor is responsible for strictly instructing workers to stay away from and respect local cultural assets, to avoid any direct harm to those items or to hurt the traditional feelings of local people.
  - Avoid any actions that bear the risk to destroy the sites or alter their scientific or aesthetic character.
  - In case of accidental damages, the Contractor will be obliged to inform immediately the archaeological department who will then decide further actions.
  - In case of accidental damages, the Contractor will be obliged to carry out immediate corrective and repair measures to satisfy the local population and, as applicable, the representative of the archaeological department.

### Chance Find Procedures

As subprojects will be located across 35 districts in Nepal, possibility of encountering cultural sites during construction may not be ruled out. If such physical cultural resources defined as “movable or immovable objects, sites, structures or groups of structures having archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance is found during construction, this has to be immediately informed to the local authority as per the law of the land.

All findings belong to the Government of Nepal. The department of Archeology will determine the final destination of any artifact that is salvaged during the construction process. Construction activity will immediately halt and will not resume until authorized by the competent authority (Chief District Office and Department of Archeology).

The Contractor will train all workers, especially those working on earth movements and excavations, on recognition of artifacts most likely to be found in the area. The Department of Archeology, or any other recognized Historical or Archaeological Institute can be requested to provide this training.