Environmental Assessment Document

Initial Environmental Examination

Grant Number: 0093 NEP

March 2011

Nepal: Rural Reconstruction and Rehabilitation Sector Development Program

Rajduwali-Chisapani-Danabari Road Subproject, Illam District

Prepared by the Government of Nepal

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Government of Nepal

Ministry of Local Development

Department of Local Infrastructure Development and Agricultural Roads

Rural Reconstruction and Rehabilitation Sector Development Program

[ADB Grant 0093 NEP]

Initial Environmental Examination (IEE)

of

Rajduwali –Chisapani -Danabari Road Sub Project

Illam District

Submitted to:

Ministry of Local Development

Government of Nepal

Proponent:

Office of District Development Committee/
District Technical Office

Ilam District

March, 2011

Prepared by:

District Implementation Support Team (DIST)

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ABBREVIATIONS

ADB	Asian Development Bank
Amsl	Above mean sea level
AP	Affected Person
BG	Building Group
Ch	Chainage
CBO	Community Based Organization
CDC	Compensation Determination Committee
CDO	Chief District Officer
CEA	Country Environmental Analysis
CF	Community Forest
CFUG	Community Forest Users Group
CISC	Central Implementation Support Consultants
CITES	Convention on International Trade in Endangered Species of Flora and Fauna
DADO	District Agriculture Development Office
DDC	District Development Committee
DFID	Department for International Development
DFO	District Forest Office/Officer
DG	Director General
DIST	District Implementation Support Team
DoLIDAR	Department of Local Infrastructure Development and Agricultural Roads
DPO	District Project Office
DPCC	District Project Coordination Committee
DRSP	District Road Support Programme
DSCO	District Soil Conservation Office
DTO	District Technical Office
DTMP	District Transport Master Plan
EA	Environmental Advisor
EARP	Evironmental Assessment and Review Procedures
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EMS	Environmental Management Section
EPA	Environmental Protection Act
EPR	Environmental Protection Rules
FGD	Focus Group Discussion
GAP	Gender Action Plan
GoN	Government of Nepal
GIS	Geographical Information System
Ha	Hectare
HH	Household
IEE	Initial Environmental Examination
IUCN	International Union for Conservation Nature
Km	Kilometer
LDO	Local Development Officer
LEP	Labour based, environment friendly and participatory
LEST	Livelihood Enhancement and Skill Training
M	meter
MoU	Memorandum of Understanding
MoE	Ministry of Environment
MoLD	Ministry of Local Development
NGO	Non-Governmental Organization
NRs	Nepali Rupees
NTFPs	Non timber forest products
OFID	OPEC Fund for International Development
OP	Operational Plan
OPEC	Organization of Petroleum Exporting Countries
PAM	Project Administrative Memorandum
PCC	Plain Cement Concrete
PCU	Project Coordination Unit
RBG	Road Building Group
RCC	Reinforced Cement Concrete
REA	Rapid Environmental Assessment
RES	Rapid Environmental Screening
RIE	Rurl infrastructure Engneer
RP	Resettlement Plan
RRRSDP	Rural Reconstruction and Rehabilitation Sector Development Program
SAP	Social Action Plan
SDC	Swiss Agency for Development and Cooperation
SM	Social Mobilizer
TA	Technical Assistance
ToR	Terms of Reference
VDC	Village Development Committee
VICCC	Village Infrastructure Construction Coordination Committee
ZoI	Zone of Influence

NAME AND ADDRESS OF THE PROPONENT

The District Development Committee (DDC)/ District Technical Office (DTO), Ilam are the implementing agencies at the district level under RRRSDP and entrusted the consultant for the task of carrying out Initial Environmental Examination (IEE) study of 'Upgrading Rajduwali-Chisapani-Danabari Road Sub-project'.

Name of Proposal

(Upgrading) of Rajduwali-Chisapani-Danabari Road, Ilam District, Nepal

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EXECUTIVE SUMMARY IN ENGLISH

Background
Government of Nepal has received financial assistance from ADB, SDC, DFID and OFID for implementation of the Rural Reconstruction and Rehabilitation Sector Development Program (RRRSDP). The RRRSDP aims for reconstruction and rehabilitation of rural infrastructures damaged in the twenty conflict affected districts of the country. The Proposed 23.3 km long Rajduwali-Chisapani-Danabari Road in Ilam District is one of the Sub-projects selected under the RRRSDP. It is an existing earthen road proposed for upgrading in Gravel standard.

Project Proponent
The 'Proponent' of the proposed Subproject (Proposal) is District Development Committee (DDC)/ District Technical Office (DTO), Ilam. Ministry of Local Development (MoLD) is the 'Concerned Agency' for approving the IEE study of the proposed Sub-project.

Objectives
The main objective of the IEE study is to identify the impacts from the construction and operation of the proposed Sub-project on the physical, biological, socio-economic and cultural environment of the Subproject area. The objective of IEE study is to recommend site specific environmental mitigation measures for adverse impacts, benefit augmentation measures for beneficial impacts, prepare and implement environmental monitoring plan and and make sure whether the IEE or EIA is required for the proposed road sub-project.

Relevancy of the Proposal
The proposed Subproject will provide access to district headquarter, living in rural area of Ilam district. It helps to connectivity to the other parts of the country, all weather serviceability, safety after upgrading the road in gravel standard. As a result socio-economic condition of people living in that area will enhance as local products like tea, cardamom, ginger, Amliso (broom) cultivation, chilly (Akabare Khursani), potato and milk production will get access to market.

Study Methodology
The IEE study has been conducted through review of secondary information collected from relevant agencies, and primary information collected from the field survey in November 2009. The survey methods included walk-through survey along the proposed alignment with checklists, conduction of sample household survey, organizing focus group discussions (FGD) in the related VDCs, and information supplemented by the resettlement and technical team of the Subproject. The IEE report has been prepared according to the Environmental Protection Act, 2053 and Environmental Protection Rules, 2054 of the Government of Nepal and Environmental Assessment Guidelines, 2003, Safeguard Policy Statement, 2009 of ADB.The report follows the Terms of Reference for IEE Study approved by MoLD on 2066/03/24 BS.

Project Description
The proposed road links with far southen part of the remote community of Ilam district with the district headquarter. The total length of the road is 23.3Km. The road alignment is already opened and motorable. The road passes three village development committees namely Godak, Chisapani and Danabari. The average width of the road will be 5.0 m and geometry will be improved as per design required. The total project cost is NRs. 151,224,357.00 and per km cost is NRs. 6,490,315.00.

Existing Environmental Condition
The road starts from Rajduwali Bazaar of Godak VDC and passes through Chisapani and Soktim bazaar and ends at Sittali Bazaar of Danabari VDC. The road alignment is composed of various kinds of rock. Generally, alluvial, residual and clay mixed sandy soil are found along the road alignment. Major rivers along the road aliognment are Mai Khola, Karfok Khola and Lodiya Khola. Other seasonal streams found across the road alignment are Barbare Kholsi, Chaude Kholsi, Baruwale Kholsi, Sungure Kholsi, Rangapani Kholsi, Pandhere Kholsi, Bhuje Kholsi and Barpani kholsi. Ambient air and water quality of the proposed project area is observed to be good and there is no noise pollution. The road mainly passes through agricultural land, barren land, forest and settlements.

The dominant tree species found in the road alignment are Sakhuwa (*Shorea robusta*), Chilaune *(Schima wallichii*) and Saj *(Terminalia alata)*. Other main species found within ZoI of the sub-project are, Bans (*Dendrocalamus strictus*), Simal (*Bombax ceiba*), Katus (*Castanopsis indica*), Mauwa (*Engelhardia spicata*), Nebaro (*Ficus auriculata),* Kutmiro *(Litsea monopelata),* Khaniyu *(Ficus semicordata)*, Siris (*Albizia julibrissin),* Dhayero (*Woodfordia fruticosa*), Jamun (Syzygium cumini), Tooni (*Toona ciliate*), Tanki (*Bauhinia purpurea*), Bakaino (*Melia azederach*),

Uttis (*Alnus nepalensis*), Guyelo (*Callicarpa macrophylla*), Chakrasi, Sindhure (*Mallotus philippensis*), Kavro (*Ficus lucar*), Lampate (*Duabanga grandiflora*), Badahar (*Artocarpus lakoocha*), Chyuri (*Aesandra butyracea*), Firphire (*Acer oblongum*), Tapare (*Cassia tora*), Haledu (*Curcuma angustifolia*), Malagiri (*Pratia nummularia*) etc. Jackal (*Canis aureus)*, Rato Bandar (*Macaca mulatta*), Jungle Cat (*Felis chaus*), Leopard (*Panthera pardus*), Barking Deer (*Muntiacus muntjac*), Wild hare (*Lepus nigricollis*), Porcupine (*Hystix indica*), Bandel (*Sus scrofa*), Lokharke (*Ratufa spp.*), Salak (*Manis crassicaudata*), Nyauri Musa (*Vulpes Montana*) are the wild animals reported in the forests of proposed road area. Similarly, birds are Kalij pheasant (*Lophura lencomelana*), Dhukur (*Streptopelia spp.*), Pigeon (*Columba livia*), Jungle fowl (*Gallus gallus*), Kag (*Corvus splendens*), Bhangero (*Passer domesticus*), Fista (*Orthrotomus sp.*), Jureli (*Pycnonotus sp.*). The road does not fall under any National Park, buffer zone and protected area.

The major settlements along the ZoI of the proposed road alignment are Rajduwali, Chiyabari Setuwa, Rangapani, Tilke Bhanjyang, Malbase, Sombare Bazaar, Chisapani, Soktim Tole, Lodiya and Sitali Bazaar. The total household within ZoI along the road corridor is 803, total population number is 3,955 persons and average family size of 4.93. Major ethnic groups such as Rai, Limbu, Chettri, Brahmin, Tamang, Magar, Newar live along the ZoI of road alignment.

The major occupations of the people are agriculture and livestock farming. Due to limited transportation facilities and hilly areas, agriculture farming is not enough for subsistence level. Therefore, people are carrying out other economic activities like majority of the people work as labour and porters while some people work in government and non government organizations and few are doing business. Moreover, significant percentage of the economically active male population migrate to various places such as Kakarbhitta, Biratnagar and various parts of eastern India during slack farming season for employment.

Major Environmental Impacts

Beneficial Impacts

The immediate benefit from this road Sub-project is employment opportunities. The implementation of Sub-project require total 175,118 person days and about 140,094 person days of unskilled and 35,024 person days of skilled manpower. The project will give priority to the poor, ethnic minorities and disadvantaged local people for employment opportunity. Other beneficial impacts include enhancement of local business, development in skills of local people from skill developing training, awareness raising training and involvement in the construction of the project.

During operation stage of road, the people from the ZoI will get easy and fast accessibility to markets, social services and other regions of the country. This will ensure better economic condition and food security of the people living in the ZoI of the project area. Moreover this will promote the small agro based industries that uses local resources. Easy access and opportunity of better transportation system will develop other sectors like education, health, communication, market, banking and other socio-economic sectors. This will increase the overall living condition of the people living in ZoI of project area. The better land network will result in increased land price which will be beneficial for land owners.

Adverse Impacts

During the road construction, the cutting of slopes and consequently disposal of soil and earth material, operation of quarryies might result in on erosion and landslide during construction and operation. Futhermore, spoils generated during construction can create the water pollution to the nearby water sources.

During road widening and construction required 1.52 ha of cultivated land, 0.52 ha. of barren land, 0.46 ha. of built up area and 1.43 ha of forest area and different type of 57 total nos. tree will have to be cleared from private land by the project construction. Also during construction of road there might be possible impacts on wildlife as workers will harass/ poaching the wildlife in the nearby forests, however, such effects are very minimum. 3 houses at Ch 11+478, 11+622 and 11+754, drinking water supply pipelines at Ch 10+950, 12+200 and 13+700, Irrigation canal at 2+100, 5+000 and 18+900 will be affected during road construction.

During operation stage, vehicular movement, monsoon rain might result in slope instability and hence erosion and landslides might occur. The flowing water on the side drain of the road might cause erosion of soil on adjacent agricultural land. Vehicular emissions will result in air and noise pollution. Because of easy accessibility to the forest areas will deplete forest resources and wildlife. New settlement, bazaar area will be expanse and this may increase encroachment of the RoW.

Mitigation Measures

The various benefit augmentation measures and adverse impact mitigation measures have been proposed in the report to make this project environment friendly. Other than land donated by local people for the projects, adequate

compensation will be provided to affected poor and marginalize household for all the lands that need to acquire. The construction of road will be based on Contractor modality and Labour-based, Environment friendly and Participatory (LEP) approach as far as possible. Affected families will be given high priority for employment and skill development trainings. Necessary measures will be taken to reduce the adverse effects that might arise from site clearance, cutting of slopes, disposal of spoils and quarrying activities. Necessary trainings and awareness programs will be conducted. Necessary measures will be adopted for protection of flora and fauna. At construction site, the workers will be provided insurance, first aid facilities and safety equipments such as helmets, masks, gloves and boots. Loss of private trees will be compensated by planting of trees in the ratio of 1:1 in private land. Protected species will be given emphasis for plantation. Proper maintenance and proper drain system will be provided to prevent accumulation of water on the nearby agricultural lands during operation. Adequate road safety measures will be provided to minimize road accident.

Environmental Management Plan

Environmental management plan is prepared to ensure the implementation and monitoring of mitigation measures for minimizing adverse impacts and maximizing the beneficial impacts. The necessary mitigation measures together with environmental monitoring process and responsible bodies for environmental monitoring have been identified. Similarly, for environmental monitoring various sections of physical, biological, socio-economic and cultural environment have been identified to generate useful information and improves the quality of implementation of mitigation measures.

The cost for implementing environmental monitoring and management plan has been identified as follows:

SN.	Description	Amount (NRs.)	Remarks
1	Environmental awareness raising training and other training	200,000.00	To be included in project cost
2	Insurance of RBG workers	100,000.00	To be included in BoQ
3	Bio-engineering/ Road Side Plantation	2,080,468.00	To be included in project cost
4	Resettlement and Rehabilitation Cost (Compensation, Rehabilitation costs, Income Generation and Livelihood improvement programme for affected families)	14,73,256.00	To be included in Resettlement plan
5	Restoration or relocation of affected infrastructures, Spoil management, Reinstate of quarry, stockpiling etc.	500,000.00	To be included in BoQ
6	Compensatory Plantation cost	118,053.00	To be included in project cost
7	Social Action Plan cost	11,27,810.00	To be included in Social plan, project cost
8	Occupational health and safety, Information signboard	550,000.00	To be included in BoQ
9	Monitoring	200,000.00	To be included in project cost
	Total	**63,49,587.00**	

Conclusion and Recommendation

The identified environment impacts can be managed to greater extent by implementing appropriate mitigation measures. Activities during construction and operation within the protected areas require proper monitoring and management especially during operation of the road. The implementation of proposed mitigation measures for identified adverse impacts will minimize as well as mitigate the adverse impacts on environment. The Resettlement Plan and compensation to the affected households shall be ensured. The implementation of measures as described in environmental management plan will mitigate the negative impacts on physical, biological, socio-economic and cultural environment. Therefore, this IEE is sufficient for approval of the proposed sub-project, and recommended for implementation with incorporation of mitigation measures and environmental monitoring plan. Therefore, the proposed Subproject does not require Environmental Impact Assessment.

CHAPTER – 1

1. INTRODUCTION

1.1 Background

1. The Rural Reconstruction and Rehabilitation Sector Development Program (RRRSDP) covers 20 districts spread over the country, which focuses on immediate post-conflict development priorities for accelerated poverty reduction and inclusive development, to improve the connectivity, enhance economic and employment opportunities, increase access to market and social services of rural communities. The project outputs include (I) improved rural roads (ii) developed and improved community based supplementary rural infrastructure (iii) enhance equity, employment and income opportunities for the poor disadvantaged (iv) strengthen intuitional capacity of Ministry of Local Development(MoLD), Department of Local Infrastructure Development and agricultural Roads(DoLIDAR), District Development Comities (DDCs), and communities and (v) improved project management. Ilam District is one of the project districts under RRRSDP. The RRRSDP is financed by the Government of Nepal (GoN), Asian Development Bank (ADB), Department for International Development (DFID), Swiss Development Cooperation (SDC), Nepal and OPEC Fund for International Development (OFID). Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR) under the Ministry of Local Development (MoLD) is the executing agency (EA). The District Development Committees (DDCs) are the Project Implementing Agencies and the DTO of each respective DDC is responsible for technical and project management. The District Technical Office (DTO) will be supported by District Implementation Support Team (DIST), which includes engineering, safeguards and social mobilization.

1.2 Objectives of IEE study

2. The main objective of the IEE study is to identify the impacts on physical, biological, socio-economic and cultural environment of the sub-project area from the implementation and operation of the Proposal. It recommends practical and site-specific environmental mitigation and enhancement measures, as well as environmental monitoring plan and and make sure whether the IEE or EIA is required for the proposed road sub-project.

1.3 Methodology Adopted

3. The IEE study has followed the provisions of the EPA, 2053 and EPR, 2054, the provisions of ADB and approved ToR for IEE Study by MoLD on 24/03/2066 BS. It follows methodology suggested in the approved Terms of Reference for IEE Study (please refer Annex I). For the collection of environmental features related to bio physical environment, maximum 100 meter distance observable from the centre of the road alignment was taken as an influence area and socio-economic and cultural environment was taken of ZoI (one and half hour walking distance from the centre line of the road) information of the Subproject area. The IEE study has been conducted through review of secondary information collected from relevant agencies, and primary information collected from the field survey in November 2009. Field survey, sample household survey, organization of Focus Group Discussions in the related VDCs was carried out and necessary information was collected. The DDCs officials, VCDs and Community groups are also contacted to verify information to solicit their concerns. Based on the analysis of information the impacts have been predicted, mitigation measures prepared and monitoring plan has been developed.

1.4 Public Consultation

4. In order to ensure the public involvement, the following procedures were followed during IEE report preparation.

- Publication of notice- a 15 days public notice was published on 17th Srawan of 2066 B.S (1st August 2009) in the Gorkhapatra, a national daily newspaper (**see Appendix-V**) seeking written opinion from concerned VDCs, DDC, schools, health posts and related local organizations. A copy of the public notice was also affixed in the above mentioned organizations and deed of enquiry (*muchulka*) was collected (see **Appendix-VI** for deed of inquiry and **Appendix-VIII** for the names of organizations).
- IEE team also carried out interaction and group discussion with local communities and related stakeholders such as District Development Committee, District Forest Office, Village Development Offices, District Soil Conservation Office, District Agricultural Development Office and others during field survey to collect the public concerns and suggestions (see **Appendix-IX** for the list of persons consulted; summary of Focus Group Discussion / Interaction meeting in **Appendix-X** and minutes of meeting with local people in **Appendix–XI.**

- Recommendation letters were also obtained from the concerned VDCs (see **Appendix-XII**). FGDs were held at major different settlements along the ZoI of the road. After reviewing draft IEE report and incorporating the suggestions from the concerned stakeholders, Final IEE report will be prepared and sent to PCU for approval from MoLD and ADB.

Table 1.1: Summary of FGD and Consultantion meetings

Location	Date	No. of Participants		Issues and Suggestions	Decision
		Male	Female		
2066/08/10 B.S. (25/11/09)	Tappu, Godak	16	3	• There is need to divert the existing route at Shiva temple, Rajduwali Tappu along the proposed alignment road due to close location. • There are much positive aspects with the construction of road. There will be no any severe environmental adverse impact. However, people are conscious on the occurance of air and noise pollution after the vehicular movement. • There will be few tree cutting between the portion of Bagaicha Sere, Soktim Valley, Kothe Danda and Mal Dase area. • There is need to improve the branch roads. • There are much positive aspects with the construction of road. There will be no any severe environmental adverse impact. • There will be some clearance of trees for the widening of the road. The road portion of Danabari will be improved by the common consensus of the tea estate owners and local people. • People have their demand to construct wide steel truss bridge on the Lodhiya Khola. • There is sufficient quantity of sand and bolder quarry to abstract from Lodhiya Khola for the construction of road. • There are nominal effects on school area and health post during the construction works. • There is no demolishment of any temples and Gumba, but need to improve the branch roads.	• Isolated bolders, shed/houses and some trees be cleared up and necessary compensation will be provided. • Special consideration will be given to school and sub health post area. • The construction of road will be carried by implementing mitigation measures to minimize adverse impacts. • There is need to improve landslide prone zone near school area. • Construction of road will improve the portion of access road linked with the road. • Bridge will not be constructed under this project.
2066/08/11 B.S. (26/11/09)	Chisapani	34	7		
2066/08/12B.S. (27/11/09)	Danabari VDC Office, Sittali Bazaar	10	1		

1.4.1 Information Disclosure

5. Draft IEE will be kept in the information center of DDC Ilam for public Dissemination. Information are also be disclosed through person to person contacts and interviews and group Discussions. The approved IEE report will be accessible to interested parties and public through information center of DDC Illam and websites of ADB, DoLIDAR and RRRSDP.

6. The IEE Report will be forwarded to the following offices:
   1. District Development Committee, Ilam
   2. District Technical Office, Ilam
   3. District Project Office, Ilam
   4. District Implementation Support Team, Ilam
   5. Godak, Chisapani and Danabari VDCs
   6. Ministry of Local Development, Environment Management Section
   7. Department of Local Infrastructure Development and Agricultural Roads
   8. Project Coordination Unit, RRRSDP
   9. Asian Development Bank, Nepal Resident Mission

CHAPTER - 2

2. DESCRIPTION OF THE PROPOSAL

7. The proposed Rajduwali-Chisapani-Danabari Road is ten km far from Ilam Municipality in Eastern Development Region of Nepal. The road length is 23.3 km and starts from Rajduwali and ends at Sitali Bazaar of Danabari VDC. The road passes through Godak, Chisapani and Danabari VDCs. Major settlements along the road alignment are Rajduwali, Chiyabari Setuwa, Rangapani, Tilke Bhanjyang, Malbase, Sombare Bazaar, Chisapani, Soktim Tole, Lodiya Khola, Lodiya, Hattichhirayo, Sitali Bazaar. It is one of the important road, which goes to junction point of Ilam and Jhapa and links with East-West highway via. Eastern Lok marga. The proposed rural road has been selected as per the decision made by the DPCC and DDC with prioritizing on District Transport Master Plan (DTMP). This road falls in both ridge and river Alignment. Agriculture lands, Private forest and community forest are found to the both sides of the road. There are some existing sharp horizontal curves, hairpin bends and high gradient more than 12%. The total length of the road as per ToR was 20.0 km but after detailed survey the alignment length is changed to 23.3km (see **Map 2.1** and **Map 2.2**). The total cost of road upgrading is estimated as NRs. 151,224,357 and per km cost is NRs. 6,490,315.00.

Salient feature of the Road Subproject

1. Name of Project	: Rajduwali-Chisapani-Danabari Road Sub-project
3. Geographical Location	
Region	: Eastern Development Region
District	: Ilam
Zone	: Mechi
4. Geographic Features	
Terrain	: Mountain & Hilly
Landuse pattern	: Agricultural land (Khet/ Bari), Builtup area, Barren, Forest
Climate	: Sub-tropical Climatic Zone
Soil	: Hard soil
5. VDCs along the Road alignment	: Godak, Chisapani and Danabari
6. Major Settlements:	
Major Settlements	: Rajduwali, Chiyabari Setuwa, Rangapani, Tilke Bhanjyang, Malbase, Sombare Bazaar, Chisapani, Soktim Tole, Lodiya and Sitali Bazaar.
Total no. of Household	: 803 HHs (within ZoI along the road corridor)
Total population	: 3955
7. Project Area	
Starting Point	: Rajduwali (Mai khola), Godak-1
Ending Point	: Sitali bazaar, Danabari-1
Length of roads	: 23.3 km
8. Classification of Road	
Classification	: District Road
Standard of Pavement	: Gravel
9. Cross – Section	
Right of way	: 10.0 m (5.0m on either side from Center Line)
Formation width	: 5m
Carriage width	: 3m
Shoulder width	: 1.0m (Including Drain)
10. Structure	
Pipe Culvert (nos.)	: 19
Dry stone Causeway(nos.)	: 21
11. Retaining Structure	
Gabion Wall	: 5793 m^3
Dry Wall	: 1243 m^3
12. Approximate Volume of Earth works	
Cutting	: 44751m^3
Filling/Back filling	: 4557m^3
13. Project Cost	
Total Cost	: NRs 151,224,357.00
Cost per Km	: NRs. 6,490,315.00

Bio-engineering/Roadside plantation cost : NRs. 2,080,468.00

14. Material Availability
    - Stone quarry : Karfok and Lodiya Khola
    - Sand quarry : Lodiya Khola
15. Total Employment generation : 175,118
    - Skilled : 35,024
    - Unskilled : 140,094

2.1 Relevancy of the Proposal

8. The sub-project area has high potential for the production of tea, cardamom, ginger, alainchi, Amliso (broom) cultivation, chilly (Akabare Khursani), potato and milk production. The proposed road will enhance access of the rural people to market and social services and will significantly uplift their socio-economic status and sustainable livelihood. Better access in turn wills also doors to new development opportunities. It helps to connectivity to the other parts of the country, all weather serviceability, safety after upgrading the road in gravel standard. IEE study of the Proposal is a legal necessity according to Environment Protection Act, 2053 BS (1997 AD); and Environment Protection Rule, 2054 BS (1997 AD) of GON. Similarly, an IEE study is required according to provision of Environmental Assessment Guidelines, 2003; and Safeguard Policy Statement, 2009 of ADB.

2.2 Objective of the project

9. The objectives of project are to improve connectivity, enhanced economic and employment opportunities and increased access to market and social services of rural communities. The project outputs include (I) improved rural roads (ii) developed and improved community based supplementary rural infrastructure (iii) enhance equity, employment and income opportunities for the poor disadvantaged (iv) strengthen intuitional capacity of Ministry of Local Development(MoLD), Department of Local Infrastructure Development and agricultural Roads(DoLIDAR), District Development Comities (DDCs), and communities and (v) improved project management.

2.3 Construction Approach and Activities

10. The construction approach will be based on Contractor Modality and Labour-based, Environment friendly and Participatory (LEP) Approach as far as possible. Activities included during the road construction are: Site clearance, Pavement work, Structures (Toe wall, retaining wall etc.), Earthwork, Bioengineering, Gravelling, Cross drainage works and Side drain works.

2.4 Proposed Schedule for Implementation of Sub-project

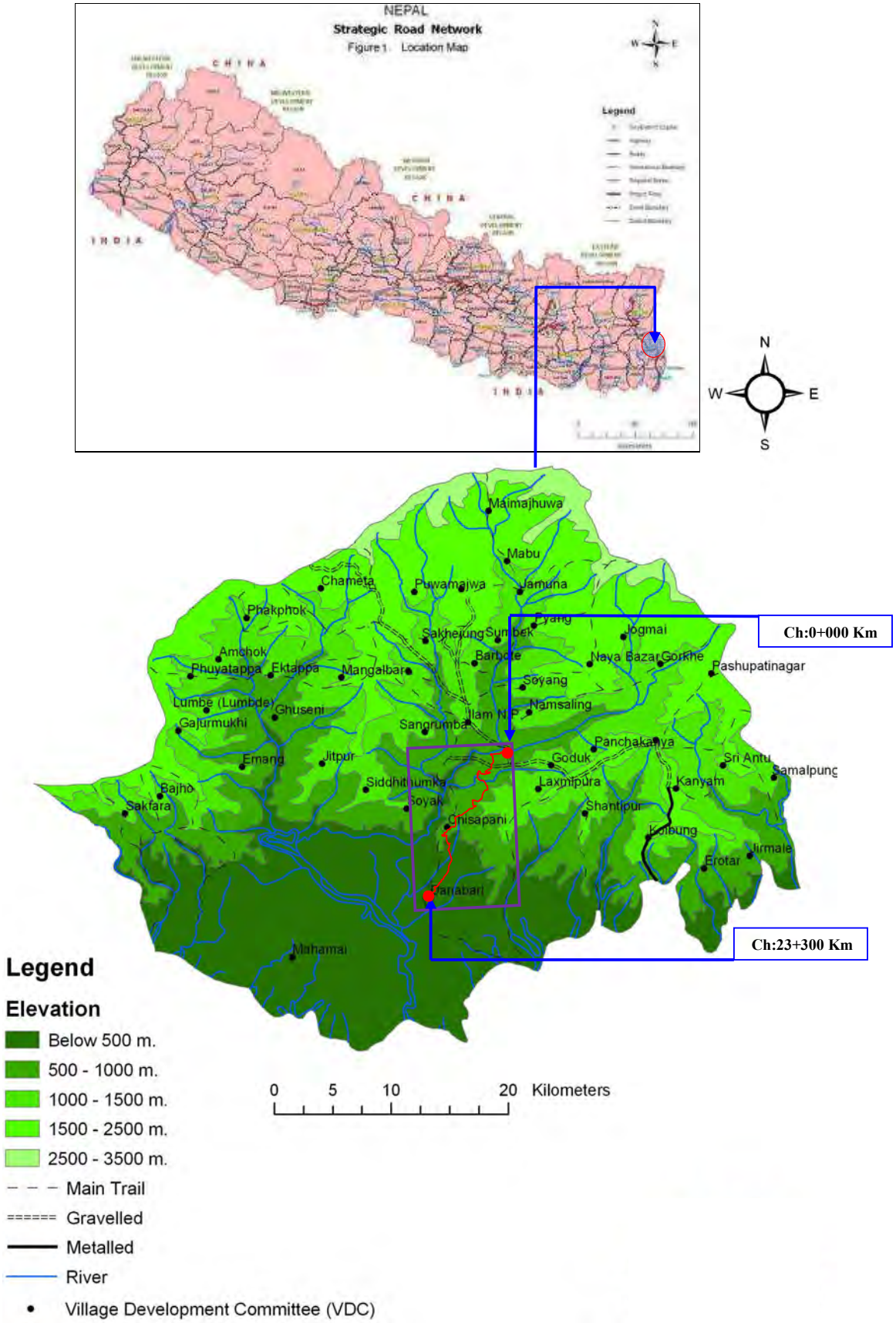
11. Following table shows the proposed implementation schedule for Rajduwali-Chisapani-Danabari road sub-project:

Table 2.1: Sub-project implementation schedule

S.N.	Activity	2009				2010				2011			
		I	II	III	IV	I	II	III	IV	I	II	III	IV
1	**Detailed survey, design and estimate**												
2	**Preparation of Resettlement Plan**												
2.1	Life skill and income generation training												
3	**Environment Assessment and implementation**												
3.1	IEE report preparation and approval from MoLD												
3.2	Implementation of EMP												
3.3	Environmental monitoring												
4	**Work implementation**												
4.1	Civil construction work by contractors												
4.2	Civil construction work by RBGs												

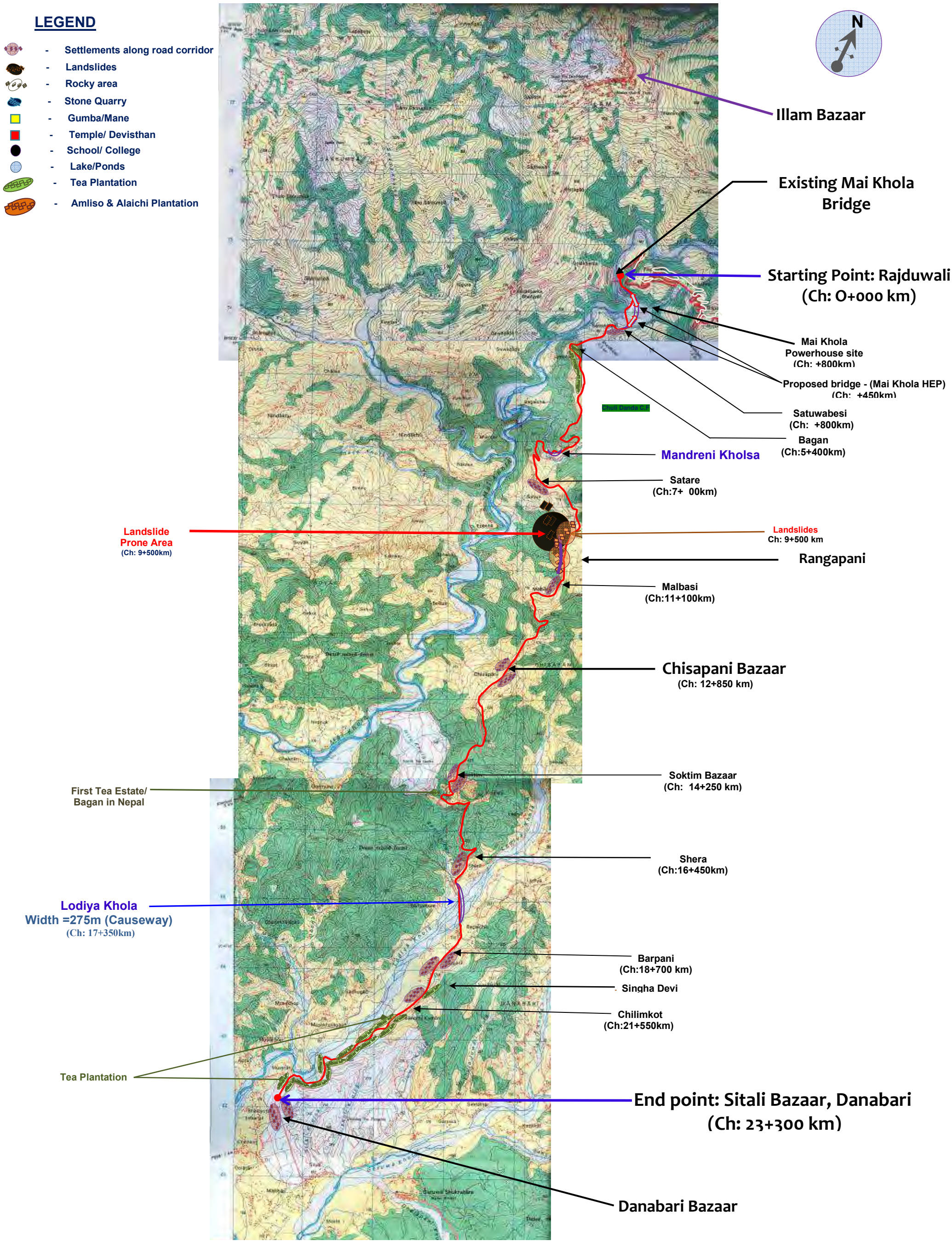
Note:

I - January, February, March
II - April, May, June
III - July, August, September
IV - October, November, December



Map 2.1: Map of Nepal showing the location of Rajduwali – Chisapani- Danabari Road Sub-Project, Illam District

Location Map



Map 2.2: Topo Map Showing the alignment of Rajduwali- Chisapani- Danabari Road

CHAPTER – 3

3. REVIEW OF RELEVANT ACTS, REGULATIONS AND GUIDELINES

12. Government of Nepal has adopted various acts, regulations and guidelines to ensure the integration of development and conservation of environment. The IEE study was being guided by the requirements and provisions of the applicable acts, rules and guidelines as given in **Table 3.1.**

Table 3.1: Review of Environmental Acts, Regulations and Guidelines

SN	Environmental Acts, Regulations and Guidelines	Description of Requirements
1	Three Years Interim Plan, 2007/08-2009/10, GoN	Requires all projects will be formulated and constructed based on methods that optimally utilize the local skill and resources and generate employment opportunities.
2	Environmental Protection Act, 2053 BS (1997 AD), GoN	Any development project, before implementation, shall pass through environmental assessment, which will be either IEE or an EIA depending upon the location, type and size of the projects.
3	Environmental Protection Rule 2054 BS (1997 AD) (amendment, 2007), GoN	The EPR and its schedules clearly provide various step-wise requirements to be followed while conducting the IEE study. It also obliges the Proponent to timely consult and inform the public on the contents of the proposal and IEE study.
4	Forest Act, 2049 BS (1993 AD) (amendment, 2007), GoN	Requires decision makers to take account of all forest values, including environmental services and biodiversity, not just the production of timber and other commodities. It includes several provisions to ensure development, conservation, management, and sustainable use of forest resources based on approved work plan.
5	Forest Rules, 2051 BS (1995 AD), GoN	Elaborates legal measures for the conservation of forests and wildlife. Expenses incurred for cutting trees and transportation shall be borne by proponent.
6	*Batabaraniya Nirdesika* (Nepal; MLD), 2057, GoN	The directive is focused in the practical implementation of small rural infrastructures through the minimization of environmental impacts. This directive includes the simple methods of environmental management in the different phases of the project cycle.
7	The Labor Act, 2048 BS (1992 AD)	Regulates the working environment and deals with occupational health and safety.
8	Local Self Governance Act 2055 BS (1999 AD) (1999) and Regulation 2055 BS (1999 AD), GoN	Empowers the local bodies for the conservation of soil, forest and other natural resources and implements environmental conservation activities
9	Land Acquisition Act, 2034 BS (1977 AD) and Land Acquisition Rules, 2026 BS (1969 AD), GoN	Specifies procedural matters on land acquisition and compensation
10	National Environmental Impact Assessment Guidelines, 1993 (2050 BS), GoN	Provides guidance to project proponent on integrating environmental mitigation measures, particularly on the management of quarries, borrow pits, stockpiling of materials and spoil disposal, operation of the work camps, earthworks and slope stabilization, location of stone crushing plants etc.
11	APPROACH for the Development of Agricultural and Rural Roads, 1999 (2055 BS), GoN	Emphasizes labor based technology and environmental friendly, local resource oriented construction methods to be incorporated actively in rural infrastructure process.
12	RRRSDP Environmental Assessment & Review Procedures (EARP), 2007, GoN	For preparation of environmental assessments of future subprojects under Rural Reconstruction and Rehabilitation Sector Development Program (RRRSDP), this EARP includes: i) The process to be adopted while preparing environmental reports, ii) the potential environmental impacts that could result from undertaking the Project based on the Initial Environmental Examinations (IEEs) of sample core subprojects; iii) the proposed mitigation measures to avoid the identified impacts; iv) institutional capacity assessment and strengthening arrangements; v) legal framework for environmental assessment, domestic and the Asian Development Bank (ADB) environmental assessment and review procedures; and finally vi) the

		approaches to be adopted during implementation of the Project in order to ensure that environmental aspects are dealt with in a comprehensive manner.
13	Reference Manual for Environmental and Social Aspects of Integrated Road Development, 2003 (2060 BS), GoN	Suggests stepwise process of addressing environmental and social issues alongside the technical, financial and others
14	Green Roads in Nepal, Best Practices Report: An Innovative Approach for Rural Infrastructure Development in the Himalayas and Other Mountainous Regions, 1999 (2055 BS), GoN	Focuses on participatory, labor based and environment friendly technology with proper alignment selection, mass balancing, proper water management, bioengineering and phased construction
15	Environmental Assessment Guidelines, 2003, ADB	Requires that environmental considerations be incorporated into ADB operations where environmental assessment is the primary administrative tool to integrate environmental considerations into decision-making of all types of development initiatives
16	Safeguard Policy Statement, 2009, ADB.	ADB's Safeguard Policy Framework consists of three operational policies on the Environment, Indigenous people and Involuntary resettlement. It requires that (i) impacts are identified and assessed early in the project cycle, (ii) plans to avoid, minimize, mitigate or compensate for the potential adverse impacts are developed and implemented and (iii) affected people are informed and consulted during project preparation and implementation.
17	The Interim Constitution of Nepal, 2063 (2007).	Has provision of right regarding environment - Every person shall have the right to live in clean environment.
18	The Labor Act, 2048 BS (1992 AD)	Regulates the working environment and deals with occupational health and safety.
19	Child Labor (Prohibition and Regulation) Act, 2056 (2000)	No child having not attained the age of 14 years shall be engaged in works as a laborer.

CHAPTER- 4

4. EXISTING ENVIRONMENTAL CONDITION

4.1 Physical Environment

13 This section describes the physical condition of the area that comes under the ZoI of the entire length of road and surrounding area. The data has been collected from both secondary and primary sources.

4.1.1 Topography

14 Ilam district lies in the mid-hill ecological belt with its elevation varying from 140m to 3636m. Resembling a square shape, it occupies 1703 Sq. Km. area. Spread over the latitude of 26º40'N to 27º08' and longitude 0f 87º40' to 88º10'E, this district is surrounded by Darjeeling, India in the east; Panchthar in the north; Morang and Panchthar in the west; and Jhapa in the south. The proposed road alignment mainly passes through different valley ridges, moderate hill slopes and cultivated terrains plain. This road starts from Rajduwali, Godak VDC-1 lying at 26°55'N and 87°56'E and passes through Tilkebhanjyang, Chisapani -3; Soktim Bazaar, Chisapani -1; Sombare Bazaar, Chisapani -1 and 2 and ends at Chilimkot, Danabari-5 at 26°47'N and 87°53'E. The altitude of Rajduwali is 665m and that of Chilimkot is about 414 m.

Table 4.1: Physiographic region of the road alignment

Road	Physiographic Region by length				Total (Km)
	Terai	Siwalik	Middle Mountain	High Mountain	
Rajduwali –Chisapani-Danabari Road Sub Project		-	23.3	-	23.3

Source: LRMP, 1984

4.1.2 Geology and soil type

15 The road alignment comprises rocks such as quartzite and feldspathic mica schist. There is fragile landslide prone sensitive areas was formed after the natural calamity of 2045 B.S at Rangapani along the alignment, but some minor sized landslides are also present in the entire alignment.

16 In general, soil types found in entire road alignment are mixed soil. The details of topography, soil type along the road alignment are presented in the **Appendix-XVI**.

4.1.3 Land use

17 The existing road mainly passes through Agricultural land, forest, barren land and settlement. The summaryof landuse pattern with existing and needed area of the proposed road alignment is shown in **Table 4.2.**

Table 4.2: Land Use Pattern of the road alignment

Type of Land	Chainage		Length (m)	Existing Width (m)	Additional Width (m)	Existing Area (sq. m)	Existing Area (ha.)	Additional Area (sq. m)	Additional Area (ha.)
	From	To							
Agricultural land	4+800	4+970	170	3	2	510	0.05	340.00	0.03
	5+000	5+500	500	3	2	1500	0.15	1000.00	0.10
	5+700	6+000	300	3	2	900	0.09	600.00	0.06
	6+300	8+650	2350	3	2	7050	0.71	4700.00	0.47
	9+000	10+000	1000	3	2	3000	0.30	2000.00	0.20
	12+100	12+850	750	5	0	3750	0.38	0.00	0.00
	17+000	19+850	2850	3	1.1	8550	0.86	3135.00	0.31
	20+000	22+000	2000	3.3	1.7	6600	0.66	3400.00	0.34
Sub Total						31860	3.19	15176.52	1.52
Barren land	0+000	0+350	350	3.5	1.5	1225	0.12	525.00	0.05
	0+340	0+360	20	2.5	2.5	50	0.01	50.00	0.01
	0+360	0+800	440	3	2	1320	0.13	880.00	0.09
	4+970	5+000	30	3	2	90	0.01	60.00	0.01
	5+500	5+700	200	3	2	600	0.06	400.00	0.04
	6+000	6+300	300	3	2	900	0.09	600.00	0.06
	8+650	9+000	350	3	1.8	1050	0.11	630.00	0.06
	11+000	11+500	500	3.5	1.5	1750	0.18	750.00	0.08
	16+100	16+700	600	3.5	1.5	2100	0.21	900.00	0.09
	16+700	17+000	300	3.5	1.5	1050	0.11	450.00	0.05
Sub Total						10135	1.01	5245.52	0.52
Forest	2+000	4+800	2800	2.5	2.5	7000	0.70	7000.00	0.70
	10+200	11+000	800	3	2	2400	0.24	1600.00	0.16
	12+850	14+500	1650	3.5	1.5	5775	0.58	2475.00	0.25

	14+500	16+100	1600	3	2	4800	0.48	3200.00	0.32
Sub Total						19975	2.00	14276.43	1.43
Built up area (Public Land+ settlement)	10+000	10+200	200	3	2	600	0.06	400.00	0.04
	11+500	11+700	200	3	2	600	0.06	400.00	0.04
	11+700	12+100	400	5	0	2000	0.20	0.00	0.00
	12+700	12+850	150	3	2	450	0.05	300.00	0.03
	19+850	20+000	150	3	2	450	0.05	300.00	0.03
	20+500	21+700	1200	4	1	4800	0.48	1200.00	0.12
	22+000	23+300	1300	3.5	1.5	4550	0.46	1950.00	0.20
Sub Total						13450	1.35	4550.46	0.46
Total						75,420	7.54	39,248.92	3.92

Source: Field Survey, November, 2009

4.1.4 Soil Erosion and Sedimentation

18 The road alignment passes through hilly region. The stability of slopes along the road corridor depends upon slope angle, the material constituting the slope, rock discontinuities and hydrological condition. Proposed alignment does not pass through major landslides except a major landslide at 9+500 Rangapani. But some small slides are found along the road corridor. The approximate locations of landslide and slope instability due to road side erosion areas are Ch 3+000 near Thulo Kholsi, Ch 4+ 500 – Ch 4+900 at Kusume Danda, Ch11+ 600- Ch 12+200. Gully erosion at Ch 4+750 near Kusume Danda.

4.1.5 Climate

19 The climate of the sub-project area is sub-tropical. Generally, rainy season starts from June and ends in September. The meteorological record shows unevenly distributed monsoon rain with the total annual average rainfall of 1545 mm. The maximum temperature is 27° C during summer and minimum is 5° C in winter. (Source:District Profile of Illam, 2058)

4.1.6 Hydrology and Drainage System

20 There are few perenial khola along the road alignment namely Mai Khola, Karfok Khola and Lodiya Khola. Similarly, there are various seasonal streams such as Barbare Kholsi, Chaude Kholsi, Baruwale Kholsi, Sungure Kholsi, Rangapani Kholsi, Pandhere Kholsi, Bhuje Kholsi and Barpani kholsi.

4.1.7 Air, Noise and Water Quality

21 The air quality observed was good and the proposed road alignment does not have any sources of noise nuisance. Although, noise and dust emission during vehicular movement in the existing road is a natural phenomenon and it is more significant during dry and festival season. Some educational and offices close to road alignment have noise disturbance in some extent during transportation services. Likewise, water quality seems to be good. There is no defecation problem around the drinking water sources along the road alignment.

4.1.8 Existing Road Condition

22 The proposed road starts from Rajduwali near Mai Khola bridge (Ch: 0+000 km) and ends at Sitali Bazaar, Danabari VDC-7 (Ch: 23+300 km). The road passes through mainly agricultural land, forest and settlements. The average road width is 3.7 m. This road will connect with the remote areas of the district and Mechi highway. Completion of road will save considerable travel time and improve income generation potentials, enhance commercial opportunities and improve market accessibility to rural people. There are some existing sharp horizontal curves, hairpin bends and high gradient more than 12%. In this road vehicle (light vehicles and mini trucks/tractors) is playing only in winter.

4.1.9 Existing Traffic Situation

23 In this road vehicle (light vehicles and mini trucks/tractors) is playing only in winter uotp Soktim Bazaar.

4.2 Biological Environment

24 The road does not fall under any National Park, buffer zone and protected area.

4.2.1 Vegetation

25 The forest is sparse with dominant species observed in the road alignment are Sakhuwa (*Shorea robusta*), Chilaune (*Schima wallichii*) and Saj (*Terminalia alata*). Other main species found within ZoI of the sub-project are Bans (*Dendrocalamus strictus*), Simal (*Bombax ceiba*), Katus (*Castanopsis indica*), Mauwa (*Engelhardia spicata*), Nebaro (*Ficus auriculata),* Kutmiro *(Litsea monopelata*), Khaniyu *(Ficus semicordata)*, Siris (*Albizia julibrissin),* Dhayero (*Woodfordia fruticosa*), Jamun (*Syzygium cumini*), Tooni (*Toona ciliate*), Tanki (*Bauhinia purpurea*), Bakaino (*Melia azederach*), Uttis (*Alnus nepalensis*), Guyelo (*Callicarpa macrophylla*), Chakrasi, Sindhure (*Mallotus philippensis*), Kavro (*Ficus lucar*), Lampate (*Duabanga grandiflora*), Badahar (*Artocarpus lakoocha*), Chyuri (*Aesandra butyracea*), Firphire (*Acer oblongum*), Tapare (*Cassia tora*), Haledu (*Curcuma*

angustifolia), Malagiri (*Pratia nummularia*) etc. The climber species found in the road alignment are Debre lahara (*Spatholobus parvifforus*), Nagbeli (*Lycopodium clavatum*), Pangra (*Entada phaseoloides*) etc. NTFP and Herbal species such as Amliso (*Thysanolaena maxima*), Barro (*Terminalia bellerica*), *Asparagus racemosus* (Kurilo), *Aconitum gammiei* (Madhu), *Cissampelos pareira* (Gujurgano), *Piper longum* (Pipla), *Myrsine semiserrata* (Kali kath) are also found in the project area. Detailed of trees cutting from community forest and private forest during the road construction are given in **Appendix-XXII**.

Trees on private land

26 Local people have planted Uttis, Simal trees, Kera, Supari in some patches of their private land.

CommunityForest

27 There are mainly three community forests (CFs) along the proposed road alignment, which are listed in the **Appendix XXIII**.

4.2.2 Wildlife

28 Jackal (*Canis aureus)*, Rato Bandar (*Macaca mulatta*), Jungle Cat (*Felis chaus*), Leopard (*Panthera pardus*), Barking Deer (*Muntiacus muntjac*), Wild hare (*Lepus nigricollis*), Porcupine (*Hystix indica*), Bandel (*Sus scrofa*), Lokharke (*Ratufa spp.*), Salak (*Manis crassicaudata*), Nyauri Musa (*Vulpes Montana*) are the wild animals reported in the forests of proposed road area. Similarly, birds are Kalij pheasant (*Lophura lencomelana*), Dhukur (*Streptopelia spp.*), Pigeon (*Columba livia*), Jungle fowl (*Gallus gallus*), Kag (*Corvus splendens*), Bhangero (*Passer domesticus*), Fista (*Orthrotomus sp.*), Jureli (*Pycnonotus sp.*).

4.2.3 Aquatic life

29 Mainly Buduna, Hile, Katle, Jhinge, Karve, Gardi, Bam, Raja Bam and Bhitti fish are found in Mai River, Karfok, Lodiyakhola Khola.

4.2.4 Endangered and protected species

30 Faunal species: Among the fauna present in the forest area along the road alignment, Jackal (*Canis aureus*) is listed in CITES Appendix-III, Lokharke *(Ratufa sp.*) is listed in CITES Appendix II and Salak (*Manis crassicaudata*) is listed in Protected Wildlife under NPWC Act 1973 is listed in CITES Appendix I.

31 Floral species: *Shorea robusta* (Sal) and Simal (*Bombax ceiba*) is protected plant of the forest Act 1993.

4.3 Socio-economic and Cultural Environment

4.3.1 Population, Household and Ethnicity

32 The alignment covers three VDCs namely: Godak, Chisapani and Danabari. Major settlements of the project are Rajduwali, Chiyabari Setuwa, Rangapani, Tilke Bhanjyang, Malbase, Sombare Bazaar, Chisapani, Soktim Tole, Lodiya Khola, Lodiya and Sitali Bazaar. The total population is 3955 persons in 803 households and average family size is 4.93.

Table 4.3: Demographic Features with Population Distribution

S.N	Influenced VDCs/MC	Total HHs	Population distribution by sex			Population distribution by percentage		
			Male	Female	Total	Male%	Female%	Total%
1	Godak	104	272	231	503	54.07	45.93	100
2	Chisapani	483	1241	1139	2380	52.14	47.86	100
3	Danabari	216	528	544	1072	49.25	50.75	100
	Total/Average	**803**	**2041**	**1914**	**3955**	**51.6**	**48.4**	**100**

Source: Field /ZoI HH survey, November, 2009

Fig-1: Distribution of HHs by VDCs

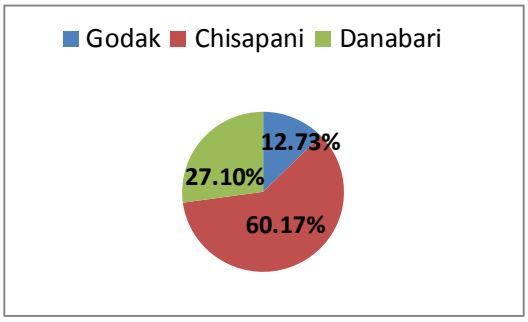
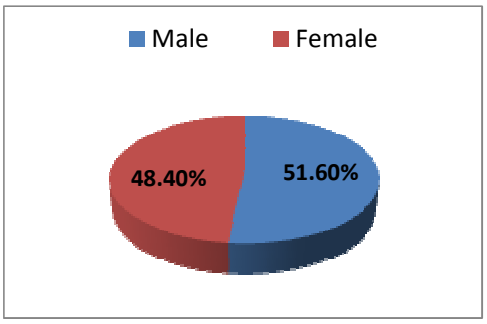


Fig-2: Composition of sampled population by gender



33 Major ethnic groups are Rai, Chhetri, Limbu, Magar, Tamang, Brahamin, Newar. The detail is given in **Table 4.4**.

Table 4.4: Ethnicity and Population Composition

S.N	Influenced VDCs	*Population distribution by caste and ethnicity*										
		Brahman/ Chhetri		IPs		Janjati		Dalits		Others		Total
		M	F	M	F	M	F	M	F	M	F	
1	Godak	102	107	-	-	133	127	17	17	-	-	503
2	Chisapani	420	410	-	-	685	647	92	102	12	12	2380
3	Danabari	311	312	-	-	208	214	-	-	12	15	1072
Total		**833**	**829**			**1026**	**988**	**109**	**119**	**24**	**27**	**3955**

Source: Field survey & ZoI HH survey of RRRSDP, 2009

4.3.2 Main occupation

34 The main occupations of all people residing within the ZoI of the proposed road alignment are agriculture and bussiness. Most of the households (HHs) in the settlements involved in agriculture and livestock (52%) along with other occupation. However, farming is not enough for subsistence due to small landhoding size and lack of irrigation.

4.3.3 Market Centres and Business Facilities

35 There are only small grocery shops and tea stalls available in almost settlements. Daily commodities are found only in the main market centres ie. Rajduwali, Chiyabari Setuwa, Rangapani, Tilke Bhanjyang, Malbase, Sombare Bazaar, Chisapani, Soktim Tole, Lodiya and Sitali Bazaar. Necessity of sewerage/drainage and pipeline water system has been felt in the main market centres.

4.3.4 Local Economy

36 The economy of the area is agriculture based. Local people are gradually attracted towards cultivation of cash crops such as vegetables, fruits, ginger, alainchi, amliso, tea etc. Selling of citrus fruit and vegetables to the Chisapani and Danabari in Haat Bazaar has been another source of income for local farmers. Local people have engaged in business activities at urban market centers.

4.3.5 Agriculture pattern

37 Major cash crops are tea, cardamom, alainchi, ginger, potato, tomato, amliso (broom grass), mustard, green vegetables. The area has appropriate climate and fertile soil for farming of fruits and nuts such as Bhogate, Supari etc.

4.3.6 Livestock

38 Cow and buffalo farming for dairy and goat farming for meat production is seldom seen.

4.3.7 Industry

39 There are some tea gardens and production factory. The oldest Soktim Tea Estate has located along the subproject area. The area has the potentiality of agro-based industries such as processing of tea, export of alinchi, ginger, furniture and local handicraft products.

4.3.8 Trade and Commerce

40 Salt, sugar, packed/ fast food items, spices, and clothes etc. are daily imported commodities. Similarly, major items of export are tea, amliso, alainchi, vegetables, fruits, timber and bamboo products. Whereas cereal crops such as rice, maize are both export and import items. There will be extension of trade and development of other market centres at various places in the coming days with the upgradation of the road.

4.3.9 Tourism related services

41 The sub-project and its surrounding area have potentiality of attractive tourism spots. There is a beautiful Kanyam tea estate, which is within ZoI. Local people may engage themselves in various kinds of tourism related activities such as guide, cook, porter, promotion of handicrafts and other local selling products.

4.3.10 Health and Sanitation

42 Major health problems associated with local people are typhoid, diarrhoea, gastric, respiratory diseases, gaeneco related diseases, water borne diseases, tapeworm etc. Although they have temporary toilet facility and no proper sewerage system, but environmental awareness is increasing in the major settlement areas.

4.3.11 Public Services

Education

43 The proposed sub-project area consists of educational institutions ranging from primary level to higher secondary level. Most of the settlements have primary and secondary schools. The gap in literacy between males and females is significant in the area along the road corridor.

Health Facility

44 In health sector, there are altogether two sub health along road alignment. For general health problem, local people go to district hospital in Ilam, Bhadrapur or Kakarbhitta. They also travel to Silguri, Kalkatta in India or famous hospitals in Biratnagar, Dharan or Kathmandu for serious health problems.

Communication

45 Regarding communication, all of the settlements have telephone facilities mostly with CDMA connection. Mobile phones are in use more and more. Two post offices have been serving the local people from all settlements.

Transportation facilities

46 The main means of transportation in the sub project area are mini truck/pick-up, tractors which generally carry vegetables, fruits and other local products from the area. The vehicles play only in winter season.

Electricity

47 Rajduwali connected with national grid line but all minor settlements in ZoI are still donot have electricity facility. Alternative energy facilties like Solar, biogas also have seen. Mai Khola-I and under construction Mai Khola-II HEP with the installation capacity of 2.4 Mw and 4 Mw are located in vicinity of sub project area, it is expected that distribution of electricity will occur in near future to entire ZOI area.

Water Supply

48 Drinking water facility available is inadequate to all the settlements. During the field visit, it was noted that public taps with collection tanks are located nearby right of way and common places to serve households as much as possible. Drinking water supply pipelines at Ch: 10+950 km near Devithan, Ch; 12+200 km at Soktim and Ch: 13+700 km near Batase Phedu, Chisapani-2 will be affected during road construction.

Irrigation

49 No proper irrigation facility has been observed in ZoI of the sub-project area. Irrigation canal at Ch 2+100, 5+000, 18+900 are found in the road alignment area.

Financial Institutions

50 There are few saving and credit cooperatives found in settlements within ZoI of project concerned VDCs.

Community Development Facilities/Organizations

51 There are various community users structures within ZoI of the project of which *Sajha Bhawan* is located within RoW at Ch: 12+650. Several community based organizations, Building, youth clubs, women's group, NGOs and water/forest users groups are active in ZoI of the sub-project.

4.3.12 Migration pattern

52 Permanent migration was taken place to a limited scale towards Kakarbhitta, Biratnagar and India during slack season as a labourer. Most of the yong generation also frequently go abroad to Malayasia, Qattar Dubai, and Saudi Araibia due to lack of employment opportunities at the local level.

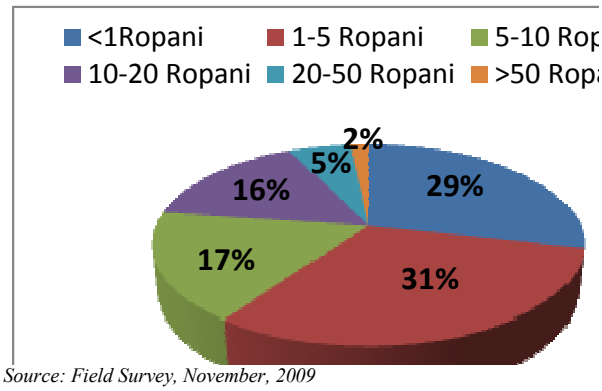
4.3.13 Settlement Pattern

53 Most of the settlements within ZoI of the project are of scattered type. Houses are mostly one or two storied thatch roofed and CGI sheet roofed ones.

4.3.14 Land holding pattern

54 Land holding pattern within the ZoI of the road demonstrates that (28.6%) households have less than one ropani land (approximately 1 ha= 19.8 ropani), (31%) households have less then 5 ropani land, (17.6%) households have 5-10 ropani land, (15.7%) households have 10-20 ropani land, (5.5%) households have 20-50 ropani land and (2%) households have more than 50 ropani of land.Details about land holding pattern is given in **Appendix-XV b**.

Fig-4: Composition of sample HHs by land holding patterns

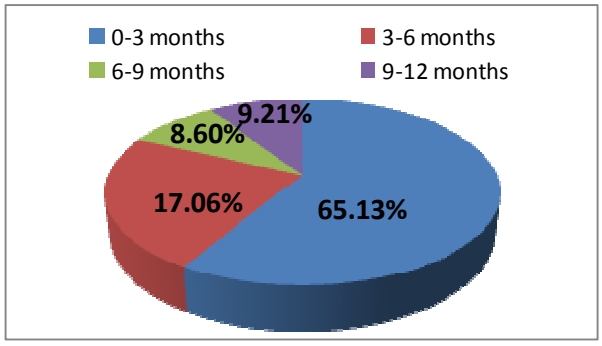


Source: Field Survey, November, 2009

4.3.15 Food Security

55 About 65.1% of the households have enough food for upto three months, 17.1% of the households have enough food for 3-6 months, 8.6% have food sufficient for 6-9 months and 9.2% households have food sufficient for 9-12 months. Food sufficiency condition is given in in **Appendix-XV c**.

Fig-5: Composition of sample HHs by food sufficiency level



Source: Field Survey, November, 2009

4.3.16 Potential Development area

56 Many of the places and settlements within ZoI of the project have the potentialities in various sectors. The potential of the Subproject area are as mentioned in Table 4.5 below.

Table 4.5: Development Potentialities in Various Sectors

SN	Sector	Development potentiality
1	Agriculture	Ginger, Alainchi, Amliso, Tea, vegetable farming, dairy production within the whole ZoI
2	Tourism Promotion	There are many places along the alignment in which the tourisim activities can be enhanced such as in Chiyabari Setuwa, Chisapani, after operation of road.
3	Small and Cottage Industry	Tea industries, dairy industry within the whole ZoI
3	Trade and business	Development several rural market centres at various places along the road alignment and main market centres at Rajduwali, Sombar Bazaar, Sitali Bazaar.

Source: Field Survey, November, 2009

4.3.17 Religious, Cultural and Historical Sites

57 Two Bar Pipal chautaras and Shiva mandhir are located within RoW as given in **Appendix XIV.**

CHAPTER- 5

5. PROJECT ALTERNATIVES

58 The various alternatives to achieve the project objectives with minimum environmental impacts are discussed as in the following subsections.

5.1 No Action Option

59 This alternative does not allow the implementation of the Proposal. An earthen road currently exists, which is only fair weather road. As the road connects few major settlements with high potential in tea, alainchi, ginger, potato, amliso the no action option will increase the transportation time and cost for the local people to the district headquarter and markets and vice versa resulting into low level of productivity and prevalence of poverty. The no action option will conserve some of the environmental adverse impacts at the cost of poverty and hardship of the people.

5.2 Proposal Alternatives

60 Construction of other supporting roads could be the options for achieving the transportation and access. Considering other project alternatives, the proposed road project can be the best option to serve the home to home services. Upgrading of the Rajduwali-Chisapani-Danabari Road will link the project area with East-West highway via. *Lokmarga* (Phidim-Ilam-Damak road) as well as Illam and Panchthar districts.

61 The proposed road project is the best alternative for cheap and efficient transportation.

5.3 Alternative Alignment

62 The alignment of the Rajduwali-Chisapani-Danabari Road road is an existing earthen road. This road is in operation as a fair weather and proposed for the rehabilitation, requirement to acquire land and cutting trees will be minimum than in new alignment opening. Hence, new alternative alignment is not feasible and the proposed road can be the best option.

5.4 Alternative Design and Construction Approach

63 The conventional road construction use contractors with heavy machineries and equipment, explosives, heavy concrete structures for retaining slopes, and surfacing. RBG will use for bio-engineering work; soft engineering structures. To avoid landslide area alternative route is proposed from Ch 9+500 to Ch 11+100.

64 The proposed road has been designed considering combination of both Contractor based and RBG.

5.5 Alternative Schedule and Process

65 During the rainy season, the construction work is stopped to allow the natural compaction of the road. Rehabilitation and construction work will be carried out during the remaining months. The construction period is more appropriate from October to June as the local people are generally free from farming activities.

5.6 Alternative Resources

66 The physical resources consumed for the construction of the proposed road will mainly include boulders aggregates, sand. Stones are easily available in nearby areas of various sections of the road whereas aggregates sand has to be transported from Lodiya, Leuti Khola and Gachhe Khola. The proposed construction will optimally use available local materials to the extent possible for construction. Skilled and Unskilled local labor should be used as far as possible.

CHAPTER – 6

6. IDENTIFICATION OF IMPACTS AND EVALUATION OF IMPACT/ MITIGATION MEASURES

67 The identification and assessment of impacts has been carried out by considering the proposed proposal activities examined in terms of its current condition and likely impacts during construction and subsequent operation phases. The impacts have been predicted in terms of their nature, magnitude, extent and duration. The possible impacts (positive and negative) in construction and operation phases are presented in the following sub-sections. Beneficial impacts maximization and adverse impacts mitigation measures are also suggested hereunder (see Table 7.2 in Chapter 7).

6.1 Beneficial Impacts and Benefit Augmentation Measures

68 The development efforts particularly the development of transportation network will have multifold beneficial impacts. Road projects are generally intended to improve the economic and social welfare of the people. The largest beneficial impacts will be on the physical and socio-economic environment as given below.

6.1.1 Construction Stage

Employment Generation and Increase in Income

69 Impacts: A major direct beneficial impacts of the road is the creation of employment opportunity to the local community. There will be total employment generation of 175,118 person days, with 35,024 person days for skilled and 140,094 person days for unskilled labor. The amount of money earned by the wages will directly enhance the operation of various economic activities and enterprise development in the area. There will be positive impacts creating income-generating activities with other economic activities in a chain manner. This is one of the direct and significant impacts of the sub-project but short-term and local in nature.

70 Measures: Work will be implemented manually through the local Road Building Groups (RBGs) and contractor approach. Priority for employment will be given to local poor, dalit, vulnerable groups and women. They will be given training to do the job. Proponent will give skill enhancement, Livelihood Enhancement Skill Training, awareness training through resettlement and social program encouraging them to utilize their money earned through wage.

Skill Enhancement

71 Impacts: The construction of road will enhance the skills of the people in construction. Furthermore, the project will also organize training on road construction and maintenance to the Road Building Groups (RBG), Social mobilizers and supervisors. Enhancing the technical skills of local people create future employment opportunities. This impact is indirect, medium, local and long-term in nature.

72 Measures: Skill enhancement of local people will be done from social sector part of the program, which includes Mushroom Production, Pig Farming, Bee keeping, Dhaka Weaving, T.V./Mobile Maintenance Training, Bamboo Handicrafts, Sewing and Cutting Training.

Enterprise Development and Business Promotion

73 Impacts: Many local and outside people may operate small shops and tea stall for their daily necessary items. Due to increased employment opportunities, trade, business and agricultural income will be channeled in to the local economy in the area. The labours will have good purchasing power, this will regularly demand for different types of food, beverage and other daily necessary items. Various farm based enterprises including wide range of agricultural and livestock products like tea, dairy, juice, poultry will be increased in Rajduwali, Rangapani, Sombare Bazaar, Chisapani and Sitali Bazaar. This impact is also direct, low, local and short terms in nature.

74 Measures: Training in cooperatives, and promote use of local products by the construction crews. Social Action Plan (SAP) will help to provide enterprise development trainings to uplift their economic condition.

Community Empowerment and Ownership

75 Impacts: Various road construction coordination committees will be constituted in order to proceed and implement the road construction activities to build and safeguard community infrastructures resulting in community empowerment and feeling of ownership among them. This impact is also indirect, low, local and short terms in nature.

76 Measures: Various coordination committees (DPCC, VICCC and RBG) will be constituted and training will be given to them.

Women and Indigenous People Empowerment

77 Impacts: The ethnic group of the project area does not include indigeneous people. Women in particular will get benefit more from improved access to the market centers and various service providing agencies such as health centers, banks, training institutions, women development office etc. Frequencies of visit to such organizations will increase women's knowledge and awareness level. Thus, the project will have indirect, significant, local and long-term impact in ZoI.

78 Measures: During the road construction, more emphasis will be given to empower women, dalit and vulnerable workers in the employment opportunities and trainings.

6.1.2 Operation Stage

Improvement in accessibility and saving of time and transportation cost

79 Impacts: Once the sub-project is completed, the people living within the road corridor will have easy access to market centres of Ilam, Dharan, Itahari, Biratnagar etc. and will enhance the transaction of goods and services. It takes one day walking distance from Danabari to reach Ilam Bazaar on existing road, but after operation of this road people can reached within 3 hours. The local pedistraient, students, patients and officials from concerned VDCs will be more benefited due to fast mobility and safe access to market places compare to earlier scenario due to regular transport facility. It increased all weather serviceability more safer than existing road. The efficiency of road trips in specific time will greatly enhance the socio-economic condition of sub-project area. This is the direct, most significant, regional impacts and will have long-term benefits.

80 Measures: Regular maintenance of the road will be done by the Proponent.

Increase in Trade, Commerce and Development of Market centers

81 Impact: There is a possibility of increased economic opportunities and significant growth and extension of the minor settlement markets along the road corridor. Market centres will develop at Rajduwali, Chiyabari Setuwa, Rangapani, Tilke Bhanjyang, Malbase, Sombare Bazaar, Chisapani, Soktim Tole, Lodiya Khola, Lodiya, Hattichhirayo and Sitali Bazaar. The farmers will be more encouraged to increase agricultural production due to market accessibility. Similarly, there will be diversification in occupational pattern of local people and non-farm employment will grow to those who are till now mainly dependent on subsistence farming. This will lessen pressure on local natural resources. The impact will be indirect, low, local and long term in nature.

82 Measures: DDC/VDCs shall manage planned growth with required infrastructure facilities in the market areas. Agriculture extension services, market linkages and networking for better market price by providing Small business and Micro Enterprise Development Training under Livelihood Enhancement Skills Training (LEST) programs of Social Action Plan (SAP) and coordination with district agriculture office.

Appreciation of Land Value

83 Impacts: The construction of road leads to appreciation of land values particularly near the market and settlement areas due to the availability of reliable transportation facilities. There will be rapid increase in the commercial production of agricultural crops due to road accessibility, which is also a major factor to raise the land value. Mainly the land price will increase in Rajduwali, Tilke Bhanjyang, Malbase, Sombare Bazaar, Chisapani, Soktim Tole, Hattichhirayo and Sitali Bazaar by twice. This activity would likely uplift the economic condition of the local people. The impact is indirect, medium, local and long term in nature.

84 Measures: Promotion of land development activities and control of encroachment within RoW. The local people will be made aware that high value lands are acceptable to the banks and microfinance institutions to provide loans to start their own economic/social ventures.

Increased Crop Productivity and Sale of Farm Products

85 Impacts: Due to easy and cheaper availability of agricultural inputs and technologies, productivity will be increased along the road corridor. The selling goods of farm and livestock products mainly increased in the settlements along the road corridor like Rajduwali, Chiyabari Setuwa, Rangapani, Tilke Bhanjyang, Malbase, Sombare Bazaar, Chisapani, Soktim Tole, Lodiya Khola, Lodiya, Hattichhirayo and Sitali Bazaar settlements, which are potential areas for the production of vegetables, fruits and cash crops such as ginger, alainchi, amliso etc. Operation of road will further commercialize the subsistence agriculture of these areas. This will further improve the rural economy. This is the indirect, significant, local and long term impacts from the proposed road.

86 Measures: Generate better awareness, skill, capacity and services for the development of environmentally sound high value organic agriculture and livestock products, for agriculture extension services, market linkages and networking for better market price will be coordinated through DDC, district agriculture office.

Enhancement of Community Development Services

87 Impacts: There will be improvement in social service such as education, health, government offices, saving and credits with more frequent visit of extension workers, longer stay of professionals such as teacher, doctors to their rural duty areas. Similarly, enhanced income level will encourage local people to spend more on health and sanitation, development of education facilities by employing qualified and professional teachers and upgrading the existing health posts. Production of educated manpower will also help to increase employment oppertunity in government/non-government services. This is direct, significant, local and long-term impact of the proposed project.

88 Measures: The access will be kept maintained so that other services will follow in the area.

6.2 Adverse Impacts and Mitigation Measures

6.2.1 Construction Stage

89 The proposed road will be constructed according to LEP approach and Contractor approach. The impacts on physical, biological, socio-economic and cultural resources of the proposed road area and respective mitigation measures are presented hereunder.

Physical Impacts

Change in Land Use

90 Impacts: Changes of land use due to the construction of road are mainly conversion of agriculture and barren land as well as nominal forest into built up area. Cultivated land 1.52 ha. will be permanently lost during road construction. Similarly 0.52 ha. of barren land, 1.43 ha.of forest area and 0.46 ha. of built up area will be permanently lost due to road construction work. The changes in land use will have impact on loss of cultivated land, which will directly reduce 1.97 Mt annual agricultural productions. The impact from changes in land use will be high, direct, local and long term in nature.

91 Measures: Compensation will be given for affected private properties. Generate better awareness, skill, capacity and services for the development of environmentally sound high value organic agriculture, cash crops and livestock products. Plantation of trees will be done to increase greenery in the area.

Change in Air Quality, Water and Noise Pollution

92 Impacts: During the construction of the road, The contractor may use heavy equipment during surfacing works, it might cause dust nuisance. There is possibility of dust emission may affect the local people and workers, agricultural crops, markets, schools and health posts. Impact on air quality will be direct, low, local and short term in nature.

93 The sub-project area at present does not high levels of noise. However, during construction it may increase the noise level to some extent. The impact of road construction on the noise level will be direct, low, local, reversible and short term in nature.

94 The water quality data within the sub-project area is not available. The quality of water in the water bodies appears to be good. If adequate care is not taken during construction, the water bodies are likely to be affected due to the disposal of excavated materials and disposal wastes. The impact will be direct, low, local, short term and reversible in nature.

95 Measures: The mitigation measures include use of face mask by the workers during the time of high dust generation; every day shall sprinkle water during surfacing of the road by contractor; use of ear muffles to protect from noise pollution during rock breaking and quarrying and avoiding the disposal of excavated materials in the water bodies. Plantation of local tree species (Siris, Painyu, Salla, Tanki) along RoW on both sides of the road which act as noise and dust barrier.

Road slope stability and management

96 Impacts: The slide areas along the road alignment are at Ch:3+000 near Thulo Kholsi, Ch 4+ 500 - Ch4+900 at Kusume Danda, Ch11+ 600- Ch 12+200 near Mal Banse. Gully erosion at Ch 4+750 near Kusume Danda. A major landslide at 9+500 Rangapani. The impact will be direct, high, local and long term nature.

97 Measures: The mitigation measures will be ensuring minimum cut slope depending upon the soil type; re-vegetation of exposed areas; adoption of bio-engineering techniques(Grass plantation, Brush layering, Palisades, Shrub/Tree plantation, Bamboo plantation, live check dams etc.); no construction work during rainy season; and use of soft engineering structures (dry wall, check dams) before disposing spoil. Soil conservation will be done by providing cross drainage structures with protection works at outlet for safe discharge of drain water on eroded roadside slopes.

98 Recommended engineering structures necessary at various chainages for slope stabilization have been given in **Appendix XIX.**

Stock piling of construction materials

99 Impacts: It is general tendency of the contractors to stockpile the constructions materials like gravels, aggregates, cement etc nearest to the site. Which could be in agricultural land, forest land or other private property. Similarly, these materials may be washed away by monsoon rain causing water pollution. Since the proposed alignment passes through mostly cultivated land. The agriculture production of these lands will be lost during the construction period or as long as the materials occupies the land. The impact will be direct, medium, local and short term.

100 Measures: Stock piling of the construction material shall not be block the drainages. Compensation will be given for use of private land. The contractors will compensate for the loss of agriculture production.

Operation of Quarries and borrow pits

101 Impacts: The extraction of materials from inappropriate places or in excessive amount can damage the local environment. The potential adverse impacts of quarrying are accelerated erosion, landslides, disturbance in natural drainage patterns, water logging, water pollution. The borrow pit area might be located near or far, but should be economically appropriate. The potential adverse impacts are conversion of borrow areas into ponds due to accumulation of water in rainy season, removal of top soil decreases fertility of soil and impacts related to this is decline in aesthetic value. The likely impact from the operation of quarry sites will be direct, low in magnitude, local nature and short term in duration.

102 Measures: Quarry and borrow operation plan will be prepared and approved by Engineer; unstable sites, erosion prone area, forest area, fertile farm land will be avoided for quarry / borrow operation; quarry sites will be rehabilitated by providing appropriate civil engineering structures (toe wall, retaining wall) and bioengineering measures (Grass plantation, Shrub/Tree plantation, Brush layering) after the extraction is complete.

103 Recommended quarry sites are given in **Table 6.1**.

Table 6.1: Recommended Quarry sites

S.N.	Chainages	Description	Name of VDC	Places of quarry sites	Remarks
1.	Ch:5+000	Bolders/ Aggregates	Godak	Karfok Khola	Stone quarry
8.	Ch:16+500	Sand	Danabari	Lodiya Khola	Sand collection from Lodiya

Source:Field Survey, November, 2009

Spoil Disposal

104 Impacts: Unmanaged disposal of spoil will cause gully erosion, block drainages, damage farm lands, crops and forest, waterlogging and may threat downhill slopes. The impact from spoil disposal will be direct, medium, site specific and short term in nature.

105 Measures: Spoil will be safely disposed and managed at designated site with minimum environmental damage. Engineer will give approval for disposal site of spoil. Spoil will be used to reclaim land or eroded areas. Disposal site will be provided with proper toe wall, drainage, vegetation and adequate protection against erosion. Potential safe spoil management areas are given in Table 6.2

Table 6.2 Safe Spoil Disposal Site

S.N.	Chainage	Location	Remarks
1.	9+500	Before Mal banse	
2.	10+700	Chisapani	
3.	14+600		
4.	15+000	Danabari VDC	

Source:Field Survey, November, 2009

Drainage Management

106 Impacts: The concentrated water from the road outlet causes erosion and landslide eventually affecting the stability of the road itself. Roads usually generate large volumes of concentrated surface runoff. As part of road construction, side and crossdrains will also be constructed. The impact will be indirect, medium, site specific and short term.

107 Measures: The following mitigation measures will be adopted:

- adequate and appropriate numbers of drainage structures need to be provided in order to minimise impact on natural drainage pattern;
- cross drainage shall be provided to facilitate irrigation ; and,

- avoid blockage or diversion of natural channels due to construction of road and disposal of spoils.

108 Details about necessary structures required to mitigate the water induced adverse impacts are given in **Appendix-XX and Appendix-XXI**.

Location of Camp Sites, Storage Depots

109 Impacts: The siting of labor camp/ storage depts by contractors for carrying out contractor-based works may cause encroachment of forest, agriculture land, alteration of drainage, fuel leakage, disposal of solid waste, and waste water etc. which may cause degradation in the environment. The impact will be direct, medium significance, site specific and for short-term. The locations of workforce camp are listed in Table 6.3.

110 Measures: The following mitigation measures will be adopted:

- The location of campsites, storage depots will be kept on unproductive/ barren land away from forest area as far as possible.
- Use of agricultural lands will pay compensation to the owner.

Table 6.3 List of Suitable Locations for Workforce Camp

Chainage	Location	Description	Suitable For
0+000	Godak	Flat plain	Workforce camp
5+500	Godak		Camp site
9+000	Chisapani	Flat area	Camp site
17+000	Danabari	Flat area	Camp site

Source:Field Survey, November, 2009

Construction Equipment Vehicles

111 Impacts: The contractor based construction will use machineries and tools (Rollers, tippers, spreader, water tanker etc.). The related negative impacts are increase in air pollution due to emission of smoke and dust, and increase in vibration due to vehicular movement.

112 Measures: The following mitigation measures will be adopted:

- Contractor shall regularly maintain all equipment/vehicles deployed for construction activities.
- All material movement routes shall be inspected daily twice to clear off any accidental spills.
- Materials under transportation shall be covered.

Biological Impacts

Loss or Degradation of Forests and Vegetation

113 Impacts: 1.43 ha forest area will be affected due to road construction work. 57 numbers of trees will be removed from private land during road construction (see Annex XXII). The impacts on vegetation/forest resources have been considered to be direct, low, local and long term.

114 Measures: The loss of trees will be compensated by planting of trees at 1:25 ratio with 10% additional replacement for dead seedlings for each tree cleared from forest area and 1:1 in private land. Plantation of local tree species (Siris, Painyu, Salla, Khainyu, Tanki) will be given emphasis for plantation. The plantation will be guarded for five years.Following the 'Work Procedure for Providing the Forest Land for Other Use, 2063' of Government of Nepal (cabinet decision of 10.11.2063 B.S.).

Impact on Wildlife Due To Loss of Habitat and Poaching

115 Impacts: The proposed area is not significant habitat for wildlife and bird species. The impact will be indirect, low, local and short term in nature.

116 Measures: The workers shall be strictly discouraged from collecting fuelwood or Poaching/harassing of wildlife. Coordination with DFO, CFUG the activities like illegal Poaching and poaching will be controlled by enforcing acts and regulations.

Impacts on Biodiversity (Rare and Endangered species as listed in CITES and IUCN Red data book)

117 Impacts: There will be no impact on flora and fauna (listed in CITES and IUCN category).

118 Measures: The measures as no vegetation shall be cut unless absolutely necessary and minimum site clearance, discouraging workers for collecting fuel wood from forest or Poaching/harassing faunas. Environment awareness program will be conduct to construction workers.

Socio-economic Impacts

Loss or Degradation of Farm Land and Productivity

119 Impacts: There will be permanent loss of 1.52 ha of cultivated land due to road rehabilitation. This will lead to annual loss of food grain production. Spoils on farm land will also affect the production of agricultural crops. During the construction phase due to the excavation and other construction works, the loss of the agricultural production is difficult to predict without knowing the construction schedule. This impact is expected to be direct, high in magnitude, local in extent and of long term in duration.

120 Measures: Land acquisition for the road alignment will be minimized as far as possible. Compensate for loss of property and loss of standing crops and temporary use of agriculture land.

Loss or degradation of private properties

121 Impacts: The proposed road alignment passes through nearby the settlement areas. During the construction phase, 3 private houses at Ch 11+478, 11+622 and 11+754 need to be relocate. The impact will be direct, high in magnitude, site specific, long term. Details about property loss and damage is described in Resettlement Plan**.**

122 Measures: Compensation and resettlement measures will be dealt as per decision made by Compensation Determination Committee (CDC). In this plan, compensation cost NRs. 14,73,256.54 has been proposed for public and private structures.Summary of resettlement cost is given in **Appendix XVII**.

Impact on Community Infrastructure

123 Impacts: Drinking water supply pipelines at Ch 10+950 near Devithan, Ch 12+200 at Soktim and Ch 13+700 km near Batase Phedi will be affected during road construction. Irrigation canal at 2+100, 5+000 and 18+900 will be affected during road construction. The impact will be direct, site specific, short term and medium in magnitude.

124 Measures: The community infrastructure that requires reconstruction / rehabilitation during construction works. Mitigation measures Costs for affected community infrastructures along the road alignments have been included in project cost and relocation cost for community structures will be included in resettlement plan.

Impacts on cultural, religious and archeological sites

125 Impact: Two Bar Pipal chautaras and Shiva mandhir are located within RoW. During road construction, dust and noissene may affect for resting people visitors of temple. The impact is expected to be dirct, low in magnitude, local in extent and long term in duration.

126 Measures: Mitigation measures for this impact are:

- Shifting of centre line of road alignment wherever possible
- Consultation with local people for appropriate solution

Health and Safety Matters

127 Impacts: During construction, workers will be exposed to various risks and hazards. Potential impacts to health are respiration because of high altitude and eye diseases due to exposure to dust and risk of accident during work. It affects the health of local people. The lack of proper sanitary measures and increase in waste and water pollution will increase diseases such as jaundice, typhoid and dysentry. Increased contact between local and migrated workers can cause spread of serious health risks like STDs and HIV/AIDS. This impact is direct, high in magnitude, short term and local.

128 Measures: The workers shall be provided and made mandatory the use of helmets, safety belts, masks, earplug, gloves and boots depending on nature of work; shall be provided clean drinking water at sites and camp; pit toilets at sites and camp; first aid facilities at sites and camp with training to use them; will be provided group accidental insurance for workers. Awareness programs will be conducted to local people and workers on HIV/AIDS and other communicable diseases.

Decline in Aesthetic Value

129 Impact: Landscape degradation and scar on topography due to the road; quarrying operations; and indiscriminate dumping of spoil on open land and hill slopes will make the area aesthetically unpleasant. The likely impact will be direct, low in magnitude, local nature and short term in duration.

130 Measures: Such damage cannot be avoided but can be minimized through re-plantation of indigenous species and greenery development. Indiscriminate dumping of spoil material will be discouraged; will adopt bio-engineering, cover road alignment with local vegetation. Quarry sites will be properly closed to suit the local landscape and cover by plantation of local tree species.

6.3.2 Operation stage

Physical Environment

Impact due to air, noise and water pollution

131 Impacts: Dust will be generated from the gravell road and vehicles emit gaseous pollutants. Continued dust pollution will cause adverse health impact to the people living in the vicinity. As the road is of district road category and the vehicular movement is not expected to be very high, dust and noise pollution will be come. Increase in settlements will result in increased organic and inorganic solid wastes. Unmanaged disposal of these wastes can result in pollution of soil. The disposal of spoil and household wastes, washing of vehicles in water bodies will degrade the water quality. The impact will be direct, low, local and long term impact.

132 Measures: Following mitigation measures will be adopted:

- Community and road user awareness program will be organized to enhance public understanding
- Use of horns should be restricted near dense forest, health posts, schools and settlements.
- Regular maintenance of drainage.
- For control of dust, nuisance speed limit of vehicle and vegetative barrier by planting trees along roadsides.

Road Slope Stability and Management

133 Impacts: The inadequate maintenance of the road, blockage of drains, damages the road surface can lead to slides and slope failure. Sensitive areas for possible road slope stability problems are at Ch 3+000, 3+300 , 4+ 500 - Ch:4+900 , 9+500, 11+ 600, 12+200. The impact will be direct, medium, local and long term nature.

134 Measures: The mitigation measures to be adopted include immediate clearance of slides and restoration of slopes; clear drainages; restoration of rill and gully formation; carried out continue slope protection work.

Biological Environment

Depletion of Forest Resources

135 Impacts: The forest resources depletion may occur due to ineffective drainage works, inappropriate spoil disposal and construction practices. The development of market centers may exert pressure on forest and eventually deplete the forest resources. There is a possibility of illegal cutting of trees by the workers and collection of forest products by roadside hotels during the operation phase.To meet the increasing needs of the forest products, illegal felling/cutting of poles and trees may occur. Operation of road may increase in timber smuggling due to easy access and easy transportation facilities. The impact will be indirect, medium, local and long term in nature. However, provision of forest products distribution in community forest operational plan will minimize the depletion of forest resources. The pressure on forest resources during road operation is likely to occur.

136 Measures: The mitigation measures recommended are:

- CFUGs will be supported to conserve and manage their CFs according to operational plans by plantation of trees, fencing and control of undesirable activities.
- Encourage and support local community for controlling illegal harvesting of forest resources.
- Awareness programmes shall be organized to educate local people on the conservation of forest.

Possible impact on biodiversity rare and endangered species

137 Impacts: Easy accessibility due to access road will increase the number of population in the project area. There may be possibility of increasing illegal poaching and Poaching during the operation phase. Such activities may stop occasional wildlife movement in these areas.

138 Measures: The mitigation measures recommended are:

- Encourage and support local community for controlling of poaching and Poaching of rare and endangered species.
- Awareness programmes shall be organized to educate local people on the conservation of biodiversity
- CFUGs will be strengthen to conserve rare and endangered species in their CFs too.

Disturbance to the wildlife movement and Illegal Poaching

139 Impacts: Although the wildlife population is reported low, however, they may be disturbed due to the frequent movement of the vehicles. Vehicular flow, horn blowing in the forest area will have impact on the wildlife and bird species. There may occur illegal Poaching during operation period by the people from market areas due to easy accessibility. Wildlife and birds will be disturbed due to the vehicle movement. The impact will be indirect, low, local and long term in nature.

140 Measures: Mitigation measure will be to erect appropriate sign boards informing drivers on prohibition of blowing horns in the forest areas. Community and authorities will remain vigilant and alert on illegal killing of wildlife.

Impact on aquatic life

141 Impacts: During the road operation, fuel oil, grease, lubricants and other chemical leakage may be spillout. There is not such major aquatic source found in the existing road alignment and low impact on aquatic life. The impact will be indirect, low, local and for long term.

142 Measures: The mitigation measure recommended are:

- Discourage vehicle washing activities along drinking water sources and natural streams
- Awareness programmes for the conservation of aquatic life to local people.

Socio-economic and Cultural Impacts

New Settlement and Market Center Development

143 Impacts: Expansion of settlement area and market can be observed at Rajduwali, Rangapani, Tilke Bhanjyang, Malbase, Sombare Bazaar, Chisapani, Soktim Tole, Hattichhirayo and Sitali Bazaar. Encroachment of RoW may take place. This will reduce road capacity, increase road accidents. The impact will be direct, medium, local and for long term.

144 Measures: The mitigation measures to be adopted include regulation of settlement with proper planning; plantations of trees in the RoW so that it is not encroached; provide sewerage in market areas. Authorities and VDCs will control encroachment of road.

Change in Social behavior

145 Impacts: Access facilities will bring social nuisance like increase in alcohol consumption, gambling, prostitution, and will increase girl trafficking. The impact will be indirect, medium, local and long term in nature.

146 Measures: The mitigation measures recommended will be facilitating awareness raising programs to the communities about negative social behavior like gambling, excess use of alcohol, HIV/AIDS, girl traffickling and child labor.

Road safety Measures

147 Impacts: Movement of vehicles in the road will invite accidents. Inadequate provisions of road safety measures like no provisions of signals and lack of enforcement of traffic rules during operation period may invite accidents. The impact will be direct, medium, local and long term in nature.

148 Measures: The mitigation measures to be adopted will be applying appropriate road safety measures. Required safety signs will be placed along the road.

Chapter- 7

7. ENVIRONMENTAL MANAGEMENT PLAN

149 The EMP is prepared to guide implementation of mitigation measures and monitoring requirements.

7.1 Institutions and Their Roles

Table 7.1: Institution and their roles

Institution	Role	Responsibility in the Project	Remark
Ministry of Environment	Mandated to formulate and implement environmental policies, plans and programs at national level	Facilitate when needed on environmental safeguards	No direct responsibility in the project
Ministry of Local Development (MoLD)	It is concerned line ministry, executive agency and concerned agency as per EPA/EPR. Environment Management Section is responsible to look into safeguard matters for the ministry.	▪ To review IEE ToR and Report, and give approval. ▪ Coordinate with project on safeguard issues ▪ Conduct environmental monitoring from central level.	Executing Agency
Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR)	Department under MoLD responsible to execute infrastructure projects under MoLD. Provides back-up support to DDCs in technical matters through DTO.	RRRSDP is being executed under overall coordination and supervision of the Department for the Ministry. It is also supporting DDCs through DTOs to implement the project.	Executing Agency
RRRSDP- Project Coordination Unit	Project specific unit.	Technical Unit to support and coordinate all activities for implementation of RRRSDP. Review, comment, and forward IEE ToR and Report for review to ADB and for approval to MoLD	First Class Officer / DDG of DoLIDAR has been heading the PCU.
District Development Committee / District Technical Office	DDC/DTO is Project Implementing Agency.	▪ Prepare IEE ToR and submit for approval to PCU/MoLD ▪ Conduct IEE Study, Public Consultation, and prepare IEE Report ▪ Receive comments from PCU/ADB/MoLD and modify accordingly. Get final approval from MoLD. ▪ Conduct environmental safeguard monitoring ▪ Reporting	District Technical Officer is the Project Manager
District Project Office	Project implementation office working directly under DDC/DTO.	Responsible for overall activities related to implementation of the works at field level.	Implementing Agency
Central Implementation Support Consultant (CISC)	Support consultants at central level	Technical and management support to PCU	Consultant
District Implementation Support Team (DIST)	Support consultants at district level	Technical and management support to DPO	Consultant

150 To support for smooth implementation of the project, there are various district level committees and groups including District Project Coordination Committee (a sub- committee of DDC), Village Infrastructure Construction Coordination Committee (to coordinate at VDC level). Road Building Groups are formed under participation of local people from ZoI. They carryout the construction works tat can be conducted manually. Contractor will be appointed for works requiring higher skill and mechanized support.

7.2. Reporting and Documentation

151 Monitoring checklist will be developed as per the Environment Management Action Plan (EMAP). The checklist will be used for regular monitoring. Trimerserly EMP compliance report will be prepared and submitted to the DDC, and DDC will forward it to PCU / DoLIDAR.

152 The monthly reports will be based on recurrent site inspections and will report on the effectiveness of the mitigation measures'.

153 The trimester environment monitoring report will be submitted for the first year of operation of the road by the Proponent (DDC/DTO) to Executing Agency (PCU/DoLIDAR), who will forward the report to ADB and MoLD. This is to ensure that post project monitoring is also carried out at least for one year.

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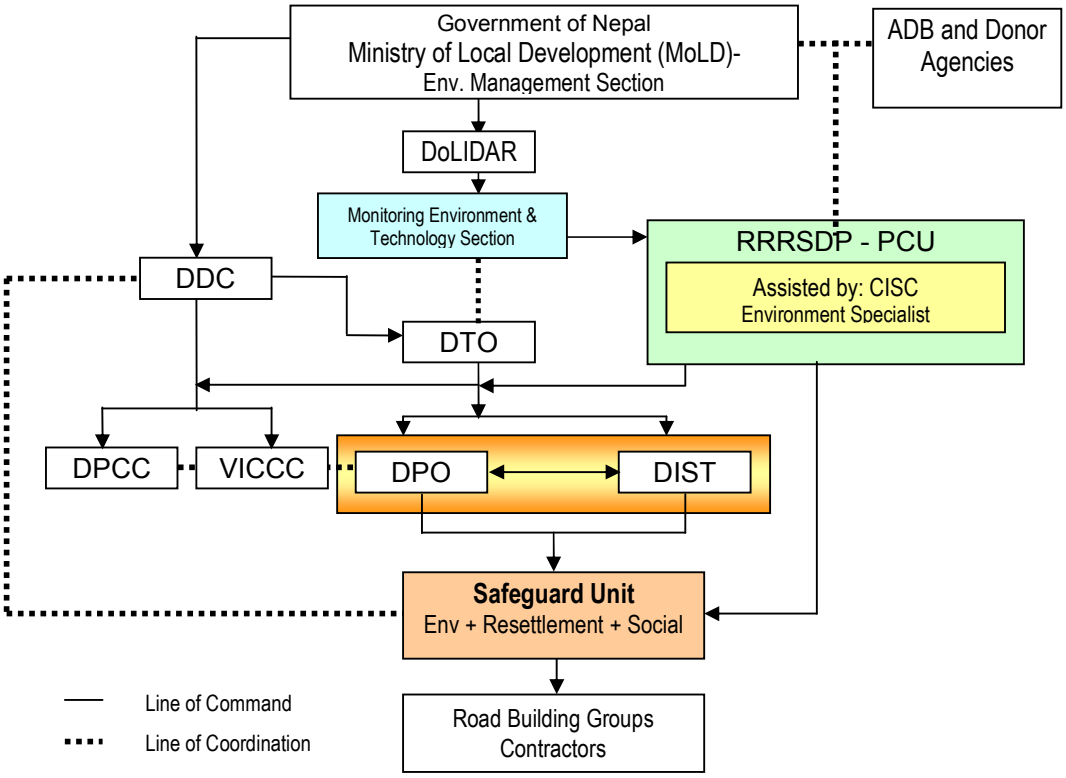
Fig. 7.1: Environmental Management Organization Structure



7.3. Benefit Augmentation and Mitigation Measures Implementation Strategy

154 The DDC/DTO with support of DPO/DIST at local level and PCU/CISC at central level will be responsible for conducting careful and routine monitoring of environmental safeguard and ensure the implementation of mitigation measures and according to EMAP. Overall implementation of the EMP will become proponent's responsibility. Framework for implementing environmental management plan is shown by **Table 7.2 and Table 7.3.**

Table 7.2: Beneficial Impacts and Proposed Enhancement Measures

Activity	Effect	Related Beneficial Impacts	Type of Impact *)				Benefit Augmentation Measures	Responsible Agencies	
			Nat	Mag	Ext	Dur		Executing Agency	Supporting Agency
Construction Stage									
Construction of road	Employment Generation and Increase in Income	Increase in income level	D	H	L	ST	Involve local people to extent possible to implement manual works through labour-based approach (Skilled-35,024person days and Unskilled-140,094 person days)	DDC/DTODIST	DPCC / VICCC / CISC/PCU
Construction of road	Skill Enhancement	Increase in income generating activities, employment opportunities	IN	M	L	LT	Priority to Affected Peoples (APs) and vulnerable groups, job training on various constructions works	DPO/DIST	DDC/DTO / CISC/PCU
Construction of road	Enterprise Development and Business Promotion	Enhancement in local economy	D	L	L	ST	Provide support to local entrepreneurs, promotion of cooperatives and linkage with financial institutions. Provide traiings under LEST program of SAP.	DDC/DTO	DIST/ CISC/PCU
Construction of road	Community Empowerment and Ownership	Increase in income and ownership.	IN	L	L	ST	Provi Various coordination committees (DPCC, VICCC and RBG) will be constituted and training will be given to them.	DPO/DIST	DDC/DTO / CISC/PCU
Construction of road	Women and Indigenous People Empowerment	Empower the women and indigenous people	IN	H	L	LT	Priority to women, dalit and vulnerable workers. Women and Indigenous people will be empowered through IPDP program of project.	DDC/DTO	DIST/VICCC
Operation Stage									
Operation of Road	Improvement in Accessibility and Saving of Time and Transportation Cost	Saving in travel time and travel cost	D	H	R	LT	Proper maintenance (regular, emergency), continuation of bioengineering.	DTO/DDC	DoLIDAR
	Increase in Trade, Commerce and Development of Market centers	Shifts towards improved and commercial agriculture	IN	L	L	LT	Encourage local farmers towards improved agricultural practices by providing trainings under social action plan to grow quality and demanding products with implication of improved seeds and modern techniques.	DPO	DDC/VDC
	Appreciation of Land Value	Improvement in local economic condition	IN	M	L	LT	Promotion of land development activities and control of encroachment within RoW. Awareness program shall be organized on use of high value land to get bank loans for setting up enterprise ventures.	DDC/DPO	DDC/VDC
	Availability of agricultural. inputs and extension facilities	Increase in productivity and sale of farm product in the settlements like Rajduwali, Chiyabari Setuwa, Rangapani, Tilke Bhanjyang, Malbase, Sombare Bazaar, Chisapani, Soktim Tole, Lodiya Khola, Lodiya, Hattichhirayo and Sitali Bazaar	IN	H	L	LT	Promotion of market linkages and networking for better market price by providing Small business and Micro Enterprise Development Training under Livelihood Enhancement Skills Training (LEST) programs of Social Action Plan.	Local farmers	DDC, VDC
	Enhancement of Community Development Services	Ease of access to social service and raise in quality service	D	H	L	LT	Keep road maintained to ensure access facility that will attract development of other social services facilities	Local people, DDC, VDC	DDC, VDC

Table 7.3: Adverse Impacts and Proposed Mitigation Measures

Activity	Potential Negative Effects	Related Adverse Impacts	Type of Impact (*)					Mitigation Measures	Responsibility for Mitigation Measure	
			Nat	Mag	Ext	Dur	Rev		Responsible Executing Agency	Relevant Supporting Agency
Construction Stage										
Physical Environment										
Construction of Road, site clearance	Change in land use; 1.52 ha of cultivated land, 0.46 of built up area, 0.52 ha of barren land and 1.43 ha of forest will be lost	Loss of agricultural land, production, loss of property, reduce 1.97 Mt annual agricultural productions	D	H	L	LT	IR	Compensation will be given for affected private properties. Plantation of local tree species (Siris, Painyu, Salla, Khainyu, Tanki) along RoW on both sides of the road,	DDC/DTO	DIST
Construction works, operation of construction vehicles, material hauling and unloading etc. Slope cutting, spoil and waste disposal during road construction	Air pollution due to dust from exposed surface, from construction equipments and vehicles	Affect on local people and workers health and affect onagriculture.	D	L	L	ST	Re	Use of face mask while working on dust prone areas, covering of dust sources. Plantation of local tree species (Siris, Painyu, Salla, Khainyu, Tanki) along RoW on both sides of the road which act as noise and dust barrier.	DDC/DTO / RBGs	DIST
	Noise pollution	Disturbance and annoyance around school, health posts, forest areas.	D	L	L	ST	Re	Restrict horn near school, health posts; cover material during transportation.	DDC/DTO / Contractor	DIST
	Water pollution due to sediment level, spills and leakage of oils and chemicals to water bodies	Risk of water borne diseases	D	L	L	ST	Re	Proper spoil management, and prevention of leakage and spills of construction chemicals, restriction in urination and defecation in open areas	DDC/DTO	DIST/VICCC /VDC
Operation of quarry sites and stockpiles of material, cutting of slope, earth excavation and spoil disposal	Quarry/borrow operation and its potential effect on instability, landslide	Damage to farmland, water pollution, change in river regime, instability, land slide.	D	L	L	ST	Re	Proper selection and management of quarry sites, rehabilitation of quarry sites after completion of work. Bolders/ Aggregates: Proposed quarry sites are at Ch 5+000, 16+500	DDC/DTO/ Contractor/ RBGs	DIST/ VICCC
	Slope Instability	Slope instability and erosion area are at 3+000, 4+ 500 - 4+900,9+500, 11+ 600- 12+200. Gully erosion at 4+750.	D	H	L	LT	Re	Small civil enginring structures and Bio- engineering application (Such as Grass plantation, Tree/Shrub plantation, Brush layering, Palisades, Bamboo plantation, Live checkdam construction etc) will be applied to stabilize the slopes at chainages: at 3+000, 4+ 500 - 4+900,9+500, 11+ 600- 12+200. Gully erosion at 4+750.	DDC/DTO	DIST
Construction of Road	Stock piling of construction materials	Loss of agricultural production	D	M	L	ST	Re	Compensate for the loss of agriculture production	DPO assisted by DIST/ Contractor	DIST/ VICCC
Construction of Road, earth excavation	Spoil Disposal	Gully erosion, landslide, disruption of road, damage to farmland, water pollution etc.	D	M	SS	ST	Re	Proper site selection and management of spoil at designated areas approved by Engineer; provision of proper drainages, toe walls; Proposed spoil disposal sites are Ch: 9+500 ,10+700 at Chisapani and Ch: 14+600,	DDC/DTO	DIST

Activity	Potential Negative Effects	Related Adverse Impacts	Type of Impact (*)					Mitigation Measures	Responsibility for Mitigation Measure	
			Nat	Mag	Ext	Dur	Rev		Responsible Executing Agency	Relevant Supporting Agency
								15+000 at Danabari VDC.		
Construction of Road	Water Management, generation of large volume of surface runoff	Erosion, landslide, damage to farmland	IN	M	SS	ST	IR	Proper drainage structures and proper spoil disposal, Avoid blockage or diversion of natural channels due to construction of road and disposal of spoils.	DDC/DTO	DIST
Construction of road	Location of Camp Sites, Storage Depots	Encroachment of forest, agriculture land, solid waste,and waste water may cause pollution	D	M	SS	ST	Re	Locate camp site away from productive land and forest area (potential sites at Ch: 0+000, 5+500, 9+000 and 17+000); use local labor and local houses as camp; pay compensation to land owner of camp area; proper storage of chemical and materials; drinking water facilities and latrine.	DPO assisted by DIST/ Contractor	DIST/VICCC
Operation of construction equipments	Construction machineries and tools ( )	Air pollution due to emission of smoke, increase in vibration and noise pollution	D	H	SS	ST	Re	Equipment/vehicles deployed for construction activities shall be regularly maintained.	DPO assisted by DIST/ Contractor	DIST/CISC/PCU
Biological Environment										
Clearance of vegetation necessary for road formation	Loss of trees (57 nos.), vegetation cover (1.43 ha.)	Loss of environmental benefits from vegetation, disturbance in ecological function (dust and noise absorbance, aesthetic value etc.)	D	L	L	LT	Re	The loss of trees will be compensated by planting of trees at 1:25 ratio with 10% additional replacement for dead seedlings for each tree cleared from forest area and 1:1 in private land. Plantation of local tree species (Siris, Painyu, Salla, Khainyu, Tanki).	DDC/DTO/ DFO	DFO/CFUGs/ DIST
Construction activity	Disturbing, killing, poaching of wildlife	Loss of biodiversity and valuable species of wildlife	IN	L	L	ST	IR	Work only in day time, do not disturb wildlife, aware workers,	DDC/DTO /DFO	DFO/CFUGs/ DIST
Socio-economic Environment										
Acquisition of land for maintaining road width*	Loss or Degradation of Farm Land and Productivity (loss of 1.52 ha of cultivated land)	Reduced production, hardship, food shortage	D	H	L	LT	IR	Compensation for affected people	DDC/DTO	CFC[1] DIST/VICCC
Acquisition of land and property for maintaining road width*	Loss of 3 private properties at Ch 11+478, 11+622 and 11+754	Displacement of people, hardship	D	H	SS	LT	IR	Compensation and resettlement to the owner as described in resettlement plan of affected houses. Compensation cost NRs. 14,73,256.54 has been proposed for public and private structures	DDC/DTO	CDC/DIST
Demolition of structures along road alignment	Loss/damage of community infrastructures falling under road width.	Loss of services provided by them	D	M	SS	ST	Re	Restoration or relocation of affected infrastructures: Water supply pipelines at Ch 10+950, Ch 12+200 and Ch 13+700. Irrigation	DDC/DTO	PCU DIST/CISC/ VICCC/VDC

* Activities that will be carried out during pre-construction period

[1] The Land Acquisition Guidelines, 1991 specify the establishment of an Acquisition and Rehabilitation Committee (also known as Compensation Determination Committee, "CDC") for fixing the rate of compensation of private properties to be acquired, consisting of the concerned Chief District Officer (Chair), Land Revenue Officer, representative of the DDC and the Project Manager and others as deemed necessary.

Activity	Potential Negative Effects	Related Adverse Impacts	Type of Impact (*)					Mitigation Measures	Responsibility for Mitigation Measure	
			Nat	Mag	Ext	Dur	Rev		Responsible Executing Agency	Relevant Supporting Agency
								canal at 2+100, 5+000 and 18+900.		
Construction of Road	Impacts on cultural, religious and archeological sites	Dust and noissnce pollution. Two Bar Pipal chautaras and Shiva mandhir are located within RoW	D	L	L	LT	IR	Shifting of centre line of road alignment wherever possible. Consultation with local people for appropriate solution.		
Construction of Road	Occupational health and safety matters	Injury, fatal accidents, outbreak of epidemics and diseases, decline in capacity to work	D	H	L	ST	IR	Occupational health and safety regulations, first aid facility at sites with health treatment arrangements, contingency planning; Proper drinking water and toilet facility for construction crew	DDC/DTO / Contractors	DIST/CISC
	Decrease in aesthetic value	Disturbances in working areas and scar on topography	D	L	L	ST	IR	Cover the road alignment by planting tree on both sides;	DPO in assistance by DIST / Contractors	PCU / CISC / Users Committee / VDC
Operation Stage										
Physical Environment										
Operation of vehicles	Air ,noise and water pollution effects, particularly near sensitive spots(School, healthpost)	Disturbance to students, patients, wildlife effect to nearby agriculture land and crops	D	L	L	LT	IR	Speed limit for vehicles, no horn signs, use vegetation barrier, Regular maintenance of drainage.	DDC/DTO	DoLIDAR/ Local administration
Quarrying, operation of construction equipments	Road Slope Stability and Management	Slides and slope failure, Disturbance to traffic flow, pollution of water bodies, impacts on agriculture land, loss of vegetation.	D	M	L	LT	Re	Regular maintenance of drainage, Regular maintenance of slope protection structures.	DDC/DTO/ VDC	DoLIDAR , DFO, District Watershed and Soil Conservation Office (DWSSC)
Biological Environment										
Road operation	Depletion of Forest Resources	Loss of timber, forest resources and benefits	IN	M	L	LT	IR	Enforcement of law, vigilance and monitoring, participation of community	DFO/ CFUGs/ VDCs	DDC/CDO
Road operation	Illegal trade of species of plant and wild animals	Loss of biodiversity	IN	L	L	LT	IR	Enforcement of law, vigilance and monitoring, participation of community	DFO/ CFUGs/ VDCs	CDO / CBOs, NGOs
Road operation	Disturbance to the Wildlife and Illegal Poaching	Collision of wildlife with vehicles, disturbance in their normal activities, Loss of biodiversity	IN	L	L	LT	IR	Warning traffic signal, Awareness training to driver to limit speed and horn use	DTO/ CFUGs	DDC/CDO / DFO

Activity	Potential Negative Effects	Related Adverse Impacts	Type of Impact (*)					Mitigation Measures	Responsibility for Mitigation Measure	
			Nat	Mag	Ext	Dur	Rev		Responsible Executing Agency	Relevant Supporting Agency
Inappropriate driver practices	Water pollution	Impacts on aquatic species and drinking water sources	IN	L	L	LT	Re	Discourage vehicle washing activities along drinking water sources and natural streams; Awareness programmes for the conservation of aquatic life to local people	DDC/DTO	DoLIDAR/ Local administration
Socio-economic Environment										
Operation of Road	New Settlement and Market Center Development	Encroachment of RoW, increase road accidents	D	M	L	LT	IR	Enforcement of law and order, Authorities and VDCs will control encroachment of road,	DTO	DDC/ DoLIDAR
Operation of Road	Change in Social behavior	Social and cultural conflicts	IN	M	L	LT	IR	Awareness, Enforcement of law and order	DTO	DDC/ DoLIDAR
Operation of Road	Road Safety Measures	Increase in accidents	D	M	L	LT	IR	Appropriate road safety measures, Safety signs along the road.	DTO	DDC/ DoLIDAR

* Legend *Value in parenthesis is level of significance*:

Nature- IN= Indirect; D= Direct
Magnitude- L= Low; M= Medium); H= High;
Extent- SS= Site Specific; L= Local; R= Regional; N= National; CB=Cross-boundary
Duration- ST= Short Term; MT= Medium Term; LT= Long term
Re=Reversible; IR= Irreversible

7.4. Mitigation cost

155 The estimated cost for beneficial augmentation measures like awareness raising program, skill training, promotion of small scale industries, and income generation activities will be covered by the Community Empowerment Component and Livelihood Enhancement Skills Training (LEST) program of the RRRSDP. Costs for income generation and awareness program activities for Affected Persons (APs) are included in Social Action Plan. The design and cost estimate for most of the suggested mitigation measures such as slope stabilization, quarry site management, spoil disposal, supply of face masks, helmets, muffles, accidental insurance, bioengineering measures, plantation, land slide rehabilitation shall be incorporated in the design and cost estimates. Therefore, most of the mitigation measures suggested would be a part of main project cost. All proposed mitigation measures will be integrated in the project design so that these measures may automatically form part of the construction and operational phases of the project. The indicative cost for environmental enhancement and mitigation is presented in the **Table 7.4**.

Table 7.4: Cost Estimate for Environmental Enhancement and Mitigation Measures

S.N.	Environmental Protection Measures	Estimated Budget (NRs.)	Remarks
1. Benefits Augmentation Measures			
1.1	Training to DDC/DTO/DPO/DIST to conduct environmental monitoring and reporting	50,000.00	
1.2	Training to Naike of RBGs	50,000.00	
1.3	Enhancement in Technical Skills	100,000.00	
	Sub-Total (1)	**200,000.00**	
2. Adverse Impacts Mitigation Measures			
2.1	Bio-engineering work (including plantation of 3500 trees)	2,080,468.00	
2.2	RBG Insurance	100,000.00	
2.3	Information Signboard	50,000.00	
2.4	Resettlement and Rehabilitation Cost (Compensation, Rehabilitation costs, Income Generation and Livelihood improvement programme for affected families)	1,473,256.00	Included in Resettlement plan
2.5	Restoration or relocation of affected infrastructures, spoils disposal site management and rehabilitation, reinstate of quarry etc.	500,000.00	
2.6	Compensatory plantation Re-plantation / Re-forestation	118,053.00	
2.7	Social Action Plan Cost	1,127,810.00	Included in Social plan
2.8	Occupational health and safety; First aid boxes, Safety equipments for workers (Helmets, gloves, masks, boots, etc,)	500,000.00	
	Sub-Total (2)	**5,949,587.00**	
	Total (1 + 2)	**6,149,587.00**	

7.5. Implementation of Mitigation Measures

156 The mitigation measures will be integrated into project design and tender documents. Using this approach, the mitigation measures will automatically become part of the project construction and operation phase. By including mitigation measures in the contract or in specific items in the Bill of Quantities, monitoring and supervision of mitigation implementation could be covered under the normal engineering supervision provisions of the contract. The project contractor will be bound by the parameters identified in the environmental assessment pertaining to specific mitigation measures in the contract. The final acceptance of the completed works should not occur until the environmental clauses have been satisfactorily implemented.

157 The tender instruction to bidders will 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. Action to be taken against failure to comply with EMP requirements will also be clearly agreed in the contract agreement document.

7.6. Environmental Monitoring

158 The IEE prescribes the mitigation measures in order to minimize adverse impacts and to enhance beneficial impacts. Environmental monitoring plan is an important tool to ensure the implementation of mitigation measures.

7.6.1 Monitoring Responsibility

159 Monitoring is an integral part of the project proponent. The Proponent, DDC/DTO Ilam will develop in-built monitoring mechanism to safeguard environment construction and operational stages. DDC/DTO will be supported by District Implementation Team (DPO and DIST) team in the district and Environmental Management Specialist from the CISC will ensure meaningful monitoring and undertaking corrective actions.

160 According to EPR, 1997, the MoLD/DoLIDAR is responsible for monitoring and evaluation of the impact of the implementation of the project. The MoLD/DoLIDAR checks whether the DDC/DTO is carrying out monitoring activities as per the IEE, and if the prescribed mitigation measures are being implemented. Total cost estimated for central level environmental monitoring is NRs. 50,000.

161 DDC/DTO with support from PCU/CISC will make arrangements for sub-project level monitoring. It will constitute a monitoring team. Project's district management team should be responsible for forming the monitoring team, financing the monitoring works, providing logistics and other necessary support. Thus, it is recommended that an external team hired by DDC/DTO take responsibility for periodic monitoring of the environmental performance, in addition to the regular supervision and guidance provided by the DIST at the site. The sub-project specific monitoring plan as given in **Table 7.4 and 7.5** shall be followed. At least one monitoring in each construction season is necessary.

162 The sub-project level monitoring team should submit its report to RRRSDP district management, which should forward a copy to the RRRSDP-PCU. Total cost of environmental monitoring (field visits, observation, review of reports and report preparation) is estimated NRs.200,000.00 as given in **Table 7.4**.

Table 7.5: Environmental Monitoring Cost

S. No.	Detail	Unit	Quantity	Rate	Total (NRs.)
1	Environmental Management Specialist	Man-month			Included in the Cost of DIST
2	Sociologist / Public Relation Expert	Man-month			Included in the Cost of DIST
3	Report preparation		LS		100,000.00
4	Transportation		LS		50,000.00
5	Cost for Monitoring by MoLD/DoLIDAR		LS		50,000.00
	TOTAL				**200,000.00**

Thus, total environmental monitoring and management cost is NRs. 63, 49,587.00.

7.6.2 Types of Monitoring for this subproject and Monitoring Parameters

163 Monitoring is an on going component of the environmental assessment process and subsequent environmental management and mitigation activities. The subproject will conduct two types of environmental monitoring:

1. **Compliance Monitoring -** It verifies whether contract environmental clauses and the mitigation measures are properly implemented in the field. The frame work for compliance monitoring is given in the **Table 7.6.**
2. **Impact Monitoring -** It confirms whether the environmental mitigation measures specified in the project design and contract are correctly formulated. The frame work for impact monitoring is given in the **Table 7.7.**

Table 7.6 Compliance Monitoring for Rajduwali-Chisapani-Danabari Road Construction Works

Parameters/Issues	Responsible Implementing Agency	Verifiable Indicators	Verification Methods	Schedule	Responsible Monitoring Agency
Final alignment selection as per IEE /EMP recommendation	DIST	Incorporation of IEE / EMP recommendations into alignment selection process and design document	Walkthrough along final road alignment, verifying sensitive areas	Initial stage preconstruction phase	Proponent through CISC; DoLIDAR
Land and property acquisition and compensation	Proponent with assistance of DIST	Cadastral records, Land and properties acquisition procedures; Procedures followed during voluntary donation of Land; Preparation of inventory of infrastructures likely to be affected	Public consultation, photos; geo-referencing; Check inventory against cadastral records and Discuss with people	Initial stage pre-construction phase well ahead of construction	CFC / PCU (CISC) / DOLIDAR / MoLD
Resettlement, assistance and compensation	Proponent / DIST	Legal provisions by GoN; Compensations paid	Check compliance to legal procedures	Well ahead of construction	CFC / PCU (CISC) / DOLIDAR / MoLD
Site selection and preparation of construction logistics	Proponent / VICCC	Project's arrangement for materials storage, and construction activities	Site observation, geo-referencing and photographic documentation	Beginning of construction period	DIST/ DPO
Use of local labour, particularly vulnerable groups and women	DPCC / VICCC / DIST	Specifications which obligate the contractors/BG to observe certain quotas for employing local labour, specially vulnerable groups and women, prohibition of child labour	Records that facilitates and coordinates the process for local people's employment, interviews	During the entire period where labour work is contracted, trimester	Proponent / DPO
Awareness and orientation training on road construction to technicians, and locally employed labourers	Proponent in assistance of DIST	Training programmes for skill development, occupational safety and environmental protection associated with road construction works	Specifications; Training records, check training programme reports, assess feedback from participants	Beginning of construction and during construction	DIST / Proponent (DTO)
Compliance to Occupational health and safety matters	DIST / Contractor (if involved)	Health and safety regulations, first aid and medical arrangements, contingency plan, number and type of safety equipments such as mask, helmet, glove, safety belt, First Aid, Emergency Rescue	Spot checks at work sites, photos, accident records, interviews	throughout construction activities, trimester	Proponent / DPO
Compliance to Environmental Protection Measures, including pollution prevention, water and soil management, slope stabilisation, cut and fill, waste management, spoils, sensitive habitats and critical sites, protection of fauna and flora	Contractor / RBG/ DIST	Arrangement specified in the Code of Practice and in Manuals relating to environmental protection; EMP detail in IEE Document; records and observations on pollution, waste management, spoil deposit. Training programmes for labourers to prevent impacts on wildlife sensitive habitats, forests and fuel wood use.	Site inspection, Discussion with Project management, consultants, and local people. Quantifying site-specific impacts, photos, laboratory tests where required. Existing patrol, control and enforcement mechanisms, enforcement records	Before and during construction period	DPO/Proponent

Parameters/Issues	Responsible Implementing Agency	Verifiable Indicators	Verification Methods	Schedule	Responsible Monitoring Agency
Vegetation clearance	Contractor / RBG / DIST	Actual number of trees felled during construction works; Location (in Formation Width or RoW	Record, inspection and interview with local people and CFUGs	After detail design and before construction work	DPO CFUGs / Proponent
Measures to avoid pressure on forest and wildlife	Contractor / RBG / DIST	Use of firewood or fossil fuel by construction crew, events of Poaching and poaching of wildlife	Inspection, interview with local people and CFUGs	Once a month during construction	DPO / CFUGs / Proponent
Measures to protect environment from air & noise pollution	Contractor / RBG / DIST	Dust level and noise level at work sites, major settlements and sensitive spots like health centres and schools	Visual observation, Observation of good construction practices and Discussion with residents and workers	Once in a month during construction	Proponent / DPO
Measures to protect water bodies from pollution	Contractor / RBG / DIST	Visual observation, observation of open defecation/waste/spoil disposal around water sources near construction sites ; Parameters like pH, hardness, DO, Turbidity etc.	Site inspection, test of site-selected samples of local streams water using standard field kit, interview	Once in a month during construction; Upon demand for testing with field kit	Proponent / DPO
Restoration, rehabilitation, reconstruction of all infrastructure services disrupted or damaged by the proposal activities	Contractor / RBG / DIST	Continued services by the facilities and functional public life	Site observation; VDC records; Public Consultation Meetings; Photos	Once in 15 days during construction	Proponent / DPO
Adequate technical and environmental supervision	DIST	Adequate number of technicians regularly at site Ability to implement labour based road construction concept	Check number and type of technicians available at site; Skill of work carried out; Discussion	Twice a month during construction	DPO , Proponent
Clean up and reinstatement of the construction sites (camps, quarries, borrow pits)	Contractor / RBG / DIST	Decommissioned sites indicate no adverse/residual environmental impacts, and are rehabilitated to the satisfaction of the supervisor and land owners	Site observation; Comparing photos; Consultation with land owners and CBOs	At end of construction period	Proponent / DPO

Table 7.7: Impact / Effect Monitoring for Rajduwali-Chisapani-Danabari Road Construction Works

Parameters /Issues	Verifiable Indicators	Verification Methods	Location	Schedule	Responsible Implementation and Monitoring Agency
Slope stability and erosion	Inclination, slope failures causes; Drainage facilities such as catch drain, side drains and functionality of cross drainage structures; Fresh gullies and erosion; Success/failure of bio-engineering solutions	Site observation, photos DISTussion with people and technicians	Near steep slopes and at landslide areas and sites where bio-engineering failed	Continuously during construction and operation	DIST during construction; Proponent / DPO / Soil Conservation Office during operation
Bio-engineering of disturbed slopes	Re-vegetation through bio-engineering application on disturbed slope; Establishment of nursery	Site observation; Inspection of nursery and its production rate, photos, measurements	Cut slope area, where vegetation is cleared; Nursery	During and at end of Project construction	DIST/ Proponent
Disposal of Spoils and construction wastes	Affected aesthetic value, affected forest and agriculture, initiated land erosion by local blocked drainage, hazard to downhill slope residents and agricultural lands	Site observation and interviews, photos, geo-referencing sites	At specific locations where such sites occur	During construction	DIST/ Proponent
Quarrying of construction materials	Initiated erosion, changes in river regime, erosion by river systems, landslide due to quarrying, degradation of vegetation, water logging, waterborne diseases	Site observation, photos, records from local health centres	Quarry site areas	During construction	DIST/ Proponent
Disruption of drainage system	Status of rehabilitation Service status of irrigation and water supply system; Operation and maintenance requirement	Observation and interviews, photos, fisheries data, wildlife records	Disrupted aquatic system, irrigation schemes	During construction	DIST / Proponent
Loss or degradation of farmland, houses and properties	Status of road side land; Production / yield; Status of road side houses; Status of standing crop along alignment	Observation, data collection and analysis and interview with stakeholders	Road side land and houses	During construction	Proponent / DIST/ VICCC
Water quality	observation of open defecation and waste disposal around water sources near construction sites ; Parameters like pH, hardness, DO etc.	Visual observation, measurement of water sample using standard field kit	local streams	During construction; Upon demand for testing with field kit	DIST / Proponent
Air quality	Dust level in ambient air	Visual inspection and comparison with baseline condition	At construction sites and at sensitive spots (schools, health spots, major settlements)	During construction and operation	DIST / Proponent

Parameters /Issues	Verifiable Indicators	Verification Methods	Location	Schedule	Responsible Implementation and Monitoring Agency
Forest and vegetation	Numbers of trees, presence of ground vegetation, signs of illicit logging and extraction of NTFPs	Observations, DFO records, photos; interview with CFUGs members	In and around the construction sites, markets,	During construction and operation	DIST/ CFUGs/DFO during construction; CFUGs / DFO during operation
Wildlife	Wildlife Poaching trapping and poaching by work force, trade of wildlife, biological survey on selected biota, road accidents inflicting wildlife	Interview with local people / DFO/ CFUGs members, photos, observations	Forest areas at roadside	Twice a year during construction and routine during operation	DIST during construction; CFUGs/DFO during operation
Change in economy	Numbers of people employed by the Project during construction Numbers of women in work forces	Records kept by the Project management, DISTussion with stakeholders	Project Area	Trimester during construction phase	DIST /Proponent
Trade and commerce	Numbers of shops increased or decreased, rental of houses and land spaces	Records, interviews, observations, photos	Project Area	Throughout Project, once in a year	Proponent / VDC
Cottage industries	Establishment of industries in the vicinity of Project Area	Records and interviews, photos	Project Area/ zone of influence	Throughout Project	Proponent / VDC
Occupational safety and hazard	Type and number of accident occurred during construction; Adequacy of occupational safety measured provided; Compensation provided in case of fatal accidents or invalidity	Observations, photos, spot checks, contractors' and health centre records interview with labourers	Project Area	During construction	DIST/Proponent
Change in socio-economic structure	No and extent of new settlements / types and ethnic groups; Nos and extent of new businesses; Nos and extent of new services and utilities, social conflicts	Observations, interview with local people, DDC Police and VDC records	Project Area	During operation	Proponent / VDC
Ribbon settlement	Congestions to road users Nos. of accidents, RoW encroachment	Records, observations	Project Area	During operation	DDC/CDO

CHAPTER – 8

8. CONCLUSION AND RECOMMENDATION

8.1 Conclusion

164 The IEE study of the proposed Rajduwali-Chisapani-Danabari Rural Road does not pass through any environmentally sensitive area and have minimal detrimental effects associated with loss of forest and agricultural land. Most of the adverse impacts predicted are low significance and short term as well as reversible nature. This road will provide better access to supply local agricultural products including tea, alainchi, ginger, amliso to market, and easy access to health, education and other social services, and is expected to enhance quality of life of the. In addition, local people will get direct employment as workers, which will contribute significantly, in improving their economic status. These benefits from the implementation of the proposed road subproject are more significant and long term in nature against the adverse impacts most of which could be mitigated or avoided.

165 The IEE has shown that none of the anticipated environmental impacts of constructing the proposed road is significant enough to need a detailed follow-up EIA or special environmental study. Therefore, this IEE is sufficient for approval of the sub-project.

8.2 Recommendation

166 The road alignment minimizes the acquisition of valuable agricultural and forest land. However, some agricultural and forest land and possibly some built areas will have to be acquired for construction of the proposed road. A Resettlement Plan is prepared to ensure that the persons affected by these losses are properly compensated. The proposed road subproject is recommended for implementation with incorporation of mitigation measures and environmental management plan.

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APPENDICES

Appendix- I
Terms of Reference
(Approved ToR from MoLD)

नेपाल सरकार

स्थानीय विकास मन्त्रालय

(वातावरण व्यवस्थापन शाखा)

नेपाल सरकार
स्थानीय विकास मन्त्रालय

फोन नं. ५५४८५१४
फ्याक्स नं. ५५४८५१४
Web: www.mld.gov.np

पत्र संख्या ०६५/०६६
चलानी नं. 309

मिति:- २०६६/३/१०

विषय :- प्रारम्भिक वातावरणीय परीक्षण (IEE) को कार्यसूची स्वीकृत भएको ।

श्री स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग,
जावलाखेल, ललितपुर ।

उपर्युक्त विषयमा ग्रामीण पुनर्निर्माण तथा पुनर्स्थापना आयोजना अन्तर्गत इलाम जिल्ला विकास समितिको कार्यालयबाट इलाम जिल्लामा निर्माण हुने निम्नानुसारका सडक उप-आयोजनाहरुको प्रारम्भिक वातवरणीय परीक्षण (IEE) को कार्यसूची (TOR) तयार गरी त्यहाँ विभाग मार्फत वातारण संरक्षण नियमावली, २०५४ अनुसार स्वीकृतिको लागि यस मन्त्रालयमा पेश भएकोमा नेपाल सरकारको मिति २०६६।३।२४ को निर्णय (सचिवस्तर) अनुसार स्वीकृत भएको व्यहोरा अनुरोध गर्दछु । साथै स्वीकृत कार्यसूची २/२ थान यसै साथ सम्लग्न राखी पठाईएको छ ।

निम्न

१. इलाम नगरपालिका-दुधाङ-सोयाङ सडक उप-आयोजना ।
२. राजदुवाली-चिसापानी-दानावारी सडक उप-आयोजना ।
३. मंगलबारे-धुसेनी-गजुरमुखी धाम सडक उप-आयोजना ।

(डण्डुराज घिमिरे)
उप-सचिव

स्वीकृत मिति : २०६६/३/२६

Terms of Reference (ToR)

for

Initial Environmental Examination (IEE)

of

Rajduwali-Chisapani-Danabari Road Sub-Project

Submitted to:

Ministry of Local Development, Government of Nepal

Proponent:

District Development Committee (DDC)/ District Technical Office(DTO)
Ilam
Telephone No. –027-520831
Fax No. – 027-521741

June 2009

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FIGURE

Figure: Map of Nepal showing the location of Rajdwali-Chisapani-Danabari Road Subproject in Ilam District

ABBREVIATIONS

ADB	Asian Development Bank
amsl	Above mean sea level
Ch	Chainage
CISC	Central Implementation Support Consultants
CITES	Convention on International Trade in Endangered Species of Flora and Fauna
DDC	District Development Committee
DFID	Department for International Development
DIST	District Implementation Support Team
DoLIDAR	Department of Local Infrastructure Development and Agricultural Roads
DoR	Department of Road
DTO	District Technical Office
EIA	Environmental Impact Assessment
EMP	Environmental Monitoring Plan
EPA	Environmental Protection Act
EPR	Environmental Protection Rules
GESU	Geo-Environmental and Social Unit
GEU	Geo Environmental Unit
GoN	Government of Nepal
IEE	Initial Environmental Examination
IUCN	The World Conservation Union
Km	Kilometer
m	meter
LEP	Labour based, Environment Friendly and Participatory
MLD	Ministry of Local Development
OFID	OPEC Fund for International Development
REA	Rapid Environmental Assessment
RRRSDP	Rural Reconstruction and Rehabilitation Sector Development Project
SDC	Swiss Agency for Development and Cooperation
ToR	Terms of Reference
VDC	Village Development Committee
ZoI	Zone of Influence

1.0 NAME AND ADDRESS OF THE PROPONENT

The District Development Committee (DDC)/District Technical Office (DTO), Ilam is the executing organization at the district level and the proponent of the Initial Environmental Examination (IEE) study for the rehabilitation of Rajdwali-Chisapani-Danabari Road. The Ministry of Local Development (MLD) is the concerned authority for the approval of IEE study report.

Address of the Proponent:

District Development Committee (DDC)
District Technical Office (DTO)
Ilam
Telephone No. :- 027-520831
Fax No. :- 027-521741

2.0 INTRODUCTION

2.1 GENERAL INTRODUCTION

The Rural Reconstruction and Rehabilitation Sector Development Project (RRRSDP) covers 20 districts spread over the country, which focuses on immediate post conflict development priorities for accelerated poverty reduction and inclusive development, thereby enhancing the effectiveness and efficiency of the delivery of public services, and improving access of rural people to economic opportunities and social services.

The focus project 20 districts are Panchthar, Ilam, Jhapa, Morang, Sunsari, Dhankuta, Sindhuli, Dolakha, Sindhupalchowk, Kavrepalanchowk, Lalitpur, Bhaktapur, Kathmandu, Chitawan, Manang, Mustang, Parbat, Rolpa, Rukum and Dadeldhura, not yet covered by major donor funded rural road infrastructure projects. The project is expected to complete by 31 December 2011.

The RRRSDP program is financed by the Government of Nepal (GoN), Asian Development Bank (ADB), Department for International Development (DFID), OPEC Fund for International Development (OFID) and Swiss Agency for Development and Cooperation (SDC) to improve the connectivity, enhance economic and employment opportunities, increase access to market and social services of rural communities. The project components include (i) improved rural roads; (ii) developed and improved community-based supplementary rural infrastructures; (iii) enhanced equity, employment and income opportunities for the poor and disadvantaged; (iv) strengthened institutional capacity of the Ministry of Local Development (MLD), the Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR), and District Development Committees (DDCs) of project districts; and (v) improved project management. The coordinating government department is the Department for Local

Infrastructure Development and Agricultural Roads (DoLIDAR) under the Ministry of Loca Development (MLD).

The DDC is the Project Implementing Agencies at the District level. The DTO of each respective DDC is responsible for technical and Project management matters in the district. The DTO will be supported by the DIST.

East Consult Pvt. Ltd Joint Venture with B.N., SITARA and PARD Consult Pvt. Ltd is District Implementation Support Team (DIST) for RRRSDP and has the responsibility of providing technical assistance in this Ilam District.

The proposed subproject Rajdwali-Chisapni-Danabari (20.0 Km) Road is a high priority rural road in Ilam District and is proposed for upgrading under RRRSDP. An IEE of the proposed road is necessary in order to assess the environmental consequences and suggest appropriate, practical and site specific mitigation and enhancement measures. Therefore, terms of reference (ToR) is prepared to conduct an IEE study Rajdwali-Chisapni-Danabari Road subproject in Ilam District. The Ministry of Local Development (MoLD) is the concerned authority for the approval of the IEE study report.

2.2 SALIENT FEATURE OF THE SUB-PROJECT

Salient Feature of the Project	
Project	Upgrading of Rajdwali-Chisapani –Danabari Road
Development Region	Eastern
District	Ilam
VDCs	Godak,Chisapani, Danabari
Total Length	20.0 Km
Road Standard	Nepal Feeder Road Standards
Existing Width	2.80 m to 4.50 m
Formation Width	7.5m
Carriage Way	4m
Right of Way Width	10m
Surface Type	Graveled
Type of Work	Upgrading

2.23 BACKGROUND OF THE SUB-PROJECT

Ilam is the headquarter of Ilam District of the eastern development region and is located in the middle hills of the Mechi Zone of eastern development region. The proposed Rajdwali-Chisapani-Danabari Road (20.0 Km) sub-project lies in the southern part of Ilam district belong to Eastern Development region of Nepal. This sub-project starts from Rajdwali bazaar through Godak VDC and Laxmipur, and ends to Danabari VDC. Rajdwali is a small market in Mechi Highway, 1.5 km away from Ilam Municipality. The altitude of Rajdwali bazaar is about 482m from amsl and Danabari is in 200 m from amsl.

It is an earthen road which width varies from 2.80 m to 4.50 m. There are many existing sharp horizontal curves, hairpin bends and high gradient beyond 12%. The sharp horizontal curves and about 550 m length of the road of high gradient is seen to be improved. Soft soil, hard soil, white clay, boulder mix soil and soft rocks are found in this alignment of the road.

Agriculture lands, Private forest and community forest are found to the both sides of the road.

It is found that about 130 no. of houses shall be affected and need to be resettled. The houses are made of RCC structures, brick Masonry wall House, two storied wooden House and thatched House were found.

The alignment passes mainly through settlement area (~30%), cultivated/Agriculture land (~49%), forest land (~09%) and other land (~ 12%).

The forest of the subproject road vicinity is sparse with dominant species such as Sal (*Shorea robusta*), Uttis (*Alnus nepalensis*), Katus (*Castonopsis indica*), Mahuwa, Pipal (*Ficus religiosa*) Bar (*Ficus religiosa*) ,Bans (*Bambusa*) Amba (*Psidium guajava*) Naspati (*Pyrus communis*), Ainselu (*Rubus ellipticus*). Monkey *(Macaaca mulatta)*, Syal (*Canis auricus*), Ban biralo (*chaus*), Muso (*Rattus rattus*) and other common wild animals and different common birds such as Kalij (*Lophura leucomelana*), Kag (*Corvus splensens*), Parewa (*Columba livia*) and Chil (*Hieraetus spp.*) reported in the forest of the proposed road area. Along the road alignment there are no any wildlife threats, no major landslides and other environmental hazards

The people in this project area are having many types of transportation problems. Local people have no access to the market centres of the district to fulfill their daily needs. Hence, the locally produced materials are getting low prices than it may fetch.

The rehabilitation of road will mainly enhance the transportation of producing agro product in remote areas of Ilam and other districts and VDCs hence it will also extend physical and economical access to the people within the immediate zone of influence. For the road construction, use of local labour will generate immediate employment to local people and minimize migration to Kathmandu and other national and international areas in search of work. Consequently, local people will get long-term benefit which will enhance their economic status within the Zone of road corridor and adjoining area of Ilam District.

The location and alignment of the road is given in **Figure below.**

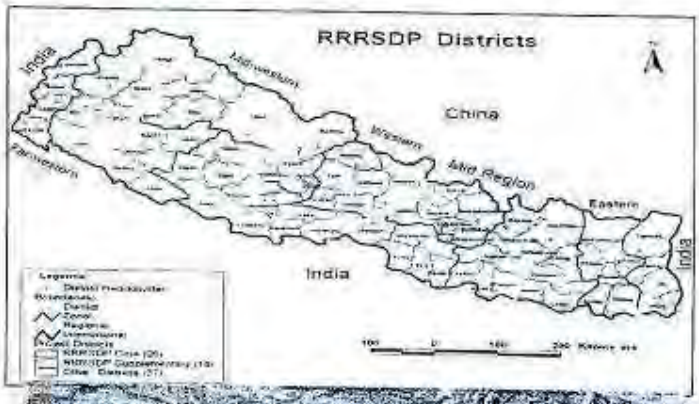


Figure: Map of Nepal showing the location of Rajdwali-Chisapani-Danabari Road Subproject in Ilam-District

2.4 OBJECTIVES

The main objectives of the TOR is to guide the preparation of the subsequent IEE study, to produce a comprehensive and coherent IEE report as per Environment Protection Act 1997 (EPA'97) and Environment Protection Rules 1997 (EPR'97) and Amendment 1999. Other specific objectives of the studies are to collect baseline data on physical, biological, chemical and socio-economic and cultural resources; and to identify positive and negative impacts on social and environmental aspects of the project area such as:

- to identify the major issues that may arise as a result of proposed works on bio-physical, socio-economic and cultural environment of the project area,
- to recommend practical and site specific environmental mitigation and enhancement measures, prepare and implement environmental monitoring plan for the sub-project,
- to make sure that IEE is sufficient for the proposed road sub-project, and
- to provide information on the general environmental setting of the sub-project area as baseline data.

2.5 RELEVANCY OF THE SUB-PROJECT

The proposed road upgrading with gravel standard has several benefits from the project to the people living in the vicinity of the project area in terms of easy access, saving of time on travel, easy transportation facilities for people and agricultural products (tomato, green vegetables, maize, millets, tea, alainchi, ginger, amliso, oragne, etc.) of village to the near by markets. It creates social and employment securities to the local beneficiaries during the construction stage of the Project. Therefore, the construction and rehabilitation of the proposed road is necessary to uplift social and economical status of the local people through the easy and safe access of the transportation facilities.

An IEE of the proposed road is necessary in order to assess the environmental consequences of the proposed rural road construction activities and suggest appropriate, practical and site specific mitigation and enhancement measures. Since this is a district road, an IEE is a legal requirement according to Environmental Protection Act, 1997 (EPR, 1997) and Environmental Protection Rules, 1997 (EPR, 1997). Preparation of IEE report by concerned District Development Committee (DDC) and approval by the Ministry of Local Development (MLD) according to Nepali legal provision is considered sufficient by the ADB. However, rapid environmental assessment (REA) checklist will also be considered during IEE report preparation based on ADB Environmental Guideline.

3.0 REVIEW OF RELEVANT LAWS, RULES AND GUIDELINES

Government of Nepal has adopted various acts, regulations and guidelines to ensure the integration of development and conservation of environment. The IEE study will be

guided by the requirements and provisions of the following acts, rules and guidelines as applicable.

- Environment Protection Act, 1997 and Environment Protection Rules, 1997 (amended 1999)
- Forest Act, 1993 and Forest Rules, 1995
- *Batabaraniya Nirdesika* (Nepal; MLD), 2057
- National Park and Wildlife Conservation Act, 1973
- Local Self Governance Act, 1999 and Local Self Governance Rules, 2000
- Land Acquisition Act, 1977 and Land Acquisition Rules, 1969
- National Environmental Impact Assessment Guidelines, 1993
- APPROACH for the Development of Agricultural and Rural Roads, 1999 (DoLIDAR)
- RRRSDP Environmental Assessment & Review Procedures (EARP) Guidelines, 2007
- REFERENCE MANUAL for Environmental and Social Aspects of Integrated Road Development, 2003, Department of Road.
- Green Roads in Nepal, Best Practices Report – An Innovative Approach for Rural Infrastructure Development in the Himalayas and Other Mountainous Regions. GTZ, SDC, 1999.
- ADB Environmental Assessment Guidelines, 2003
- Three Years Interim Plan, 2007/08-2009/10

4.0 PROCEDURE TO BE ADOPTED WHILE PREPARING THE REPORT

The IEE approach, methodology and procedure should generally follow the provisions of the EPA and EPR. In this connection, following approach and methodology will be adopted during the IEE report preparation.

4.1 DESK REVIEW

The following steps will be followed during the desk review:

- Collection and review of secondary sources of information from various sources
- Initial interaction and consultation with the local community and district level stakeholders
- Delineation of geographical boundary of the Zone of Influence (ZoI) on the topographical map
- Preparation of project specific checklist

4.2 PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

The role of public consultation and participation is to ensure the quality, comprehensiveness, effectiveness of IEE as well as to ensure that the public view's are adequately taken into consideration in the decision making process. It is done during the preparation of an IEE. In order to ensure the public involvement, the following procedures will be followed during IEE report preparation:

- Publication of notice- A public notice of 15 days will be published in a national level daily newspaper seeking written opinion from concerned VDCs, DDC, school, health posts and related local organizations. A copy of the public notice will be affixed in the above mentioned organizations and deed of enquiry (*muchulka*) will be collected.
- Recommendation letter from concerned VDCs and/or municipality will also be obtained.
- IEE team will also carryout interaction with local communities and related stakeholders and will also collect the public concerns and suggestions.
- Draft IEE report will be sent to concerned VDCs for information disclosure.
- The approved IEE report will be made accessible to interested parties and general public through information center of DDC and websites of ADB, DoLIDAR and RRRSDP.

4.3 FIELD WORK

The IEE team will walk through along the road alignment visiting the significant environmental features in the probable influence corridor, and make necessary measurements, inspect/observe and discuss it with the local stakeholders. The information collection will be made covering physical, biological, socio-economic and cultural aspects of the environment.

5.0 ALTERNATIVES FOR THE IMPLEMENTATION OF THE PROPOSAL

Alternative analysis has been considered as an integral part of IEE study, which involves an alternative ways of achieving the objectives of a proposed sub-project. The aim of alternative analysis is to arrive at a development option, which maximizes the benefits while minimizing the unwanted impacts.

The study team will conduct alternative analysis considering the following issues:

- No action option
- Project alternatives
- Alternative alignment
- Alternative design and construction approach
- Alternative schedule and process
- Alternative resources

6.0 REQUIREMENT OF THE IEE STUDY

This includes time schedule, estimated budget and appropriate manpower (experts) for conducting IEE study.

6.1 TIME SCHEDULE

IEE report will be completed within eight weeks after the approval of ToR. An indicative time frame for conducting IEE is given in the **Table 1** below:

Table 1. Proposed work schedule for conducting IEE study

SN	Activities	Week							
		1	2	3	4	5	6	7	8
1	Orientation training to the team								
2	Desk study and review								
3	Public notice publication								
4	Field visit for survey and consultation with community								
5	Collection of suggestions and recommendations from stakeholders								
6	Analysis and interpretation								
7	Draft report preparation								
8	Comments on draft report								
9	Final Report preparation and submission								
10	Approval of the final report.								

6.2 ESTIMATED BUDGET AND STUDY TEAM

Most commonly an IEE of an infrastructure sub-project in the district need expert inputs from the following sectors:

- Landslides, slope stability, bio-engineering and erosion
- Forestry and wildlife
- Geology
- Road engineering
- Social, economic and culture.

The IEE will be carried out and prepared by DIST Environmental Specialist, with support form DIST team Ilam, Environmental Specialist from CISC and District Project Office (DPO). CISC Environmental Specialist will provide necessary training to DIST for the environmental assessment procedures. The activity of IEE preparation will be supervised by DPO office. Since, the IEE report will be prepared by the DIST team with the support of the CISC, no separate budget and manpower is required. However, specific subject matter experts will be hired for short term basis if needed.

7.0 ENVIRONMENTAL BASELINE

This will describe environmental setting of the project location and surrounding areas and will contain information on relevant bio-physical, socio-economic and cultural factors and features. The updated, processed and analyzed information and data on each of the relevant bio-physical, socio-economic and cultural aspects will be presented in the IEE

study. As far as possible, other environmental features such as, sensitive area, population and settlements, forests, geological features will be shown in the map.

8.0 ANALYSIS AND INTERPRETATION

Both secondary and primary information and data collected will be analyzed and interpreted. The bio-physical information will be tabulated to the extent possible. The socio-economic, cultural and religious information will be cross checked and analyzed.

9.0 IDENTIFICATION, PREDICTION AND EVALUATION OF IMPACT

The identification and prediction of impacts shall be carried out by considering the proposed project actions/activities in terms of rehabilitation and construction of the road project. The impacts of the activities shall be on bio-physical, socio-economic and cultural resources in a defined zone of influence (i.e.1.5 hours walking distance from the road alignment or 5 km distance).

The impacts shall be classified in terms of extent (site specific, local and regional), magnitude (low, medium and high) and duration (short term, medium term and long term) as well as reversible, irreversible, severe, moderate and significant. The likely impact shall be assessed covering both adverse and beneficial ones. The methodology adopted for impact identification and prediction will be checklists and matrix method. The likely impacts of the proposed road construction as well as operation are described in the following sections.

9.1 BENEFICIAL IMPACTS

Beneficial impacts due to the construction of the road shall be assessed by the study team in terms of impacts on physical, biological, socioeconomic and cultural systems of the project area. The impacts shall also be assessed in the category of extent, duration and magnitude. Based on the identification and prediction of the impacts, the suitable enhance measures to maximize the project benefits shall be explored and designed. The largest beneficial impacts will be on the physical and socio-economic environment as given below:

9.1.1 Construction Stage

- Employment Generation and Increase in Income
- Skill Enhancement
- Enterprise Development and Business Promotion
- Community Empowerment and Ownership

9.1.2 Operation Stage

- Access to Inputs and Services
- Development of Market centers
- Appreciation of Land Value
- Increased Crop Productivity and Sale of Farm Products

- Enhancement of Community Development Services
- Promotion of Tourism Activity
- Women and Indigenous People Empowerment

9.2 ADVERSE IMPACTS

The likely adverse impacts during construction and subsequent operation and maintenance in terms of physical, biological, socioeconomic, cultural and religious aspects due to project actions shall be identified, predicted and evaluated. Based on the identified impacts, appropriate mitigation measures shall be recommended.

9.2.1 Construction Stage - Though the sub-projects will apply LEP approach to the extent possible during the implementation, it may not be possible to avoid all likely impacts; the study shall take into account the following issues:

Physical environment

The issues and concerns generally related to physical environment typically include, but not necessarily limited to:

- Change in Land Use
- Spoil Disposal
- Slope Instability
- Water Management works i.e. springs, streams, rain water (Drainage and Cross Drainage Works
- Air Dust, Noise and Water Pollution
- Quarrying and Borrow Pit
- Decline in Aesthetic Value

Biological environment

The issues and concerns generally related to biological environment typically include, but not necessarily limited to:

- Loss or degradation of forests and vegetation.
- Impact on wildlife including birds due to loss or degradation of habitat, increased hunting and other form of human pressure.
- Impacts on flora and fauna (as listed in CITES and IUCN Red data book)

Socio-economic and cultural environment

The issues and concerns generally related to socio-economic and cultural environment typically include, but not necessarily limited to;

- Loss or degradation of farm land and productivity
- Loss or degradation of private properties such as houses, farm sheds, and other structures, crops and fodder, fruit trees
- Impact on community infrastructure such as irrigation, water supply, schools, health post, trail and trail bridges
- Impacts on cultural, religious and archeological sites
- Impacts on health and safety matters.

9.2.2 Operation stage - The following issues will be taken into account during operation and maintenance stage:

Physical environment

- Road slope stability and management
- Impact due to air, noise and water pollution

Biological environment

- Depletion of forest resources
- Disturbance to wild life and illegal hunting

Socio-economic and cultural environment

- New settlement along the road alignment
- Change in social behaviour
- Impact on livelihood and economic opportunities
- Road safety measures

10.0 BENEFIT AUGUMENTATION/MITIGATION MEASURES

The IEE study will propose site-specific benefit augumentatin and mitigation measures to optimize the benefits expected from the sub-project and minimize/mitigate avoid or control of proposal's adverse impacts. The benefit augumentation and mitigation measures will be selected based upon appropriateness and cost analysis and these will be suggested for pre-construction, construction and post construction phase of the project. Mitigation measures will be proposed for the impacts on physical, biological, socio-economic and cultural environment.

11.0 ENVIRONMENTAL MANAGEMENT PLAN

The study will ensure the implementation and monitoring of mitigation measures for minimizing adverse impacts and maximizing the beneficial impacts. This plan will also identify the key environmental monitoring indicators with respect to activities, methods and responsibilities in order to monitor the environmental condition and adoption of suitable mitigation measures.

12.0 IEE report format

This format will be in line with provision made in the Schedule 5 of EPR, 1997 and should be adapted to project specific situation. The IEE report will contain the following sections:

i. **Cover page with name of the proposal and proponent and address**
ii. **Table of content**
iii. **List of Abbreviation (acronyms)**
iv. **Executive Summary that includes:**
   - Background
   - Project Proponent

- Objective
- Relevancy of the Proposal
- Project Description
- Existing Condition
- Identification of Impacts and Benefit Augumentation/Mitigation Measures
- Environmental Management Plan
- Conclusions and recommendations

v. **Salient Features of the Project**

vi. **Introduction:** This section should describe the project in simple terms and concisely, without missing relevant points but avoiding unnecessary details. The project description should provide following information:

1. Background
2. Relevancy of the proposal
   - Objectives
   - Methodology adopted
3. Name and Address of the Proponent
4. Description of the Sub-project
5. Construction Approach
6. Proposed Schedule for Implementation of Sub-project

vii. **Public Cunsultation and Information Disclosure**

viii. **Review of Relevant Acts, Regulations and Guidelines:** During the study relevant policies, legislations and guidelines should be reviewed and their salient features should be mentioned in this section. Similarly related institutions should be consulted.

ix. **Existing Environmental condition:** Baseline information on the existing physical, biological as well as socio-economic and cultural resources of the proposed sub-projects is described here. Environmental features such as sensitive areas, population and settlements, forests should be shown in a map

x. **Project Alternatives**: This section summarizes the alternatives by environmental comparison. This may include the following sub-headings.

a. Project alternative
b. Alternative routes
c. Alternative design and construction approach
d. Alternative schedule and process
e. Alternate resources
f. Any other alternatives

xi. **Identification of Impacts and Benefit Augumentation/Mitigation Measures:** This section contains the process, findings and conclusions of analysis and interpretations. The impacts are predicted in terms of their magnitude (minor, moderate and high), extent (site specific, local and regional) and duration (short, medium and long term) and appropriate benefit enhancement and mitigation measures are suggested as following:

a) **Physical Impacts**: such as land, air, water, noise, infrastructure impacts and other factors

b) **Biological Impacts**: such as flora, and fauna, population, and natural habitats and ecosystems

c) **Socio-economic-cultural impacts**: such as agricultural land, human health, social, cultural and religious values, implications of physical and biological impacts and other relevant socio-cultural-economic impacts.

This section also summarizes the recommended mitigation measures including basis for selection and cost if possible.

xii. Environmental Management Plan: This section summarizes the recommended implementation of IEE, monitoring parameters/indicators, activities, methods and responsibilities.

xiii. Conclusion and Recommendations: This section should clearly indicate whether IEE report is sufficient or further assessment is needed. Likewise, it should also be recommended that what aspects should be covered if further environmental assessment is needed.

xiv. Miscellaneous: Reference materials should be mentioned here if used during IEE report preparation in standard format.

xv. Annex

- ToR of IEE
- Rapid Environmental Assessment (REA) Checklist
- Abstract of cost
- RRRSDP environmental checklist
- Public notice
- Deed of enquiry (*muchulka*)
- Name of the organizations
- List of person contacted
- Meeting minutes of community consultation
- Recommendation letters from municipality and VDC's
- Existing condtion
    - a. Distribution of household by major occupation
    - b. Summary of public services and infrastructures according to settlement
    - c. Land holding pattern of settlements within ZoI
    - d. Number of households belonging to different food security category
- List of trees
- Maximization of slope cutting and preservation of vegetation cover
- Photographs

Appendix - II
Rapid Environmental Assessment (REA) Checklist

Instructions:

- This checklist is to be prepared to support the environmental classification of a project. It is to be attached to the environmental categorization form that is to be prepared and submitted to the Chief Compliance Officer of the Regional and Sustainable Development Department.
- This checklist is to be completed with the assistance of an Environment Specialist in a Regional Department.
- This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB checklists and handbooks on (i) involuntary resettlement, (ii) indigenous peoples planning, (iii) poverty reduction, (iv) participation, and (v) gender and development.
- Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title: Nepal / RRRSDP

Name of the sub Project: Rajduwali-Chisapani-Danabari Road Sub Project

SCREENING QUESTIONS	Yes	No	REMARKS
A. Project Sitting Is the Project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site		✓	
▪ Protected Area		✓	
▪ Wetland		✓	
▪ Mangrove		✓	
▪ Estuarine		✓	
▪ Buffer zone of protected area		✓	
▪ Special area for protecting biodiversity		✓	
B. Potential Environmental Impacts Will the Project cause…			
▪ Encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?		✓	
▪ Encroachment on precious ecology (e.g. sensitive or protected areas)?		✓	
▪ Alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site?		✓	

SCREENING QUESTIONS	Yes	No	REMARKS
▪ Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		✓	At Specific sites only
▪ Increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing?	✓		At construction sites only
▪ Noise and vibration due to blasting and other civil works?	✓		Noise due to civil works
▪ Dislocation or involuntary resettlement of people		✓	
▪ Other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress?	✓		During construction at the road sites settlement areas e.g. Ch: etc.
▪ Hazardous driving conditions where construction interferes with pre-existing roads?	✓		
▪ Poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations?	✓		There would be influx of labourers from outside during the construction period.
▪ Creation of temporary breeding habitats for mosquito vectors of disease?		✓	
▪ Dislocation and compulsory resettlement of people living in right-of-way?	✓		About six nos. of houses shall be affected.
▪ Accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials and loss of life?	✓		Mitigation measures should be adopted.
▪ Increased noise and air pollution resulting from traffic volume?	✓		Mitigation measures should be adopted.
▪ Increased risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road?	✓		

Source: field survey, November, 2009

Appendix - III: Abstract of Cost

Government of Nepal
Office of District Development Committee
District Technical Office
Rural Reconstruction and Rehabilitation Sector Development Program (RRRSDP, Ilam)

District:- Ilam

Proposed Road:-Rajdwali - Chisapani - Danabari Road **CHAINAGE: 0+000 To 23+300km**

BoQ No.	Description of Works	Unit	Quantity	Rate NRs.					Amount NRs.
			PACKAGE 1		PACKAGE 2		PACKAGE 3		
	Part I								
1	General	Unit	Quantity	Rate NRs.	Quantity	Rate NRs.	Quantity	Rate NRs.	
1.1	Insurance of works, Plants and materials, construction equipments and against accident to workmen including third party insurance.	Provisional Sum		800,000.00		800,000.00		800,000.00	2,400,000.00
1.2	Providing site office(s) for supervision team (Shoping Item)	Provisional Sum		1571300		1755000		1740000	5066300
	Sub-total								7,466,300.00
2	Site clearance	m^2	5,205.00	9.27	4,575.00	9.27	2955.00	9.27	118,053.45
	Sub-total								118,053.45
3	Cutting of Trees:								
3.1	Above 30cm to 60cm girth	No.	301.00	69.53	168.00	69.53	196.00	69.53	46,237.45
3.2	Above 60cm to 90cm girth	No.	82.00	92.70	36.00	92.70	53.00	92.70	15,851.70
3.3	Above 90cm to 180cm girth	No.	19.00	347.63	8.00	347.63	12.00	347.63	13,557.57
3.4	Above 180cm to 270cm girth	No.	9.00	695.20	1.00	695.20	4.00	695.20	9,732.80
3.5	Above 270cm to 450cm girth	No.							-
	Sub-total		411.00						85,379.52
	Part II								
4	Genaral Excavation in Roadway, Structure and Drain in:								
A	Labour Based								
4.1	Ordinary soil	m^3	3,144.67	115.88	3,196.68	115.88	757.46	115.88	822,610.10
4.2	Hard soil	m^3	5,674.75	139.05	5,573.44	139.05	1,474.23	139.05	1,769,053.34
4.3	Ordinary rock	m^3	-	-	-	-	-	-	-
4.4	Medium rock	m^3	1,321.81	927.00	1,366.93	927.00	324.70	927.00	2,793,458.88
4.5	Hard rock	m^3	881.37	2,781.00	911.25	2,781.00	216.41	2,781.00	5,587,112.43
B	Machine Based								
4.1	Ordinary soil	m3	12,578.40	31.51	12,786.72	31.51	3,029.84	31.51	894,725.19
4.2	Hard soil	m3	21,150.72	38.02	22,127.82	38.02	5,896.93	38.02	1,869,651.14
	Sub-total								13,736,611.08
6	Road Earthwork in Filling/ Backfilling								
6.1	Filling/ Backfilling	m^3	4,515.89	57.94	2,341.65	57.94	3,046.89	57.94	573,862.67
6.2	Back filling in Hume Pipe structure	m3	41.91	57.94	55.88	57.94	195.59	57.94	16,998.44
	Sub-total								590,861.11
	Part III								
7	Dry Stone Masonry Work:								
7.1	Dry wall stone (uncoursed rubble) masonry	m^3	1,243.80	1,370.27	477.50	1,655.78	-	1,818.94	2,494,976.78
	Sub-total								2,494,976.78

BoQ No.	Description of Works	Unit	Quantity	Rate NRs.					Amount NRs.
			PACKAGE 1		PACKAGE 2		PACKAGE 3		
		Unit	Quantity	Rate NRs.	Quantity	Rate NRs.	Quantity	Rate NRs.	
8	**Stone Masonry Work(1:4):**								
8.1	**stone (uncoursed rubble) masonry for HP & Causeway**	m^3	131.73	4,221.60	131.65	4,652.30	358.76	4,898.39	2,925,933.06
8.2	**Stone masonry work needed For Drain as per site condition and requirement and directed by Site Incharge**	m3	898.80	4,221.60	739.20	4,652.30	588.00	4,898.39	10,113,607.56
	Sub-total								**13,039,540.62**
9	**5 cm thick granular material bedding**	m^2	169.91	66.90	169.91	66.90	169.91	66.90	34,100.94
	Sub-total								**34,100.94**
10	**Gabion Works: (Hexagonal Mesh Size:100mmx120mm):**								
10.1	Fabrication of 2x1x1 gabion boxes including rolling, cutting, weaving and supply to the site (Selvedge wire-7swg, mesh wire-10 swg & binding wire-12 swg, all heavy coated) and Assembling of gabion baskets and placing them in position including stretching, binding them together and tying down lead.& also Packing & filling of gabion crates with rubble stones.	m^3	3,435.00	2,636.13	1,489.00	2,923.60	800.00	3,087.91	15,878,674.95
10.2	Fabrication of 1.5x1x1 gabion boxes including rolling, cutting, weaving and supply to the site (Selvedge wire-7swg, mesh wire-10 swg & binding wire-12 swg, all heavy coated) and Assembling of gabion baskets and placing them in position including stretching, binding them together and tying down lids & also Packing & filling of gabion crates with rubble stones.	m^3	2,425.00	2,545.40	1,200.00	2,832.54	750.00	2,996.77	11,819,220.50
10.3	**Gabion Works at Hume and Causeway**	m3	80.00	2,636.13	60.00	2,923.60	36.00	3,087.91	497,471.16
	Sub-total								**28,195,366.61**
11	**Steel Work**								
	Steel work in RCC Concrete including binding, bending placing and all	**MT**	11.78	74,950.42	7.07	75,100.30	4.70	75,186.00	1,766,499.02
	Sub-total								**1,766,499.02**
12	**Stone Soling Work**								
12.1	Stone Solling for causeway	m3	269.67	1,252.57	161.80	1,577.02	107.87	1,762.40	783,052.51
12.2	Stone Soling at Hume Pipe	m3	8.65	1,252.57	11.53	1,577.02	40.35	1,762.40	100,130.61
	Sub-total								**883,183.12**
14	**60cm dia RCC Hume Pipe (NP3)**								
14.1	60cm dia RCC Hume Pipe (NP3)	rm	22.50	4,439.10	30.00	4,501.10	105.00	4,536.55	711,250.50
14.2	PCC (1:2:4) for 60cm dia RCC Hume Pipe (NP3) & Causeway including form work	M3	107.26	14,559.60	69.68	14,677.20	73.88	14,745.20	3,673,745.37
	Sub-total								**4,384,995.87**
	Part IV								
16	**Pavement Works**								
16.1	Preparation Subgarde for Road way	m^2	36,000.00	32.45	32,000.00	32.45	25,200.00	32.45	3,024,340.00
16.2	Providing, laying, spreading, leveling and compaction of natural sand gravel subbase grading as per table 12.1 of Standard Specification lead up to 10m. Construction operation of granular sub base 15 cm thick with sieved river gravel aggregates (naturally	m^3	5,610.24	1,646.03	4,934.01	1,646.03	3,819.67	1,646.03	23,643,443.24
16.3	Supply and laying of sub-base materials as capping layer over prepared sub grade as instructed by site engineer. (Respective clause of specifications 3-1) (Provisional sum)	m3	112.20	1,646.03	98.68	1,646.03	114.59	1,646.03	535,741.78
	Sub-total								**27,203,525.02**

BoQ No.	Description of Works	Unit	Quantity	Rate NRs.					Amount NRs.
			PACKAGE 1		PACKAGE 2		PACKAGE 3		
		Unit	Quantity	Rate ' NRs.	Quantity	Rate NRs.	Quantity	Rate NRs.	
				Part V					
17	**Miscellaneous Work**								
17.1	Supply and place permanent traffic sign.	Nos.	35.00	2,000.00	35.00	2,000.00	35.00	2,000.00	210,000.00
17.2	Supply and place standard size sign board for contract information.	Nos.	2.00	5,000.00	2.00	5,000.00	2.00	5,000.00	30,000.00
17.3	Supply and place one kilometer stone.	Nos.	10.00	1,500.00	9.00	1,500.00	9.00	1,500.00	42,000.00
17.4	Supply and place 5th kilometer stone.	Nos.	2.00	1,500.00	2.00	1,500.00	2.00	1,500.00	9,000.00
17.5	Supply and place RCC delineators.	Nos.	150.00	750.00	130.00	750.00	130.00	750.00	307,500.00
17.6	Geotexttile	Sqm	1,750.00	68.00	1,500.00	68.00	1,500.00	68.00	323,000.00
17.7	Vehicle Pick up hire for supervision with fuel including driver and Maintenance	Month	12.00	80,000.00	12.00	80,000.00	12.00	80,000.00	2,880,000.00
17.8	Days Work								
	a) Unskilled Labour	Days	200.00	225.00	175.00	225.00	175.00	225.00	123,750.00
	b) Skilled Labor	Days	100.00	380.00	80.00	380.00	80.00	380.00	98,800.00
	Sub-total								**4,024,050.00**
	A. TOTAL								**104,023,443.12**
18	**Bio-engineering works (2% of A)**	LS							**2,080,468.86**
	B. TOTAL								**106,103,911.99**
19	**Provision for Laboratory Equipment setup, operation and maintenance including supervision of lab technitian (1% of Construction Cost)**	Provisional Sum							**1,061,039.12**
	Sub Total								**107,164,951.11**
20	**Provision for Contractor's operational expenses (15% of B)**								**16,074,742.67**
	C. TOTAL								**122,178,654.65**
	VAT(13 % of C)								**15,883,225.10**
	D. Total Cost of the Road								**138,061,879.76**
21	**Provision for contingencies (5% of D)**								**6,903,093.99**
	E. GRAND TOTAL								**144,964,973.75**
	F. Construction from RBIC (3 Group)								**6,259,384.04**
	Grand Total Cost								**151,224,357.79**
	Total Length of the Road		**23.30**	**Km**					
	COST PER KILOMETER								**6,490,315.78**

Note: Without considering Bridges along the Road Alignment

Appendix - IV

RRRSDP Environmental Checklist

A. GENERAL SOCIO-ECONOMIC SITUATION OF THE INFLUENCE AREA

1. Overview of settlements in the zone of influence (ZoI) area

Settlement Code*	Name of Settlement and address	Household and Population	Caste/ethnic distribution	General Comment
A				
B				
C				
D				
E				
F				
G				
H				
I				
J				
K				

* Use the same codes as in strip map and topographical map.

2. Economic activities/main occupation

Settlement Code	Number of HH and Percentage of Population engaged in					
	Agriculture & Livestock	Labour & Porter	Business/ Commerce	Cottage Industry	GO/NGO Employees	Others (specify)
A						
B						
C						
D						
E						
F						
G						
H						
I						
J						
K						

3. Existing services and infrastructures

S. N.	Service/Infrastructure Category	Settlement Code									
		A	B	C	D	E	F	G	H	I	J
1	EDUCATION										
1.1	Campus (no.) Students (no.)										
1.2	High School (no.) Students (no.)										
1.3	Primary School (no.) Students (no.)										
2	HEALTH										
2.1	Hospital /health centre (no.) Capacity (beds)										
2.2	Health Post (no.) Sub-Health Post (no.)										
3	COMMUNICATION										
3.1	Telephone/fax										
3.2	Mobile/CDMA										
3.3	Post Office										
4	ELECTRICITY SUPPLY (no. of Hhs)										
4.1	from Micro-hydro										
4.2	from Mini-hydro										
4.3	from National Grid										
4.4	from Solar System										
4.5	from Diesel Generator										
5	BUSINESS & COMMERCE										
5.1	Hotels & Lodges (no.)										
5.2	Restaurants & Tea Stalls (no.)										
5.3	Grocery Shops (no.)										

S. N.	Service/Infrastructure Category	Settlement Code									
		A	B	C	D	E	F	G	H	I	J
5.4	Other Shops (no.) (e.g. stationery, medicine, tailoring, fancy/cloth etc.)										
6	DRINKING WATER SUPPLY SCHEMES										
6.1	Gravity-Flow Scheme (capacity)										
6.2	Tube-wells (no.)										
6.3	Spring/Dug-wells (no.)										
7	IRRIGATION SCHEMES										
7.1	Surface Irrigation (ha.)										
7.2	Groundwater (ha.)										
8	OTHER INFRASTRUCTURES										
8.1	Micro-hydro scheme (no. & capacity.....kw)										
8.2	Water Mill (no.)										
8.3	Suspension Bridges (no.)										
8.4	Wooden Bridges (no.)										
8.5	Other Bridges (specify)										
9	INDUSTRY										
9.1	Weaving Industry (no.)										
9.2	Rice & flour Mills (no.)										
9.3	Other Industries										
10	FINANCIAL INSTITUTIONS										
10.1	Bank (no.)										
10.2	Cooperative										
11	COMMUNITY USE										
11.1	Ghat (no.)										
11.2	Hatia/Bazaar (no.)										
11.3	Playground (no.)										
11.4	Community Centre (no.)										
11.5	Community Organisation										
11.6	Others (specify										

4. Land holding pattern

Land holding Pattern (ropani)	Settlement (HH No.)										Remarks
	A	B	C	D	E	F	G	H	I	J	
Landless											
less than 1											
1 to 5											
5 to 10											
10 to 20											
20-50											
> 50											

5. Food grain availability (HH no.)

Availability Status	Settlements (HH No.)										Total
	A	B	C	D	E	F	G	H	I	J	
Surplus											
Sufficient for whole year											
Sufficient for three to nine months											
Sufficient for three months											
Less than three months											

6. Major existing agriculture production (denote the most dominant by 1, second dominant by 2 and so on).

S. No.	Type of Agriculture Production	Settlements									
		A	B	C	D	E	F	G	H	I	J
1.0	CEREALS										
1.1	Rice										
1.2	Wheat										
1.3	Maize										
1.4	Millet										
1.5	Junelo										
1.6	Phaper										
1.7	Others (list)										
2.0	CASH CROPS										
2.1	Oil Seeds										
2.2	Beans/Dal										
2.3	Tobacco										
2.4	Potato										
2.5	Vegetables										
2.6	Fruits										
2.7	Tea/Coffee										
2.8	Amliso										
2.9	Sericulture										
2.10	Others (list)										
3.0	LIVESTOCK & FISHERIES										
3.1	Cattle (cows & buffaloes)										
3.2	Horses, Mules										
3.3	Yak										
3.4	Goat										
3.5	Sheep										
3.6	Rabbit										
3.7	Pig										
3.8	Fisheries										
3.9	Poultry										
3.10	Bee-keeping										
3.11	Others										

7. Migration for employment

(a) No. of HHs from where at least one person (may be HH head) is away from home for more than 6 months.

Settlement (No. of HH)									
A	B	C	D	E	F	G	H	I	J

8. **Name of settlement:** **Address:**

A. Seasonal migration in search of work

Month	No. of Total HH	Destination	Purpose
Baisakh			
Jestha			
Ashad			
Shrawan			
Bhadra			
Ashwin			
Kartik			
Marga			
Poush			
Magh			
Falgun			
Chaitra			

B. Dominant off-farm occupation in the settlement in descending order
1.....
2.....
3.....

C. DEVELOPMENT POTENTIAL OF THE INFLUENCE AREA

C.1. Areas which have significant potential for development, for instance, high agricultural production, tourism development, local mines, etc. (indicate these areas in map/sketch).

S.No.	Name of Area	Description of Development Potential
1		
2		
3		
4		

C.2. Scope of the proposed linkage in view of promoting socio-economic development

S. No.	Sectors to get direct benefit	Describe how it will benefit
1		
2		
3		
4		

D. Historic and Cultural Resources

Type of Resource	Name/specification	Affecting activities	Location from project
Temples			
monuments			
Religious place			
others			

E. Name of Existing Community Organisation
F. Trading pattern -Imported items and Exported Items
G.a. Travel time from starting point - By Walking, By Vehicle
G.b. Transportation cost - Porter , Mule , Vehicle

Appendix - V:
Public Notice

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
ग्रामीण पुनर्निर्माण तथा पुनर्स्थापना आयोजना
जिल्ला आयोजना कार्यालय
इलाम

प्रारम्भिक वातावरणीय परीक्षणसम्बन्धी राय सुझावका लागि सार्वजनिक सूचना

(प्रथमपटक प्रकाशित मिति : २०६६।४।१७)

ग्रामीण पुनर्निर्माण तथा पुनर्स्थापना आयोजना (RRRSDP) अन्तर्गत एसियाली विकास बैंक, डिफिड तथा स्वीस सरकार विकास नियोगको अनुदान सहयोग तथा ओफिडको ऋण सहयोग तथा नेपाल सरकार, जिल्ला विकास समिति र लाभग्राही समेतको लगानीमा स्तरोन्नति/निर्माण गर्न प्रस्तावित गरिएका (१) मंगलबारे - धुसेनी - गजुरमुखी - इभाङ सडक (२) इ.न.पा. - सोयाङ - दुधाङ - नयाँबजार सडक (३) राजदुवाली - चिसापानी - दानाबारी सडक उपआयोजनाहरूको प्रारम्भिक वातावरणीय परीक्षण प्रतिवेदन कार्यान्वयन गर्ने सिलसिलामा वातावरण संरक्षण नियमावली, २०५४ (पहिलो संशोधन, २०५५) नियमको ७ (२) अनुसार यो सूचना प्रकाशित गरिएको छ।

प्रस्तावकको नाम : जिल्ला विकास समितिको कार्यालय/जिल्ला प्राविधिक कार्यालय/जिल्ला आयोजना कार्यालय, इलाम।

प्रस्तावित सडकको प्रभाव पार्ने आ.वि.स. हरू

१. मंगलबारे-धुसेनी-गजुरमुखी-इभाङ सडक अन्तर्गत मंगलबारे, धुसेनी, गजुरमुखी र इभाङ गाविसहरू।
२. राजदुवाली-चिसापानी-दानाबारी सडक अन्तर्गत गोदक, चिसापानी र दानाबारी गाविसहरू।
३. इनपा-दुधाङ-सोयाङ-नयाँबजार सडकअन्तर्गत इलाम नगरपालिका, बरबोटे, सोयाङ र नयाँबजार गाविसहरू।

प्रस्तावको विवरण

प्रस्तावित (१) मंगलबारे-धुसेनी-गजुरमुखी-इभाङ सडक उप-आयोजना मंगलबारे गाविसबाट सुरु भई इभाङ गाविसको सातबिसे (फेवा खोला वारी) मा टुङ्गिन्छ। यो सडक मंगलबारे बजार, याङ्मो, सिङ्गलण्डा, क्याबुङ (लिम्बू गाउँ), बोरिबोटे बारुङ, गजुरमुखी धाम, रत्न बस्ती र सातबिसे बस्तीहरू भएर जान्छ। यस सडकको जम्मा लम्बाइ २० कि.मि. छ।

प्रस्तावित (२) गोदक-चिसापानी-दानाबारी सडक उप-आयोजना गोदक गाविसको राजदुवालीबाट सुरु भई दानबारी गाविसको हात्ती छिराथो हुँदै शीतलुङ्गा टुङ्गिन्छ। यो सडक राजदुवाली, सिंगापानी, तिल्केमञ्ज्याङ, सोपबारे बजार, सोक्तिम बजार हुँदै हात्ती छिराथो भएर जान्छ। यस सडकको जम्मा लम्बाइ २० कि.मि. छ।

प्रस्तावित (३) इ.न.पा.-बरबोटे-सोयाङ-नयाँबजार सडक उप-आयोजना इलाम नगरपालिकाबाट सुरु भई नयाँ बजारको देवीस्थानमा टुङ्गिन्छ। यो सडक इ.न.पा., सिङ्गफिङ्ग, तुटेबर, धोपगाउँ, बरबोटे, दुधाङ, लोकसाङ, सीमलल्ले टोल, हेम्दोल टोल, सिस्ने, वीरपाने टोल, साठीमुरे टोल, देवीस्थान (लिम्बू गाउँ), सिस्ने टोल, भिमबर्ने मञ्ज्याङ, कथ्याटोल, बरगिल चौतारी, खड्का गाउँ, बीङ्ग टुङ्गा, भोटे टार, टुङ्गे बजार, माने डाँडा, सिरिसे, नामगेल टोल, शेर्पा टोल, सोताङ टोल, घराने टोल, आइतबारे, देवीस्थान, लम्बत टोल हुँदै भण्डारी डाँडा भएर जान्छ। यस सडकको जम्मा लम्बाइ २० कि.मि. छ।

उल्लेखित सडक उप-आयोजनाहरूको कार्यान्वयनबाट वातावरणमा पर्न सक्ने प्रभावको बारेमा सम्बन्धित गा.वि.स., विद्यालय, स्वास्थ्य चौकी, वन उपभोक्ता समिति तथा अन्य सरोकारवाला व्यक्ति वा संस्थाहरूले यो सूचना गोरखापत्र दैनिकमा प्रकाशित भएको मितिले १५ दिनभित्र आफ्नो राय सुझाव तल उल्लेखित ठेगानामा पठाई सहयोग गरिदिनु हुन अनुरोध गरिन्छ। साथै यसै बमोजिमको राय सुझाव स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग, जावलाखेल, ग्रामीण पुनर्निर्माण तथा पुनर्स्थापना आयोजना, आयोजना समन्वय एकाइ, एकान्तकुना तथा स्थानीय विकास मन्त्रालय पुल्चोक, काठमाडौंमा पनि पठाउन सकिनेछ।

राय सुझाव पठाउने ठेगाना

जिल्ला विकास समितिको कार्यालय, इलाम
टेलिफोन नं. ०२७-५२००९०
फ्याक्स नं. ०२७-५२००५८

जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय, इलाम
टेलफोन नं. ०२७-५२०८३१
फ्याक्स नं. ०२७-५२१७४३

गो.प. २०६६।४।१८

Appendix - VI:
Deed of enquiry (*muchulka*)

RRRSDP आयोजना अन्तर्गत (DIST) इलामबाट खटिई आउनुभएकी सामाजिक परिचालक श्री .....रिता घिमिरे.....ले वातावरणीय संरक्षण नियमावली २०५४ पहिलो संसोधन २०५५ समेतको नियम ७२(२) बमोजिम संलग्न प्रारम्भिक वातावरणीय परिक्षण (IEE) सम्बन्धी राय सुझावको सार्वजनिक सूचना म .....घनश्याम प्रसाद.....को रोहवरमा ...गोदक... गा.वि.स./स्वास्थ्य चौकी/विद्यालय/सामुदायिक वन को सूचना पाटीमा टाँस गरेको व्यहोरा प्रमाणित गर्दछु ।

नाम: घनश्याम प्रसाद
ठेगाना: गा.वि.स. सचिव गोदक
दस्तखत:

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
इलाम

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६/४/१७)

ग्रामीण पुनर्निर्माण तथा पुर्नस्थापना आयोजना (RRRSDP) अन्तरगत एशियाली विकास बैङ्क, डिफिड तथा स्वीस सरकार विकास नियोगको अनुदान सहयोग तथा ओफिडको ऋण सहयोग तथा नेपाल सरकार, जिल्ला विकास समिति र लाभग्राही समेतको लगानीमा निर्माण गर्न प्रस्ताव गरिएको राजदुवाली - चिसापानी - दानाबारी सडक उपआयोजनाको प्रारम्भिक वातावरणीय परीक्षण प्रतिवेदन कार्यान्वयन गर्ने सिलसिलामा वातावरण संरक्षण नियमावली २०५४ (पहिलो संसोधन, २०५५) को नियम ७ (२) अनुसार यो सार्वजनिक सूचना प्रकाशित गरिएको छ ।

प्रस्तावकको नाम: जिल्ला विकास समितिको कार्यालय/जिल्ला प्राविधिक कार्यालय, इलाम

प्रस्तावित सडकले प्रभाव पार्ने न.पा./गा.वि.स.हरु : गोदक, चिसापानी र दानाबारी गा.वि.स.हरु

प्रस्तावको विवरण : प्रस्तावित राजदुवाली-चिसापानी-दानाबारी सडक उप आयोजना गोदक गा.वि.स.को राजदुवालीबाट शुरु भई दानाबारी गा.वि.स.को हात्ती छिरायो हुँदै शीतलुमा टुङ्गिन्छ । यो सडक राजदुवाली राँगापानी, तिल्केभन्ज्याङ्ग, सोमबारे बजार, सोक्तिम बजार हुँदै हात्तीछिरायो भएर जान्छ । यसको लम्बाई २३ कि.मी. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्ताव गरिएको छ ।

उक्त प्रस्तावको कार्यान्वयनबाट वातावरणमा पर्नसक्ने प्रभावको बारेमा सम्बन्धित गा.वि.स., विद्यालय, स्वास्थ्य चौकी , वन उपभोक्ता समिति तथा अन्य सरोकारवाला व्यक्ति वा संस्थाले यो सूचना गोरखापत्रमा प्रकाशित भएको मितिले १५ (पन्ध्र) दिनभित्र आफ्नो राय सुझाव पठाई सहयोग गरिदिनहुन अनुरोध गरिन्छ । साथै यसै बमोजिमको राय सुझाव स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग, जावलाखेल तथा स्थानीय विकास मन्त्रालय पुल्चोक काठमाडौंमा पनि पठाउन सकिनेछ ।

राय सुझाव पठाउने ठेगाना:
जिल्ला विकास समितिको कार्यालय, इलाम
टेलिफोन नं. : ०२७ ५२००९०
फ्याक्स नं. : ०२७ ५२००५८

जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय, इलाम
टेलिफोन नं. : ०२७ ५२०८३१
फ्याक्स नं. : ०२७ ५२१७४३

RRRSDP आयोजना अन्तर्गत (DIST) इलामबाट खटिई आउनुभएकी सामाजिक परिचालक श्री .....ले वातावरणीय संरक्षण नियमावली २०५४ पहिलो संसोधन २०५५ समेतको नियम ७२(२) यसैसाथ संलग्न प्रारम्भिक वातावरणीय परिक्षण (IEE) सम्बन्धी राय सुझावको सार्वजनिक सूचना म .....को रोहवरमा गा.वि.स./स्वास्थ्य चौकी/विद्यालय/सामुदायिक वन को सूचना पाटीमा टाँस गरेको व्यहोरा प्रमाणित गर्दछु ।

नाम:
ठेगाना:
दस्तखत:

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
इलाम

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६/४/१७)

ग्रामीण पुनर्निर्माण तथा पुर्नस्थापना आयोजना (RRRSDP) अन्तरगत एशियाली विकास बैङ्क, डिफिड तथा स्वीस सरकार विकास नियोगको अनुदान सहयोग तथा ओफिडको ऋण सहयोग तथा नेपाल सरकार, जिल्ला विकास समिति र लाभग्राही समेतको लगानीमा निर्माण गर्न प्रस्ताव गरिएको राजदुवाली - चिसापानी - दानाबारी सडक उपआयोजनाको प्रारम्भिक वातावरणीय परीक्षण प्रतिवेदन कार्यान्वयन गर्ने सिलसिलामा वातावरण संरक्षण नियमावली २०५४ (पहिलो संसोधन, २०५५) को नियम ७ (२) अनुसार यो सार्वजनिक सूचना प्रकाशित गरिएको छ ।

प्रस्तावकको नाम: जिल्ला विकास समितिको कार्यालय/जिल्ला प्राविधिक कार्यालय, इलाम

प्रस्तावित सडकले प्रभाव पार्ने न.पा./गा.वि.स.हरु : गोदक, चिसापानी र दानाबारी गा.वि.स.हरु

प्रस्तावको विवरण : प्रस्तावित राजदुवाली-चिसापानी-दानाबारी सडक उप आयोजना गोदक गा.वि.स.को राजदुवालीबाट शुरु भई दानाबारी गा.वि.स.को हात्ती छिरायो हुँदै शीतलुमा टुङ्गिन्छ । यो सडक राजदुवाली रँगापानी, तिल्केभन्ज्याङ्ग, सोमबारे बजार, सोक्तिम बजार हुँदै हात्तीछिरायो भएर जान्छ । यसको लम्बाई २३ कि.मी. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्ताव गरिएको छ ।

उक्त प्रस्तावको कार्यान्वयनबाट वातावरणमा पर्नसक्ने प्रभावको बारेमा सम्बन्धित गा.वि.स., विद्यालय, स्वास्थ्य चौकी , वन उपभोक्ता समिति तथा अन्य सरोकारवाला व्यक्ति वा संस्थाले यो सूचना गोरखापत्रमा प्रकाशित भएको मितिले १५ (पन्ध्र) दिनभित्र आफ्नो राय सुझाव पठाई सहयोग गरिदिनहुन अनुरोध गरिन्छ । साथै यसै बमोजिमको राय सुझाव स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग, जावलाखेल तथा स्थानीय विकास मन्त्रालय पुल्चोक काठमाडौंमा पनि पठाउन सकिनेछ ।

राय सुझाव पठाउने ठेगाना:
जिल्ला विकास समितिको कार्यालय, इलाम
टेलिफोन नं. : ०२७ ५२००९०
फ्याक्स नं. : ०२७ ५२००५८

जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय, इलाम
टेलिफोन नं. : ०२७ ५२०८३९
फ्याक्स नं. : ०२७ ५२१७४३

RRRSDP आयोजना अन्तर्गत (DIST) इलामबाट सटिई आउनुभएकी सामाजिक परिचालक श्री रिता घिमिरे.....ले वातावरणीय संरक्षण नियमावली २०५४ पहिलो संसोधन २०५५ समेतको नियम ७(२) यसैसाथ संलग्न प्रारम्भिक वातावरणीय परिक्षण (IEE) सम्बन्धी राय सुझावको सार्वजनिक सूचना म राजकुमार.....ठाकुरीला.....को रोहवरमा चिसापानी गा.वि.स./स्वास्थ्य चौकी/विद्यालय/सामुदायिक वन को सूचना पाटीमा टाँस गरेको व्यहोरा प्रमाणित गर्दछु।

नाम: राजकुमार ठाकुरीला
ठेगाना: चिसापानी
दस्तखत:

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
इलाम

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६/४/१७)

ग्रामीण पुनर्निर्माण तथा पुर्नस्थापना आयोजना (RRRSDP) अन्तरगत एशियाली विकास बैंक, डिफिड तथा स्वीस सरकार विकास निर्योगको अनुदान सहयोग तथा ओफिडको ऋण सहयोग तथा नेपाल सरकार, जिल्ला विकास समिति र लाभग्राही समेतको लगानीमा निर्माण गर्न प्रस्ताव गरिएको राजदुवाली - चिसापानी - दानाबारी सडक उपआयोजनाको प्रारम्भिक वातावरणीय परीक्षण प्रतिवेदन कार्यान्वयन गर्ने सिलसिलामा वातावरण संरक्षण नियमावली २०५४ (पहिलो संसोधन, २०५५) को नियम ७ (२) अनुसार यो सार्वजनिक सूचना प्रकाशित गरिएको छ।

प्रस्तावकको नाम: जिल्ला विकास समितिको कार्यालय/जिल्ला प्राविधिक कार्यालय, इलाम

प्रस्तावित सडकले प्रभाव पार्ने न.पा./गा.वि.स.हरु : गोदक, चिसापानी र दानाबारी गा.वि.स.हरु

प्रस्तावको विवरण : प्रस्तावित राजदुवाली-चिसापानी-दानाबारी सडक उप आयोजना गोदक गा.वि.स.को राजदुवालीबाट शुरु भई दानाबारी गा.वि.स.को हासी छिरायो हुँदै शीतलुमा टुङ्गिन्छ। यो सडक राजदुवाली रोंगापानी, तिल्केभन्ज्याङ, सोमबारे बजार, सोल्किम बजार हुँदै हासीछिरायो भएर जान्छ। यसको लम्बाई २३ कि.मी. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्ताव गरिएको छ।

उक्त प्रस्तावको कार्यान्वयनबाट वातावरणमा पर्नसक्ने प्रभावको बारेमा सम्बन्धित गा.वि.स., विद्यालय, स्वास्थ्य चौकी, वन उपभोक्ता समिति तथा अन्य सरोकारवाला व्यक्ति वा संस्थाले यो सूचना गोरखापत्रमा प्रकाशित भएको मितिले १५ (पन्ध्र) दिनभित्र आफ्ना राय सुझाव पठाई सहयोग गरिदिनहुन अनुरोध गरिन्छ। साथै यसै बमोजिमको राय सुझाव स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग, जावलाखेल तथा स्थानीय विकास मन्त्रालय पुल्चोक काठमाडौंमा पनि पठाउन सकिनेछ।

राय सुझाव पठाउने ठेगाना:
जिल्ला विकास समितिको कार्यालय, इलाम
टेलिफोन नं. ०२७ ५२००९०
फ्याक्स नं. ०२७ ५२००५८

जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय, इलाम
टेलिफोन नं. ०२७ ५२०८३१
फ्याक्स नं.: ०२७ ५२१७४३

RRRSDP आयोजना अन्तर्गत (DIST) इलामबाट खटिई आउनुभएकी सामाजिक परिचालक श्री रीता ढकाल ले वातावरणीय संरक्षण नियमावली २०५४ पहिलो संसोधन २०५५ समेतको नियम ७(२) यसैसाथ संलग्न प्रारम्भिक वातावरणीय परिक्षण (IEE) सम्बन्धी राय सुझावको सार्वजनिक सूचना म काशीराम यादव को रोहवरमा दानाबारी गा.वि.स./स्वास्थ्य चौकी/विद्यालय/सामुदायिक वन को सूचना पाटीमा टाँस गरेको व्यहोरा प्रमाणित गर्दछु।

काशीराम यादव
दानाबारी उपस्वास्थ्य चौकी

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
इलाम

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६/४/१७)

ग्रामीण पुनर्निर्माण तथा पुर्नस्थापना आयोजना (RRRSDP) अन्तरगत एशियाली विकास बैङ्क, डिफिड तथा स्वीस सरकार विकास नियोगको अनुदान सहयोग तथा ओफिडको ऋण सहयोग तथा नेपाल सरकार, जिल्ला विकास समिति र लाभग्राही समेतको लगानीमा निर्माण गर्न प्रस्ताव गरिएको राजदुवाली - चिसापानी - दानाबारी सडक उपआयोजनाको प्रारम्भिक वातावरणीय परीक्षण प्रतिवेदन कार्यान्वयन गर्ने सिलसिलामा वातावरण संरक्षण नियमावली २०५४ (पहिलो संसोधन, २०५५) को नियम ७ (२) अनुसार यो सार्वजनिक सूचना प्रकाशित गरिएको छ।

प्रस्तावकको नाम: जिल्ला विकास समितिको कार्यालय/जिल्ला प्राविधिक कार्यालय, इलाम

प्रस्तावित सडकले प्रभाव पार्ने न.पा./गा.वि.स.हरु : गोदक, चिसापानी र दानाबारी गा.वि.स.हरु

प्रस्तावको विवरण : प्रस्तावित राजदुवाली-चिसापानी-दानाबारी सडक उप आयोजना गोदक गा.वि.स.को राजदुवालीबाट शुरु भई दानावारी गा.वि.स.को हात्ती छिरायो हुँदै शीतलुमा टुङ्गिन्छ। यो सडक राजदुवाली राँगापानी, तिल्केभन्ज्याङ्ग, सोमबारे बजार, सोक्तिम बजार हुँदै हात्तीछिरायो भएर जान्छ। यसको लम्बाई २३ कि.मी. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्ताव गरिएको छ।

उक्त प्रस्तावको कार्यान्वयनबाट वातावरणमा पर्नसक्ने प्रभावको बारेमा सम्बन्धित गा.वि.स., विद्यालय, स्वास्थ्य चौकी , वन उपभोक्ता समिति तथा अन्य सरोकारवाला व्यक्ति वा संस्थाले यो सूचना गोरखापत्रमा प्रकाशित भएको मितिले १५ (पन्ध्र) दिनभित्र आफ्नो राय सुझाव पठाई सहयोग गरिदिनहुन अनुरोध गरिन्छ। साथै यसै बमोजिमको राय सुझाव स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग, जावलाखेल तथा स्थानीय विकास मन्त्रालय पुल्चोक काठमाडौंमा पनि पठाउन सकिनेछ।

राय सुझाव पठाउने ठेगाना:
जिल्ला विकास समितिको कार्यालय, इलाम
टेलिफोन नं. : ०२७ ५२००९०
फ्याक्स नं. : ०२७ ५२००५८

जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय, इलाम
टेलिफोन नं. : ०२७ ५२०८३१
फ्याक्स नं. : ०२७ ५२१७४३

RRRSDP आयोजना अन्तर्गत (DIST) इलामबाट खटिई आउनुभएकी सामाजिक परिचालक रीता पिथिरे ले वातावरणीय संरक्षण नियमावली २०५४ पहिलो संसोधन २०५५ समेतको नियम ७(२) यसैसाथ संलग्न प्रारम्भिक वातावरणीय परिक्षण (IEE) सम्बन्धी राय सुझावको सार्वजनिक सूचना म रमेश कोइराला को रोहवरमा दानाबारी गा.वि.स./स्वास्थ्य चौकी/विद्यालय/सामुदायिक वन को सूचना पाटीमा टांस गरेको व्यहोरा प्रमाणित गर्दछु ।

स्थानीय निकाय: रमेश कोइराला
दानाबारी गा.वि.स.
दस्तखत:
अध्यक्ष

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
इलाम

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६/४/१७)

ग्रामीण पुनर्निर्माण तथा पुर्नस्थापना आयोजना (RRRSDP) अन्तरगत एशियाली विकास बैङ्क, डिफिड तथा स्वीस सरकार विकास नियोगको अनुदान सहयोग तथा ओफिडको ऋण सहयोग तथा नेपाल सरकार, जिल्ला विकास समिति र लाभग्राही समेतको लगानीमा निर्माण गर्न प्रस्ताव गरिएको राजदुवाली - चिसापानी - दानाबारी सडक उपआयोजनाको प्रारम्भिक वातावरणीय परीक्षण प्रतिवेदन कार्यान्वयन गर्ने सिलसिलामा वातावरण संरक्षण नियमावली २०५४ (पहिलो संसोधन, २०५५) को नियम ७ (२) अनुसार यो सार्वजनिक सूचना प्रकाशित गरिएको छ ।

प्रस्तावकको नाम: जिल्ला विकास समितिको कार्यालय/जिल्ला प्राविधिक कार्यालय, इलाम

प्रस्तावित सडकले प्रभाव पार्ने न.पा./गा.वि.स.हरु : गोदक, चिसापानी र दानाबारी गा.वि.स.हरु

प्रस्तावको विवरण : प्रस्तावित राजदुवाली-चिसापानी-दानाबारी सडक उप आयोजना गोदक गा.वि.स.को राजदुवालीबाट शुरु भई दानाबारी गा.वि.स.को हाती छिरायो हुँदै शीतलुमा टुङ्गिन्छ । यो सडक राजदुवाली राँगापानी, तिल्केभन्ज्याङ्ग, सोमबारे बजार, सोक्तिम बजार हुँदै हातीछिरायो भएर जान्छ । यसको लम्बाई २३ कि.मी. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्ताव गरिएको छ ।

उक्त प्रस्तावको कार्यान्वयनबाट वातावरणमा पर्नसक्ने प्रभावको बारेमा सम्बन्धित गा.वि.स., विद्यालय, स्वास्थ्य चौकी , वन उपभोक्ता समिति तथा अन्य सरोकारवाला व्यक्ति वा संस्थाले यो सूचना गोरखापत्रमा प्रकाशित भएको मितिले १५ (पन्ध्र) दिनभित्र आफ्नो राय सुझाव पठाई सहयोग गरिदिनहुन अनुरोध गरिन्छ । साथै यसै बमोजिमको राय सुझाव स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग, जावलाखेल तथा स्थानीय विकास मन्त्रालय पुल्चोक काठमाडौंमा पनि पठाउन सकिनेछ ।

राय सुझाव पठाउने ठेगाना:
जिल्ला विकास समितिको कार्यालय, इलाम
टेलिफोन नं. : ०२७ ५२००९०
फ्याक्स नं. : ०२७ ५२००५८

जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय, इलाम
टेलिफोन नं. : ०२७ ५२०८३१
फ्याक्स नं. : ०२७ ५२१७४३

RRRSDP आयोजना अन्तर्गत (DIST) इलामबाट खटिई आउनुभएकी सामाजिक परिचालक श्री .....रीता घिमिरे.....ले वातावरणीय संरक्षण नियमावली २०५४ पहिलो संसोधन २०५५ समेतको नियम ७२(२) यसैसाथ संलग्न प्रारम्भिक वातावरणीय परिक्षण (IEE) सम्बन्धी राय सुझावको सार्वजनिक सूचना म .....नर बहादुर ढकाल.....को रोहबरमा महामारा प्रा.वि.स./स्वास्थ्य चौकी/विद्यालय/सामुदायिक वन को सूचना पाटीमा टाँस गरेको व्यहोरा प्रमाणित गर्दछु।

नाम: नर ब० ढकाल
ठेगाना: गोदक - ३
दस्तखत:

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
इलाम

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६/४/१७)

ग्रामीण पुनर्निर्माण तथा पुर्नस्थापना आयोजना (RRRSDP) अन्तरगत एशियाली विकास बैङ्क, डिफिड तथा स्वीस सरकार विकास नियोगको अनुदान सहयोग तथा ओफिडको ऋण सहयोग तथा नेपाल सरकार, जिल्ला विकास समिति र लाभग्राही समेतको लगानीमा निर्माण गर्न प्रस्ताव गरिएको राजदुबाली - चिसापानी - दानाबारी सडक उपआयोजनाको प्रारम्भिक वातावरणीय परीक्षण प्रतिवेदन कार्यान्वयन गर्ने सिलसिलामा वातावरण संरक्षण नियमावली २०५४ (पहिलो संसोधन, २०५५) को नियम ७ (२) अनुसार यो सार्वजनिक सूचना प्रकाशित गरिएको छ।

प्रस्तावकको नाम: जिल्ला विकास समितिको कार्यालय/जिल्ला प्राविधिक कार्यालय, इलाम

प्रस्तावित सडकले प्रभाव पार्ने न.पा./गा.वि.स.हरु : गोदक, चिसापानी र दानाबारी गा.वि.स.हरु

प्रस्तावको विवरण : प्रस्तावित राजदुबाली-चिसापानी-दानाबारी सडक उप आयोजना गोदक गा.वि.स.को राजदुबालीबाट शुरु भई दानाबारी गा.वि.स.को हात्ती छिरायो हुँदै शीतलुमा टुङ्गिन्छ। यो सडक राजदुबाली राँगापानी, तिल्केभन्ज्याङ्ग, सोमबारे बजार, सोक्तिम बजार हुँदै हात्तीछिरायो भएर जान्छ। यसको लम्बाई २३ कि.मी. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्ताव गरिएको छ।

उक्त प्रस्तावको कार्यान्वयनबाट वातावरणमा पर्नसक्ने प्रभावको बारेमा सम्बन्धित गा.वि.स., विद्यालय, स्वास्थ्य चौकी , वन उपभोक्ता समिति तथा अन्य सरोकारवाला व्यक्ति वा संस्थाले यो सूचना गोरखापत्रमा प्रकाशित भएको मितिले १५ (पन्ध्र) दिनभित्र आफ्नो राय सुझाव पठाई सहयोग गरिदिनहुन अनुरोध गरिन्छ। साथै यसै बमोजिमको राय सुझाव स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग, जावलाखेल तथा स्थानीय विकास मन्त्रालय पुल्चोक काठमाडौंमा पनि पठाउन सकिनेछ।

राय सुझाव पठाउने ठेगाना:
जिल्ला विकास समितिको कार्यालय, इलाम
टेलिफोन नं. : ०२७ ५२००९०
फ्याक्स नं. : ०२७ ५२००५८

जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय, इलाम
टेलिफोन नं. : ०२७ ५२०८३१
फ्याक्स नं. : ०२७ ५२१७४३

RRRSDP आयोजना अन्तर्गत (DIST) इलामबाट सर्टिई आउनुभएकी सामाजिक परिचालक श्री .....सिता घिमिरे.....ले वातावरणीय संरक्षण नियमावली २०५४ पहिलो संसोधन २०५५ समेतको नियम ७२(२) यसैसाथ संलग्न प्रारम्भिक वातावरणीय परिक्षण (IEE) सम्बन्धी राय सुझावको सार्वजनिक सूचना म .....घनश्याम भट्ट.....को रोहबरमा सूर्योदय गा.वि.स./~~स्वास्थ्य चौकी~~/विद्यालय/~~सामुदायिक वन~~ को सूचना पाटीमा टाँस गरेको व्यहोरा प्रमाणित गर्दछु ।

नाम: घनश्याम भट्ट
ठेगाना: सचिव सूर्योदय वन उपभोक्ता समूह गोदक-२
दस्तखत:

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
इलाम

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६/४/१७)

ग्रामीण पुनर्निर्माण तथा पुर्नस्थापना आयोजना (RRRSDP) अन्तरगत एशियाली विकास बैङ्क, डिफिड तथा स्वीस सरकार विकास नियोगको अनुदान सहयोग तथा ओफिडको ऋण सहयोग तथा नेपाल सरकार, जिल्ला विकास समिति र लाभग्राही समेतको लगानीमा निर्माण गर्न प्रस्ताव गरिएको राजदुवाली - चिसापानी - दानाबारी सडक उपआयोजनाको प्रारम्भिक वातावरणीय परीक्षण प्रतिवेदन कार्यान्वयन गर्ने सिलसिलामा वातावरण संरक्षण नियमावली २०५४ (पहिलो संसोधन, २०५५) को नियम ७ (२) अनुसार यो सार्वजनिक सूचना प्रकाशित गरिएको छ ।

प्रस्तावकको नाम: जिल्ला विकास समितिको कार्यालय/जिल्ला प्राविधिक कार्यालय, इलाम

प्रस्तावित सडकले प्रभाव पार्ने न.पा./गा.वि.स.हरु : गोदक, चिसापानी र दानाबारी गा.वि.स.हरु

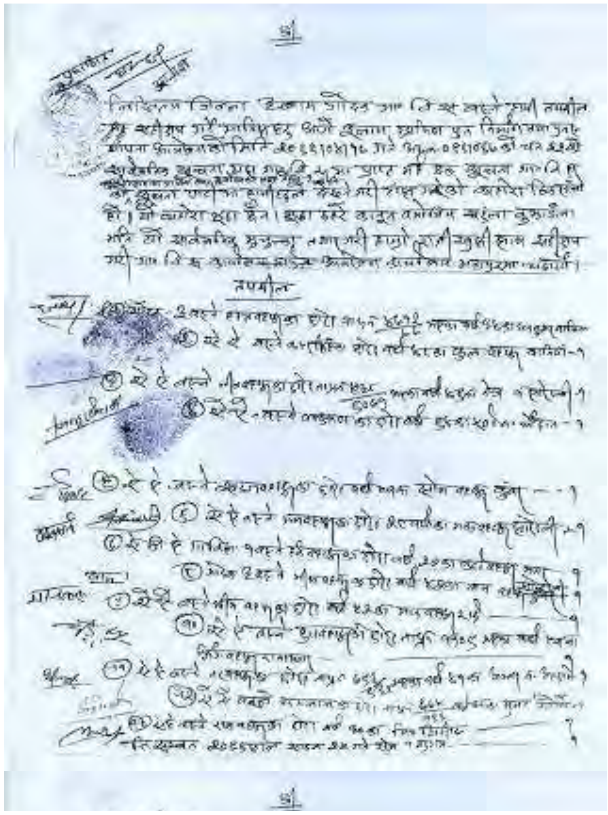
प्रस्तावको विवरण : प्रस्तावित राजदुवाली-चिसापानी-दानाबारी सडक उप आयोजना गोदक गा.वि.स.को राजदुवालीबाट शुरु भई दानाबारी गा.वि.स.को हाती छिरायो हुँदै शीतलुमा टुङ्गिन्छ । यो सडक राजदुवाली रांगापानी, तिल्केभन्ज्याङ्, सोमबारे बजार, सोक्तिम बजार हुँदै हातीछिरायो भएर जान्छ । यसको लम्बाई २३ कि.मी. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्ताव गरिएको छ ।

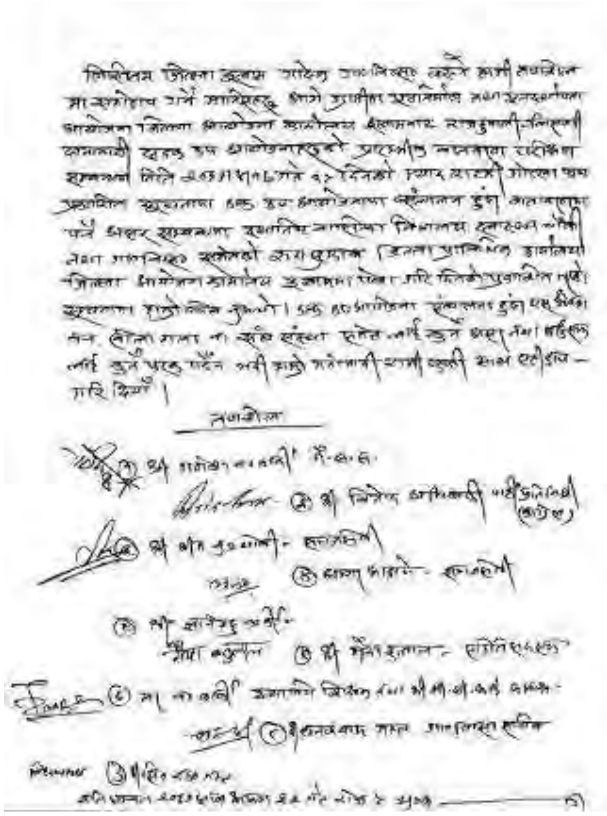
उक्त प्रस्तावको कार्यान्वयनबाट वातावरणमा पर्नसक्ने प्रभावको बारेमा सम्बन्धित गा.वि.स., विद्यालय, स्वास्थ्य चौकी , वन उपभोक्ता समिति तथा अन्य सरोकारवाला व्यक्ति वा संस्थाले यो सूचना गोरखापत्रमा प्रकाशित भएको मितिले १५ (पन्ध्र) दिनभित्र आफ्नो राय सुझाव पठाई सहयोग गरिदिनहुन अनुरोध गरिन्छ । साथै यसै बमोजिमको राय सुझाव स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग, जावलाखेल तथा स्थानीय विकास मन्त्रालय पुल्चोक काठमाडौंमा पनि पठाउन सकिनेछ ।

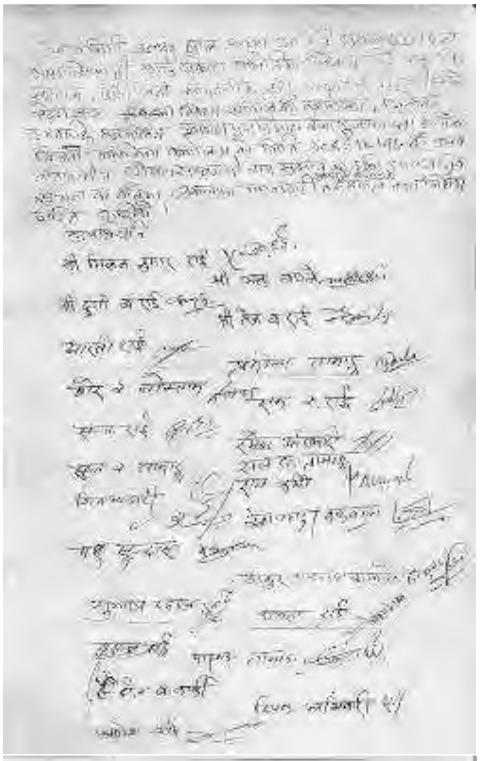
<u>राय सुझाव पठाउने ठेगाना:</u>
जिल्ला विकास समितिको कार्यालय, इलाम
टेलिफोन नं. : ०२७ ५२००९०
फ्याक्स नं. : ०२७ ५२००५८

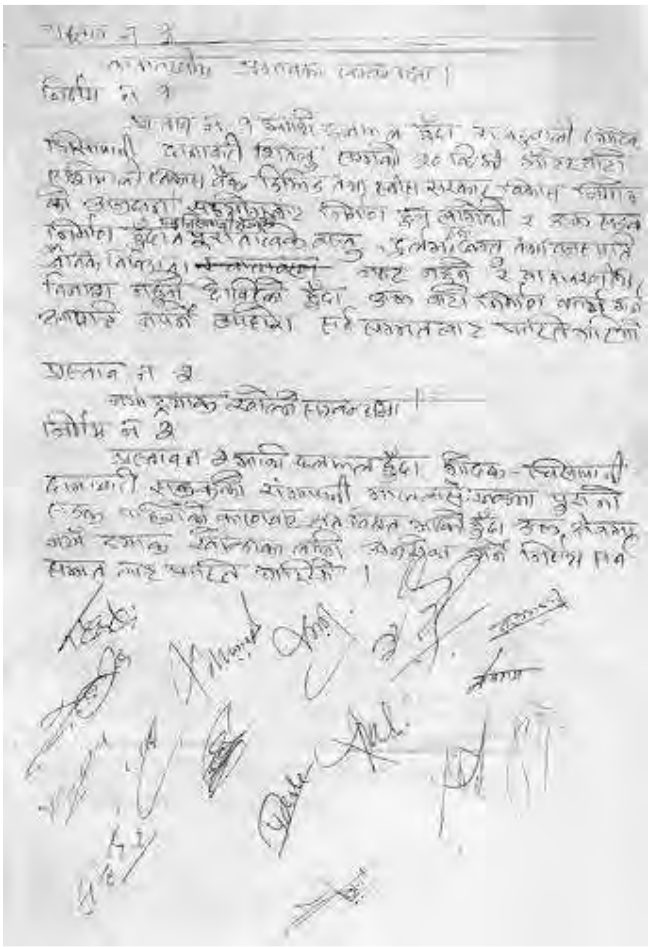
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय, इलाम
टेलिफोन नं. : ०२७ ५२०८३१
फ्याक्स नं. : ०२७ ५२१७४३

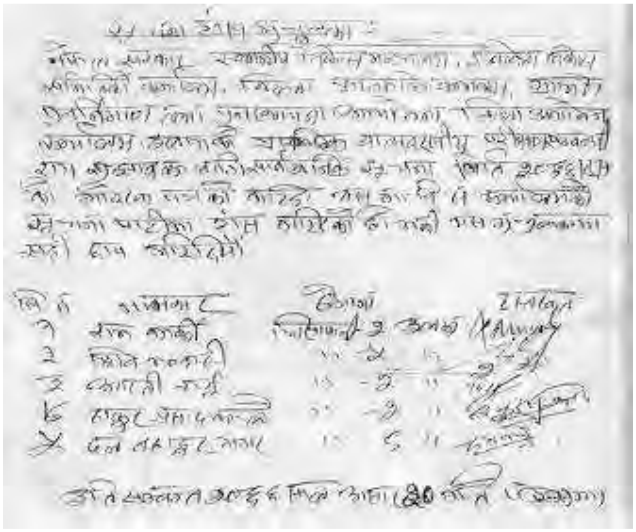
Appendix– VII:
IEE related supporting Documents and Letters

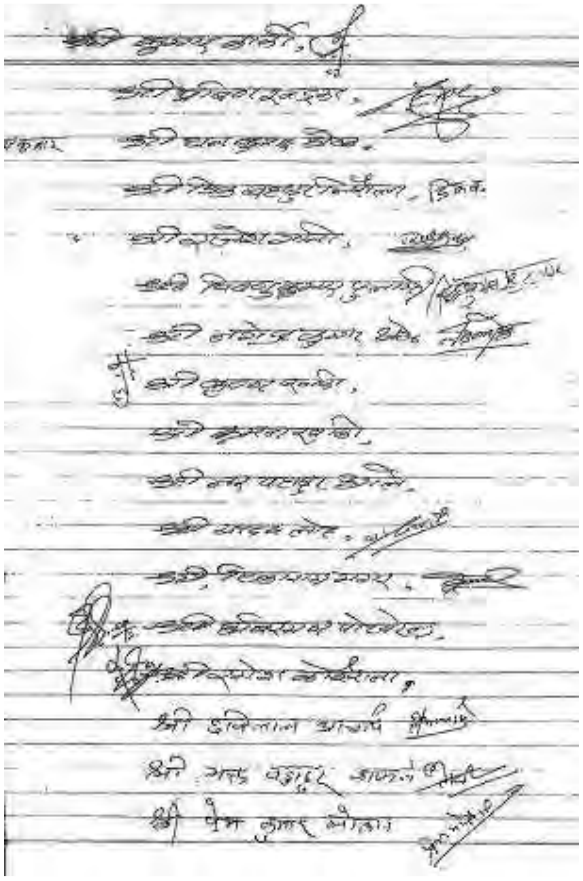


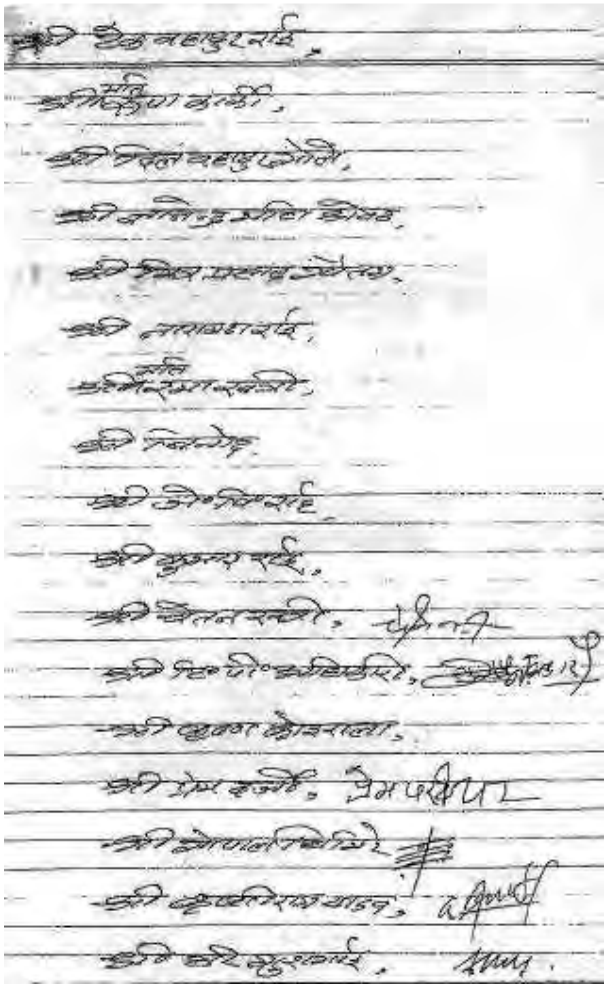


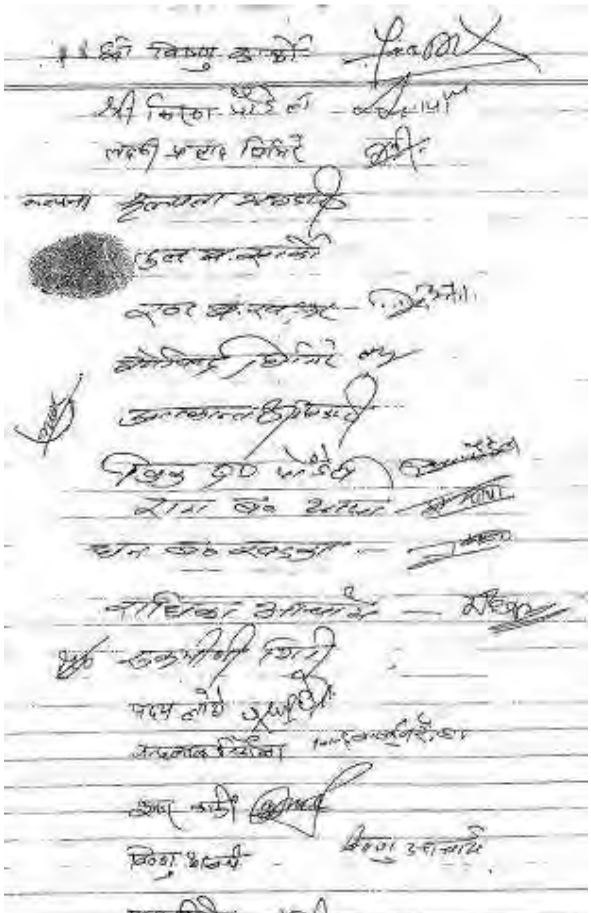












नेपाल सरकार

स्थानीय विकास मन्त्रालय

गाउँ विकास समितिको कार्यालय

ग्रामपञ्चायत, इलाम

GOVT. OF NEPAL

OFFICE OF THE VILLAGE DEVELOPMENT COMMITTEE

GRAMPANCHAYAT, ILAM

विषयः

श्री जिल्ला विकास समितिको कार्यालय,
जिल्ला प्रशासन कार्यालय,
गुणिला पुर्वाञ्चल तथा पुनरस्थापना आयोगका
जिल्ला प्रतिनिधि कार्यालय
इलाम

Chilingkot Tea Estate

(A Branch of Nepal Tea Development Corporation Ltd.)

P.O. Baselotel

Ward No. 8

विषय: गुणिला राष्ट्रिय निकुञ्ज र्छेत्र।

2066/12/31

श्री जिल्ला विकास समितिको कार्यालय
जिल्ला प्रशासन कार्यालय
गुणिला पुर्वाञ्चल तथा पुनर्स्थापना आयोगका
जिल्ला प्रतिनिधि कार्यालय
इलाम

इलाम

READ OFFICE:
Tara Complex, Kathmandu, 6th Floor, Post Box 772, Kathmandu, Nepal, Tel. 4228870, 4245732
Fax: 00977-1-4228133 E-mail: nbdc@mercantile.com

नेपाल सरकार
स्थानीय विकास मन्त्रालय

गाउँ विकास समितिको कार्यालय

दानाबारी, इलाम

GOVT OF NEPAL

OFFICE OF THE VILLAGE DEVELOPMENT COMMITTEE

DANABARI, ILAM

नेपाली सम्वत (नेपाल)

च.नं. ०८/०२

श.नं. /०८९।०९६

मिति: २०८९।०६।२०

विषय:- आमन्त्रणको सम्बन्धमा ।

R.R.S.D.P. आयोजना कार्यालय

इलाम

तपशिलका विषयमा यस कार्यालयबाट मिति २०८९।०६।१६ गतेदेखि बालाकरणिय परीक्षण एवं निर्माण तथा सुदृढीकरण कार्य जातिय कुशलताका लिन हुँदै आयोजना, इलाममा, प्रदेश तैंथी इलाममा, स्थानीय तैंथी इलाममा तथा स्थानिय ईच ईकाहरु ईच ईकाहरु तैंथी सूचना परीक्षा - १-१ आमन्त्रण गरिएका हो। दोहोरा पर्न ईच ईकाहरु आवेदनको सुचना र सूचीकरण फारम स्थानीयत प्रतिलिपि गरी पठाइ दिनु हुन ।

तपशिल

श्री प्रदेश कार्यालय, इलाम

आमन्त्रणको कार्य गरिएको

प्रतिलिपि: प्रमुख प्रशासकीय कार्यालय, इलाम

आमन्त्रणको कार्य गरिएको

श्री जिल्ला समन्वय समिति तैंथी कार्यालय, इलाम

आमन्त्रणको कार्य गरिएको

प्रतिलिपि: जिल्ला ईलाम, प्रानाबारी स्थानिय तह, स्थानिय तह अन्तर्गत रहनुभएको परीक्षण गर्ने तपशिलका तपशिलका तह अनुसारको हाजी प्रस्तावको लागि R.R.S.D.P. आयोजना कार्यालय, इलाम प्रदेश बालाकरणिय परीक्षण एवं निर्माण तथा सुदृढीकरण मिति २०८९।०६।१६ मा प्रकाशित सूचना मा भए बमोजिम कार्यालय, इलाममा प्रदेश स्वास्थ्य तैंथी इलाममा, तैंथी प्रदेश तैंथी इलाममा तथा स्थानिय ईच ईकाहरु तैंथी परीक्षा - १-१ आमन्त्रण गरिएका हो। दोहोरा पर्न ईच ईकाहरु आवेदनको सुचना र सूचीकरण फारम स्थानीयत प्रतिलिपि गरी पठाइ दिनु हुन ।

तपशिल

श्री [redacted] वा.नं. रेखा दानाबारी-४ इलाम

श्री हरिप्रसाद बोहोरा दानाबारी-६

श्री शिवकुमारी [illegible] दानाबारी-७

श्री [illegible] वा.नं. [illegible] दानाबारी-७

श्री [illegible] दानाबारी-३ इलाम

नेपाल सरकार
स्थानीय विकास मन्त्रालय

गाउँ विकास समितिको कार्यालय

दानाबारी, इलाम

GOVT OF NEPAL

OFFICE OF THE VILLAGE DEVELOPMENT COMMITTEE

DANABARI, ILAM

नेपाली सम्वत (नेपाल)

च.नं. ०८/०२

श.नं. ०८९।०९६

मिति: २०८९।०६।२०

विषय:- सुझाव सम्बन्धमा ।

श्री आयोजना कार्यान्वयन तथा व्यवस्थापन आयोजना

जिल्ला आयोजना कार्यालय

इलाम ।

प्रस्तुत विषयमा दानाबारी गाउँपालिका दानाबारी स्थानीय तह आयोजना कार्यान्वयन तथा व्यवस्थापन गर्दा आवश्यक पर्ने सम्बन्धमा सम्बन्ध सुझाव सम्बन्धमा यस कार्यालयबाट मिति २०८९।०६।१६ गते प्रथम पटक प्रकाशित १५ दिने सूचना मा उल्लेखित ईच ईकाहरु तथा स्थानीय तहहरुलाई यस सुझाव मगाए बमोजिम मिति २०८९।०६।२० सम्म सूचना, सीफारिश तथा सो सम्बन्धमा भएको सुझाव, सीफारिश विषय आयोजना कार्यान्वयन गर्दा सम्बन्धित सूचना, सीफारिश तथा सुझाव आयोजना कार्यान्वयन तथा व्यवस्थापन आयोजना कार्यालयमा पठाइ दिनु हुन अनुरोध छ ।

[illegible]

दर्ता नं.

श्री सुर्योदय सामुदायिक वन उपभोक्ता समूह

गोदक-३, इलाम

पत्र संख्या: ०८९।०९६

चलानी नम्बर: ०४

मेरी अम्बल (नेपाल)

मिति: २०८९।

विषय: सहयोग सुझाव पेश गरिएको सम्बन्धमा ।

श्री ग्रामिण पुनर्निर्माण तथा पुनरस्थापना आयोजना

जिल्ला आयोजना कार्यालय इलाम ।

प्रस्तुत विषयमा दानाबारी गाउँपालिका दानाबारी स्थानीय तह आयोजना कार्यान्वयन तथा व्यवस्थापन गर्दा आवश्यक पर्ने सम्बन्धमा यस कार्यालयबाट मिति २०८९।०६।१६ गते प्रथम पटक प्रकाशित १५ दिने सूचना उल्लेखित विषयमा सीफारिश तथा सुझाव मागिए बमोजिम यस सुझाव समूह गोदक-३ को सुर्योदय सामुदायिक वन उपभोक्ता समूह हो। यस समूहको [illegible] सम्बन्धमा यसैले यस आयोजना कार्यान्वयन तथा व्यवस्थापन गर्दा यस समूहलाई समेत सहयोग गर्नु पर्ने सुझाव पेश गरिएको छ । [illegible] सुझाव पेश गरिएको व्यहोरा अनुरोध छ ।

अध्यक्ष

गोदक-३

श्री बगैचा सेरो सामुदायिक वन उपभोक्ता समूह

प.सं. ७९/०८९/८६
च.नं. ०६९

स्थापित : २०५५

मिति : २०८९।६।२२

श्री मान् आयोजन प्रमुख ज्यू,
RRRSDP कार्यालय इलाम ।

विषय : सहमतिको जानकारी पठाएकोबारे ।

प्रस्तुत विषयमा यस संस्थाले इलाम जिल्लाको राजदुवाली, चिसापानी हुँदै दानावारीसम्मको मोटर बाटो निर्माण गर्दा वातावरणीय प्रभाव मूल्याङ्कन विषयमा मिति २०६६।६।१८ गतेको सूचना मार्फत प्राप्त भएको हामीले जानकारी पायौं र यस बगैचा सेरो सामुदायिक वन उपभोक्ता समूहको वन क्षेत्र मित्र लोप उन्मूख वन्यजन्तु, बोटबिरुवा र पुरातात्विक सम्पदाहरु नभएको तर यस वन क्षेत्र मित्र बाटो निर्माण गर्दा धुरिभाग पर्ने भएको ठाउँमा नभई कम्सल माटो भएको कारण बाढी र पैरो चल्ने सम्भावना भई अरु बढी बोटबिरुवा नोक्सानी हुने देखिएको हुँदा सो क्षेत्रहुन तदिन वैकल्पिक उपायहरुको (वैकल्पिक उपायहरुको) को अवस्थित गरी कार्य संचालन गरी दिनु हुन अनुरोध गर्दै यो सहमति दिएको हो ।

सह-सचिव
कुन्ताराजा

अध्यक्ष
(राम बहादुर आले)
श्री बगैचा सेरो सा. व. उ. स. चिसापानी
-५ इलाम

नोट: समितिको बैठकमा समेत निर्णय भएको जानकारी बाराइन्छ ।

"रुख रोपौं वन जोगाऔं"
श्री सृजना सामुदायिक वन उपभोक्ता समिति
दानावारी-५, इलाम

प.सं. ७७/०८६
च.नं. ०६६

मिति ०८९।६।२४

श्री ग्रामीण पुनर्निर्माण तथा पुनर्स्थापना परियोजना
जिल्ला समन्वय कार्यालय इलाम ।

विषय :- सहमतिमा तथा जानकारी पाठाएको ।

प्रस्तुत विषयमा इलाम जिल्ला विकास समिति जिल्ला प्रशिक्षण साझा कार्यालय तथा ग्रामीण पुनर्निर्माण तथा पुनर्स्थापना समन्वय कार्यालय इलामले निर्माण गर्ने लागेको राजदुवाली, चिसापानी र दानावारी सडक स्तर निर्माण हुँदा यस सृजना सा. व. उ. स. दानावारी-५ इलाम -को वन क्षेत्रमित्र वातावरणीय असर कायम भएमा, पछाडि समेतमाथि यिनै असर पर्ने हुँदा बाटो निर्माण गर्नको लागि सहमति पत्र पाठाई जानकारी गराइन्छ ।

सचिव
हुमनाथ भट्टे
श्री सृजना सा. व. उ. स.
दानावारी-५ इलाम/इलाम

गाउँ विकास समितिको कार्यालय
गोदक, इलाम
GOVERNMENT OF NEPAL
OFFICE OF THE VILLAGE DEVELOPMENT COMMITTEE
GODAK, ILAM

प.सं. ७८
च.नं. ०६६।०६

मिति २०६६।०६।२८

विषयः- सूचना टाँस गरेको जानकारी ।

श्री जिल्ला समन्वय कार्यालय इलाम पुनर्निर्माण तथा पुनर्स्थापना कार्यालय इलाम ।

प्रस्तुत विषयमा म्याग्दे कार्यालयको मिति २०६६।०६।१६ को पत्रमा प्रस्तुत प्राथमिक वातावरणीय परिक्षण (IEE) सम्बन्धी मापदण्ड बमोजिम सिफारिश पत्र दिईएका सूचनाहरु यस गोदक गा.वि.स. मा सूचना पत्रहरु टाँस गरिएको र यस गा.वि.स. का वडा नं. १ देखि ९ सम्मका वडाहरुमा सूचना पत्रहरु टाँस गरिएको र यस गा.वि.स. मा सूचना प्रकाशित गरिएको हुँदा थप केही जानकारी वा सूचना आवश्यक भएमा यस गा.वि.स. मा अनुरोध गर्दछु ।

अध्यक्ष
गा.वि.स.
गोदक

श्री सिंह आदर्श प्राथमिक विद्यालय
चिसापानी-३, तोदिया (इलाम)

प. सं. ९८
च. नं. ०६६

मिति : २०६६।०८।०२

विषय :- सहमती सम्बन्धमा ।

श्री मान् अध्यक्ष ज्यू,
राजदुवाली, चिसापानी, सिलली
सडक निर्माण समिति, इलाम

महोदय,

प्रस्तुत विषयमा राजदुवाली, चिसापानी, सिलली सडक यूएस श्री सिंह आदर्श प्राथमिक विद्यालय चिसापानी-३ तोदियाको जग्गा समेत हुँदै निर्माण हुने भएको हेटल निर्माण कार्यमा विद्यालयको लर्कवाट बाधा विरोध हुने छैन भनी सहमति दिनुका साथै दर्जना समेत उपलब्ध गराई दिनु हुन अनुरोध गर्दछु ।

प्रधानाध्यापक
०६६।०८।०२

गाउँ विकास समितिको कार्यालय
चिसापानी, इलाम
GOVERNMENT OF NEPAL
OFFICE OF THE VILLAGE DEVELOPMENT COMMITTEE
CHISAPANI, ILAM

प.सं. ८६
च.नं. ०६६।१६

मिति २०६६।११।१४

विषयः- सूचना टाँस गरिएको ।

श्री जिल्ला समन्वय कार्यालय
इलाम

प्रस्तुत विषयमा [illegible] मिति २०६६।६।१८ [illegible] यस गा.वि.स. [illegible] / [illegible] / [illegible] /

Appendix- VIII:
Name of the Organizations
(Notice pasted and deed of inquiry obtained)

Source: Field Survey, 2009

S. N.	Name or Organization	Address	Remarks
1	I.Na.Pa Office	Ilam Municipality	
2	Chisapani VDC office	Chisapani	
3	Bajaicha sere CF office	Chisapani-5	
4	Danabari Sub Health Post	Danabari	
5	Danabari VDC office	Danabari	
6	Godak VDC Office	Godak	
7	Maha Maya Primary School	Godak -3	
8	Suryodaya Community Forest	Godak -3	

Appendix - IX:
List of persons consulted

S.N.	Name	Designation	Address
1.	Mrs. Bishnu Thapa	Shopkeeper	Rajduwali-1
2.	Bishnu Bhandari	Retaired Teacher	Godak-1
3.	Bashu Koirala	Tea Bagan Owner	Setuwa besi
4.	Netra Bdr. Shorali	VICC member	Syano Kusume-3
5.	Ganga Ram Mahat	Farmer	Bhandari Besi-3
6.	Harka Bdr. Rai	Farmer	Tamang Chautari
7.	Gyan Bdr. Tamang	Farmer	Tamang Chautari
8.	Sal Bdr. Tamang	Farmer	Displaced to Chisapani-4 (Landslide affected family)
9.	Tek Bdr. Chemjong	Farmer	Mal Banse, Chisapani-3 (Project affected family)
10.	Binod Kumar Adhikari	VICC member	Godak
11.	Gynendra Karki	Project staff	Mai Khola HEP
12.	Raj kumar Gadtaula	Bagaincha secretory	Chisapani-5
13.	Rawan Tamang	Farmer	Chisapani-2
14.	Rana Bdr Rai	Farmer	Chisapani-1 (Project affected family)
15.	Bishnu Ghimire	Politician	Danabari-7
16.	Buddu Man Karki	Former Secretory	Danabari-5
17.	Som Nath Nepal	Farmer	Danabari-5
18.	Ramesh Koirala	Farmer	Danabari-5
19.	Budhi Man Karki	Farmer	Danabari-5
20.	Hari Nepali	Conservationist	Danabari-6
21.	I. Ansari	District Forest Officer	District Forest Office
22.	Badri Raj dhungana	District Soil Conservation Officer	District Soil Conservation Office
23.	Rajendra Bd. Malla	Sr. District Agricultural Development Officer	District Agricultural Development Office
24.	Bhup Raj Rai	Local Development Officer	Local Development Office

Source: Field Survey, 2009

Appendix - X:
Summary of Focus Group Discussion / Public Consensus

Date	Location/ Place	No. of Participants		Issues and Suggestions of the meeting
		Male	Female	
2066/08/10 B.S. (25/11/09)	Tappu, Godak	16	3	• There is need to divert the existing route at Shiva temple, Rajduwali Tappu along the proposed alignment road due to close location.
2066/08/11 B.S. (26/11/09)	Chisapani	34	7	• There is no presence of protected and endangered species. • There is only few impacts by the existing road to upgrade the width of RoW during the road side cutting. • There are nominal effects on school area and health post during the construction works. • There is no any demolishment of any temples and Gumba. • There will be few tree cutting between the portion of Bagaicha Sere, Soktim Valley, Kothe Danda and Mal Dase area. • There is need to improve the branch roads.
2066/08/12B.S. (27/11/09)	Danabari VDC Office, Sittali Bazaar	10	1	• There are much positive aspects with the construction of road. There will be no any severe environmental adverse impact. • There will be some clearance of *trees* for the widening of the road. The road portion of Danabari will be improved by the common consensus of the tea estate owners and local people. • People have their demand to construct wide steel truss bridge on the Lodhiya Khola. • There is sufficient quantity of sand and bolder quarry to abstract from *Lodhiya Khola* for the construction of road. • The construction of road will be carried by implementing mitigation measures to minimize adverse impacts. • People are conscious on the occurance of air and noise pollution after the vehicular movement. • There is need to improve landslide prone zone near school area.

Appendix - XI:
Meeting minutes with local people

उपरोक्त सम्बन्धमा GRAND No. 0093 NEP: Rural Reconstruction and Rehabilitation Sector Development Program (RRRSDP) अन्तर्गत राजपुवाली - चिसापानी - हातावारी ग्रामीण सडकको प्रारम्भिक वातावरणीय परिक्षण (IEE) को सिलसिला मा सडकको भौतिक, जैविक, सामाजिक, आर्थिक तथा रासायनिक पक्षहरुको वस्तुस्थिति, सिनको सकारात्मक तथा नकारात्मक प्रभावहरु र सिनको असरको न्यूनिकरण सम्बन्धि अन्तर्क्रिया (Interaction) तथा सार्वजनिक भेला (Group Discussion) मा निम्न उपस्थित सँघ संस्था, महानुभाव र बुद्धिजिवीहरु सहभागी भएको। मिति: 2066/10/30

स्थान: गा.वि.स. [illegible]

क्र.सं.	नाम थर	कार्यालय	पद/हैसियत	सहि
१	नरबहादुर कार्की	शिक्षक / प्रधानाध्यापक	अध्यक्ष VICCC 9842640934	[illegible]
२	पुष्कर आचार्य	उपभोक्ता	उपाध्यक्ष VICCC	[illegible]
३	धनश्याम भट्ट	गा.वि.स. सचिव	सचिव VICCC 9842603389	[illegible]
४	गंगाराम भट्ट	उपभोक्ता	पार्टी प्रतिनिधि र वे.उ.का. अध्यक्ष VICCC	
५	विनोद अधिकारी	"	पार्टी प्रतिनिधि नेपाली कांग्रेस VICCC	[illegible]
६	डम्बर बलम्पाकी	"	" " नेकपा एमाले VICCC	[illegible]
७	उमेश कार्की	"	प्रतिनिधि [illegible] VICCC 9842600323	[illegible]
८	नेत्रबहादुर खोराली	"	" सामाजिक कार्यकर्ता VICCC 9842627996	[illegible]
९	विष्णु गोडारी	"	" —"— VICCC	
१०	मैया दुलाल	"	" महिला VICCC	मैया दुलाल
११.	रेखा आह्राम	"	" दलित VICCC	रेखा
१२.	लिला बहादुर आले	"	" जनजाति VICCC	लिला
१३.	हिमा अधिकारी	"	प्रभावित व्यक्ति	हिमा अधिकारी
१४.	बाबुराम बोहरा	"	—"—	[illegible]
१५	धन ब. खड्का	"	—"—	[illegible]
१६.	धन ब. गुडाथोकी	"	—"—	[illegible]
१७.	अजित राउत	"	—"—	[illegible]
१८.	शैलेश [illegible]	RRRSDP	वातावरण विज्ञ	[illegible]
१९	[illegible]	"	अ.इ.ई	[illegible]

उपरोक्त सम्बन्धमा GRAND No 0093 NEP: Rural Reconstruction and Rehabilitation Sector Development Program (RRRSDP) अन्तर्गत राजदुवाली - चिसापानी - दानावारी ग्रामिण सडकको प्रारम्भिक वातावरणीय परिक्षण (IEE) को सिलसिला मा सडकको भौतिक, जैविक, सामाजिक आर्थिक तथा सांस्कृतिक पक्षबारेको वस्तुस्थिति तिनका सकारात्मक तथा नकारात्मक प्रभावहरु र तिनका असरका न्यूनिकरण सम्बन्धि अन्तर्क्रिया (Interaction) तथा सार्वजनिक भेला (Group Discussion) मा निम्न उपस्थित सँघ संस्था, महानुभाव र बुद्धिजिवीको रोहबरमा सम्पन्न भयो। मिति : २०६६/८/६

स्थान : चिसापानी

क्र.सं.	नाम थर	वडा नं.	पद/ठेगाना	दस्तखत
१.	डोल बहादुर कार्की	चिसापानी - २	अध्यक्ष / Vice 9842624222	
२.	गङ्गाधर बुढाथोकी	" - २	सदस्य	
३.	रेश बहादुर कटुवाल	" - ५	"	
४.	सुन्दर राई	" - १	"	
५.	शेर बहादुर लोकताम	" - ६	उपाध्यक्ष 9842663626	
६.	कमल राई	" - २	"	
७.	राम राई	" - १	सदस्य	9806940623
८.	माया गुरुङ	" - १	वन समिति अध्यक्ष (रेकमाति वन)	
९.	माया कार्की	" - २	केन्द्रीय वन संरक्षण	
१०.	हितराम पराजुली	" - १	उपाध्यक्ष (जनकल्याण वन समूह)	
११.	ठाकुर प्रसाद कार्की	" - २	वन सदस्य	
१२.	रविन कार्की	" - २	उपाध्यक्ष	रविन
१३.	राजु सुब्बा	" - ६	"	
१४.	जय मया ताम्राङ	" - २	"	जयमाया
१५.	मिना ताम्राङ	" - २	"	
१६.	दुर्गा खड्का	" - २	"	
१७.	रमेश योञ्जन	" - २	शिक्षक श्री जनता मा.वि. चिसापानी-२	
१८	देवेन्द्र कार्की	" - २	शिक्षक " - "	
१९	चन्द्र बहादुर राई	" - २	उपाध्यक्ष चन्द्र	
२०	सन्त राई	" - २	उपाध्यक्ष	
२१	दिनेश थापा	" - २	"	
२२	तिलक गुरुङ	" - २	"	
२३.	निर्मला पिङ्क	" - २	"	
२४.	संगीता कार्की	" - २	"	
२५.	दुर्गा ब. राई	" - २	"	

क.सं.	नाम थर	कार्यालय	पद / डेस्गिनेशन	दस्तखत
२५.	सुवन तामाङ	चिमायाकी-२	उपसचिव	[illegible]
२६	रमेश सुब्बा	" - २	"	Ramesh
२७	बाबुराम छत्रि	" - २	"	[illegible]
२८	शुल बः तामाङ	" - २	"	[illegible]
२९	गणेश कोलन	" - २	"	[illegible]
३०	पासाङ तामाङ	" - "	"	[illegible]
३१	सेर बः बोहरा	" - २	"	[illegible]
३२.	कालसुब्बा गुरुङ	स्त्री जनता मा.वि.	शिक्षक	[illegible]
३३.	महेश पु. शाह	स्त्री जनता मा.वि.	"	[illegible]
३४.	मिलन राई	[illegible]	"	[illegible]
३५.	कमल थापालिया	सौनीक-१	उपसचिव	[illegible]
३६.	योगेश अधिकारी	" -२	"	[illegible]
३७	जैनुद्दिन महर्जन	" -२	"	[illegible]
३८	आरती राई	" -२	"	[illegible]
३९	राम माया थापा	" - २	"	राममाया
४०	शैलेश अैच	RRRSP	[illegible]	[illegible]
४१	शक्ति कुमार थापा	" "	Asst. Lab. [illegible]	[illegible]

Appendix - XII:
Recommendation Letters

"स्वास्थ्य, शैक्षिक जागरण र पर्यटनको पूर्वाधार इलाम नगरपालिकाको आधार"

इलाम नगरपालिका कार्यालय

इलाम

☎ प्रमुख / उप प्रमुख .....
सचिव / लेखा ५२००६०
योजना / प्रशासन ५२००६५
दमकल / खानेपानी ५२००३०
RUPP ५२००३१
फ्याक्स नं. ५२००३१

प.सं. : प्र.शा.( )०६६।०६७
च.नं. : 2238

मिति:-२०६६/१२/९

विषय : सिफारिस गरिएको ।

ग्रामीण पुननिर्माण तथा पुनस्थापना आयोजना इलामको वातावरणीय पक्ष अन्तर्गत प्रारम्भिक वातावरणीय परीक्षणसम्बन्धी राय सुझावको लागि गोरखापत्र दैनिक २०६६।४।१७ गते प्रथमपटक प्रकाशित सार्वजनिक सूचना अनुरुप यस इलाम न.पा. दुधाङ्ग सोयाङ्ग नयाँबजार सडक उप आयोजनाअन्तर्गत यस इलाम नगरपालिकामा पर्ने बस्तीहरूमा कुनै नकारात्मक असर नपर्ने देखिएकोले उक्त सडक उप आयोजनाको कार्य अगाडि बढाउन यसै पत्रमार्फत सिफारिससहित अनुरोध गरिन्छ ।

(कृष्णप्रसाद कडेल)
नि.कार्यकारी अधिकृत

नेपाल सरकार
स्थानीय विकास मन्त्रालय

गाउँ विकास समितिको कार्यालय

गोदक, इलाम

GOVT. OF NEPAL
OFFICE OF THE VILLAGE DEVELOPMENT COMMITTEE
GODAK, ILAM

च.नं. 26
प.सं. 0681068

गोदक झापा (नेपाल)
मिति. 2068।04।25

विषयः- सिफारिस गरिएको बारे।

श्री जिल्ला आयोजना कार्यालय ग्रामिण पुनर्स्थापना तथा पुनर्निर्माण कार्यक्रम इलाम।

प्रस्तुत विषयमा ग्रामिणपुनर्निर्माण तथा पुनर्स्थापना आयोजना इलामको वातावरणीय पक्ष अन्तरगत प्रारम्भीक वातावरणीय परीक्षण सम्बन्धी राय सुझाव कक्षा गोदखाल दैनिकमा 2068।04।19 गते प्रथम पटक प्रकाशित सार्वजनिक-सूचना अनुरुप यस राजकुवाली चिहापानी दातावारी सडक उप आयोजना अन्तरगत यस गाउँ विकास समिति वडा नं. ६ मा कुनै नकारात्मक असर नपर्ने देखिएकाले उक्त सडक उप आयोजनाको कार्य अगाडि बढाउन यही पत्र मार्फत सिफारिस साथ अनुरोध गरिन्छ।

धनश्याम रुइत
अध्यक्ष
गा.वि.स.
गोदक

नेपाल सरकार
स्थानीय विकास मन्त्रालय

गाउँ विकास समितिको कार्यालय

चिसापानी, इलाम

GOVT. OF NEPAL
OFFICE OF THE VILLAGE DEVELOPMENT COMMITTEE
CHISAPANI, ILAM

च.नं. 205
च.नं. 2066/67

नेपाल सम्वत (नेपाल)
मिति 2066/6/22

विषय:- सिफारिस गरिएको बारे।

श्री ग्रामिण पुनर्निर्माण तथा पुनःस्थापना कार्यक्रम,
जिल्ला अभिमुखीकरण कार्यक्रम, इलाम।

उपरोक्त सम्बन्धमा ग्रामिण पुनःनिर्माण तथा पुनःस्थापना कार्यक्रम इलामको बाताबरणीय पक्ष अन्तर्गत प्रारम्भिक वातावरण परिक्षण सम्बन्धी रा.स. समाचार दैनिकमा 2066।8।16 गते प्रकाशित सार्वजनिक सूचना अनुरुप यस गा.वि.स. मा पर्ने वस्तीहरु मा कुनै पनि नकारात्मक असर नपर्ने भएकोले उक्त उपभोक्ताको कार्य अगाडि बढाउन योग्य लागी सिफारिस सहित अनुरोध छ।

गा.वि.स. सचिव

नेपाल सरकार
स्थानीय विकास मन्त्रालय

गाउँ विकास समितिको कार्यालय

दानाबारी, इलाम

GOVT. OF NEPAL
OFFICE OF THE VILLAGE DEVELOPMENT COMMITTEE
DANABARI, ILAM

दैवी सम्पन्न (नेपाल)

च.नं. 882/065/066
पा.नं. 551

मिति 2066/09/29

विषयः- सिफारीस गरिएको बारे।

श्री ग्रामिण पुनर्निर्माण तथा पुनःस्थापना कार्यक्रम
जिल्ला आयोजना कार्यालय, इलाम

उपर्युक्त सम्बन्धमा ग्रामिण पुनर्निर्माण तथा पुनःस्थापना कार्यक्रम इलामको वातावरणीय पक्ष अन्तर्गत प्रारम्भिक वातावरण परीक्षण सम्बन्धी राय सुझावका लागि गोरखापत्र दैनिकमा २०६६।४।१६ गते प्रथम पटक प्रकाशीत सार्वजनिक सूचना अनुरुप यस राजदुवाली - मिसायामी - दानाबारी सडक उपआयोजना अन्तर्गत यस दानाबारी गा.वि.स.मा पर्ने बस्तीहरु तथा प्रभावीत क्षेत्रहरुमा कुनै वातावरणीय नकारात्मक असर नपर्ने परेको हुँदा उक्त सडक उपआयोजनाको कार्य अगाडी बढाउन यसै पत्र मार्फत सिफारीस सहित अनुरोध गरीन्छ।

2066/09/29
रमेश कोइराला
अध्यक्ष

Appendix - XIII:
Settlements and population within the ZoI of road Alignment

S.N	Influenced VDCs/MC	Total HHs	Population distribution by sex			Population distribution by percentage		
			Male	Female	Total	Male%	Female%	Total%
1	Godak	104	272	231	503	54.07	45.93	100
2	Chisapani	483	1241	1139	2380	52.14	47.86	100
3	Danabari	216	528	544	1072	49.25	50.75	100
	Total/Average	**803**	**2041**	**1914**	**3955**	51.6	48.4	100

Source: Field Survey, November, 2009

Appendix - XIV:
Religious Sites and their Details along the Road Alignment

S.N.	Descriptions	Distance from road alignment	Impact type and level
1	Bar Pipal *Chautara*	RoW	No Impact
2	Aitabare religious Chilaune tree (Matawali)	Within RoW	No Impact
3	*Tusare* Devisthan, Bhorleni-2	10 m	No Impact
4	*Bohari Ko rukh(Singha Devi* Devisthan), *Barbote-6*	RoW	No Impact
5	*Tintale Himdale Gupha,Soyang-3*	1200 m	No Impact
6	*Baudha Dhunga (Sel Dhunga)*	RoW	No Impact
7	Mane/Stupa, Bhote Tar,Soyang-2	Within RoW	No Impact
8	Devithan (near IP645)	RoW	No Impact
9	*Mrigasthali (Durga Mandhir*)	25 m	No Impact

Source: Field Survey, 2009

Appendix - XV

XV a. Distribution of HHs by major Occupation

S.N	Influenced VDCs	Population distribution by major Occupation														Total
		Farm work ownland	Farm work wn Land and share cropping	Sharecropping only	Agriculture labor	Public service	Private service	Children	Business	Livestock raising	Forest products	Student	none	Abroad Labor	Other	
1	Godak	146	19	14	58	11	3	27	25	6	-	164	1	25	4	503
2	Chisapani	722	32	5	284	28	31	168	117	11	-	804	12	154	12	2380
3	Danabari	154	53	6	189	28	20	66	93	11	-	373	6	67	6	1072
Total		**1022**	**104**	**25**	**531**	**67**	**54**	**261**	**235**	**28**	**-**	**1341**	**19**	**246**	**22**	**3955**
Percentage		**25.9**	**2.6**	**0.6**	**13.4**	**1.7**	**1.4**	**6.6**	**5.9**	**0.7**	**-**	**33.9**	**0.5**	**6.2**	**0.6**	**100**

Source: Field /ZoI HH survey of RRRSDP, 2009

XV b. Land Holding Pattern within ZoI

S.N.	Influenced VDCs/MC	Distribution of HHs by land holdings						Total
		Less than one ropani	Less than 5 ropani	5-10 ropani	10-20 ropani	20-50 ropani	More than 50 ropani	
1	Godak	32	28	20	17	5	2	104
2	Chisapani	104	162	100	80	27	10	483
3	Danabari	94	59	21	29	12	1	216
	Total	230	249	141	126	44	13	803
	Percentage	28.6%	31.0%	17.6%	15.7%	5.5%	1.6%	100%

Source: Field survey and ZoI Household survey of RRRSDP, 2009

XV c. Number of Households belonging to different Food Security Category

S.N.	Influenced VDCs/MC	Distribution of HHs by food sufficiency level				Total HHs
		0-3 months	3-6 months	6-9 months	9-12 months	
1	Godak	56	23	13	12	104
2	Chisapani	365	33	47	38	483
3	Danabari	102	81	9	24	216
	Total	523	137	69	74	803
	Percentage	65.1%	17.1%	8.6%	9.2%	100%

Source: Field survey and ZoI HH survey of RRRSDP, 2009

Appendix - XVI: Topography, Geology, Landuse pattern and existing features along the road alignment

S.N	Chainage		Effective VDC	Profile	Type (Alignment Condition)	Settlements	Land use pattern	Soil Type
	From	To						
1	0+000.00	0+048.00	Godak -1	Descending	Gravel	Rajduwali	Bank of River	GMS,SS
2	0+048.00	0+121.00	Godak -1	Rolling	Earthen	Rajduwali	Rock area	GMS,SS
3	0+121.00	0+151.00	Godak -1	Ascending	Earthen	Rajduwali	Rock area	GMS,SS
4	0+151.00	0+170.00	Godak -1	Descending	Earthen	Rajduwali	Rock area	GMS,SS
5	0+170.00	0+241.00	Godak -1	Rolling	Earthen	Rajduwali	Rock area	GMS,SS
6	0+241.00	0+356.00	Godak -1	Descending	Earthen	Rajduwali	Rock area	GMS,SS
7	0+356.00	0+395.00	Godak -1	Rolling	Earthen	Tapu	Rock area	GMS,SS
8	0+395.00	0+473.000	Godak -1	Ascending	Earthen	Tapu	Settelment area	GMS,SS
9	0+473.000	0+823.00	Godak -1	Ascending	Earthen	Tapu	Settelment area	GMS,SS
10	0+823.00	0+911.00	Godak -1	Ascending	Earthen	Mai khola Tapu	Culti/Bank	GMS,SS
11	0+911.00	0+976.00	Godak -1	Ascending	Earthen	Mai khola Tapu	Culti/Bank	GMS,SS
12	0+976.00	1+130.00	Godak -3	Ascending	Earthen	Setawa Besi	Culti/Bank	GMS,SS
13	1+130.00	1+493.00	Godak -3	Ascending	Earthen	Setawa Besi	Culti/Bank	GMS,SS
14	1+493.00	1+589.00	Godak -3	Ascending	Earthen	Setawa Besi	Culti/Bank	BMS,GMS,SS
15	1+589.00	1+639.00	Godak -3	Ascending	Earthen	Setawa Besi	Culti/Bank	BMS,GMS,SS
16	1+779.00	1+795.00	Godak -3	Ascending	Stone Pitching	Setawa Besi	Culti/Bank	BMS,GMS,SS
17	1+795.00	1+795.00	Godak -3	Rolling	Earthen	Setawa Besi	Culti/Bank	BMS,GMS,SS
18	1+795.00	1+873.00	Godak -3	Ascending	Stone Pitching	Setawa Besi	Culti/Bank	BMS,GMS,SS
19	1+873.00	2+016.00	Godak -3	Rolling	Earthen	Setawa Besi	Culti/Bank	BMS,GMS,SS
20	2+016.00	2+054.00	Godak -3	Ascending	Earthen	Setawa Besi	Barren Area	BMS,GMS,SS
21	2+054.00	2+113.00	Godak -3	Ascending	Stone Pitching	Setawa Besi	Barren Area	BMS,GMS,SS
22	2+113.00	2+128.00	Godak -3	Ascending	Earthen	Setawa Besi	Barren Area	BMS,GMS,SS
23	2+128.00	2+152.00	Godak -3	Rolling	Earthen	Setawa Besi	Barren Area	BMS,GMS,SS
24	2+152.00	2+288.00	Godak -3	Ascending	Earthen	Setawa Besi	Barren Area	BMS,GMS,SS
25	2+288.00	2+427.00	Godak -3	Rolling	Earthen	Setawa Besi	Thin Forest	BMS,GMS,SS
26	2+427.00	2+475.00	Godak -3	Ascending	Earthen	Setawa Besi	Thin Forest	BMS,GMS,SS
27	2+475.00	2+538.00	Godak -3	Ascending	Stone Pitching	Setawa Besi	Thin Forest	BMS,GMS,SS
28	2+538.00	2+634.00	Godak -3	Rolling	Earthen	Setawa Besi	Thin Forest	BMS,GMS,SS
29	2+634.00	2+656.00	Godak -3	Ascending	Earthen	Setawa Besi	Thin Forest	BMS,GMS,SS
30	2+656.00	2+712.00	Godak -3	Ascending	Earthen	Setawa Besi	Thin Forest	BMS,GMS,SS
31	2+712.00	2+753.00	Godak -3	Descending	Earthen	Setawa Besi	BL/TL	BMS,GMS,SS
32	2+753.00	2+800.00	Godak -3	Rolling	Earthen	Setawa Besi	BL/TL	BMS,GMS,SS
33	2+800.00	3+025.00	Godak -3	Ascending	Earthen	Setawa Besi	BL/TL	BMS,GMS,SS
34	3+025.00	3+073.00	Godak -3	Rolling	Earthen	Setawa Besi	BL/TL	BMS,GMS,SS
35	3+073.00	3+088.00	Godak -3	Ascending	Earthen	Setawa Besi	BL/TL	BMS,GMS,SS
36	3+088.00	3+135.00	Godak -3	Rolling	Earthen	Setawa Besi	Forest	BMS,GMS,SS
37	3+135.00	3+196.00	Godak -3	Descending	Earthen	Setawa Besi	Forest	BMS,GMS,SS
38	3+196.00	3+274.00	Godak -3	Descending	Earthen	Setawa Besi	Forest	BMS,GMS,SS
39	3+274.00	3+372.00	Godak -3	Descending	Earthen	Setawa Besi	Forest	BMS,GMS,SS
40	3+372.00	3+668.00	Godak -3	Descending	Earthen	Setawa Besi	D/Forest	BMS,GMS,SS
41	3+668.00	3+861.00	Godak -3	Descending	Stone Pitching	Setawa Besi	D/Forest	BMS,GMS,SS
42	3+861.00	4+338.00	Godak -3	Descending	Earthen	Setawa Besi	D/Forest	BMS,GMS,SS
43	4+338.00	4+401.00	Godak -3	Ascending	Stone Pitching	Setawa Besi	T/Forest	BMS,GMS,SS
44	4+401.00	4+851.00	Godak -3	Ascending	Crupt Stone	Setawa Besi	T/Forest	BMS,GMS,SS
45	4+851.00	4+902.00	Godak -3	Rolling	Stone Pitching	Setawa Besi	Cultivated	BMS,GMS,SS

S.N	Chainage		Effective VDC	Profile	Type (Alignment Condition)	Settlements	Land use pattern	Soil Type
	From	To						
46	4+902.00	5+000.00	Chisa pani-4	Ascending	Earthen/ Karphok Khola	Ragapani	BL/TL	BMS,GMS,SS
47	5+000.00	5+242.00	Chisa pani-4	Rolling	Earthen	Ragapani	BL/TL	BMS,GMS,OS
48	5+242.00	5+259.00	Chisa pani-4	Ascending	Earthen	Ragapani	BL/TL	BMS,GMS,OS
49	5+259.00	5+529.00	Chisa pani-4	Rolling	Earthen	Ragapani Satre	Settle/BL	BMS,GMS,OS
50	5+529.00	5+595.00	Chisa pani-4	Ascending	Earthen	Ragapani Satre	Settle/BL	BMS,GMS,OS
51	5+595.00	5+632.00	Chisa pani-4	Rolling	Earthen	Ragapani Satre	BL/TL	BMS,GMS,OS
52	5+632.00	5+668.00	Chisa pani-4	Ascending	Earthen	Ragapani Satre	BL/TL	BMS,GMS,OS
53	5+668.00	5+811.00	Chisa pani-4	Rolling	Earthen	Ragapani Satre	BL/TL	BMS,GMS,OS
54	5+811.00	5+958.00	Chisa pani-4	Ascending	Earthen	Ragapani Satre	BL/TL	BMS,GMS,OS
55	5+958.00	6+214.00	Chisa pani-4	Rolling	Earthen	Ragapani Satre	Cultivated	BMS,GMS,OS
56	6+214.00	6+443.00	Chisa pani-4	Ascending	Earthen	Ragapani Satre	Settlement/CL	BMS,GMS,OS
57	6+443.00	6+470.00	Chisa pani-4	Ascending	Earthen	Ragapani Satre	Settlement/CL	BMS,GMS,OS
58	6+470.00	6+515.00	Chisa pani-4	Rolling	Earthen	Ragapani Satre	Settlement/CL	BMS,GMS,OS
59	6+515.00	6+633.00	Chisa pani-4	Ascending	Earthen	Ragapani Satre	Settlement/CL	BMS,GMS,OS
60	6+633.00	6+903.00	Chisa pani-4	Rolling	Earthen	Ragapani Satre	Settlement/CL	BMS,GMS,HS
61	6+903.00	6+981.00	Chisa pani-4	Ascending	Earthen	Ragapani Satre	Settlement/CL	BMS,GMS,HS
62	6+981.00	7+244.00	Chisa pani-4	Rolling	Earthen	Ragapani Satre	Settlement/CL	BMS,GMS,HS
63	7+244.00	7+405.00	Chisa pani-4	Ascending	Earthen	Solighopte	Cultivated	BMS,GMS,HS
64	7+405.00	7+802.00	Chisa pani-4	Rolling	Earthen	Solighopte	Cultivated	BMS,OS
65	7+802.00	7+981.00	Chisa pani-4	Rolling	Earthen	Solighopte	Cultivated	BMS,OS
66	7+981.00	8+117.00	Chisa pani-4	Descending	Earthen	Solighopte	BL	BMS,OS
67	8+117.00	8+287.00	Chisa pani-4	Rolling	Earthen	Solighopte	TL	BMS,OS
68	8+287.00	8+338.00	Chisa pani-4	Ascending	Earthen	Solighopte	Cultivated	BMS,OS
69	8+338.00	8+421.00	Chisa pani-4	Rolling	Earthen	Solighopte	Cultivated	BMS,OS
70	8+421.00	8+572.00	Chisa pani-4	Ascending	Earthen	Solighopte	Settlement/CL	BMS,OS
71	8+572.00	9+091.00	Chisa pani-3	Descending	Earthen	Solighopte	Settlement/CL	BMS,OS
72	9+091.00	9+121.00	Chisa pani-3	Rolling	Earthen	Ragapani Carneli danda	BL	BMS,OS
73	9+121.00	9+416.00	Chisa pani-3	Ascending	Earthen	Ragapani Carneli danda	BL	BMS, HR
74	9+416.00	9+487.00	Chisa pani-3	Descending	Earthen	Ragapani Carneli danda	BL	BMS, HR
75	9+487.00	9+514.00	Chisa pani-3	Rolling	Earthen	Ragapani Carneli danda	TL	BMS, HR
76	9+514.00	9+678.00	Chisa pani-3	Ascending	Earthen	Ragapani Carneli danda	Cultivated	BMS, HR
77	9+678.00	9+706.00	Chisa pani-3	Rolling	Earthen	Ragapani Carneli danda	BL	BMS, HR
78	9+706.00	9+730.00	Chisa pani-3	Descending	Earthen	Ragapani Carneli danda	TL	BMS, HR
79	9+730.00	9+879.00	Chisa pani-3	Rolling	Earthen	Ragapani Carneli danda	BL	BMS, HR
80	9+879.00	9+933.00	Chisa pani-3	Descending	Earthen	Malbase	Settlement/CL	BMS, HR
81	9+933.00	10+009.00	Chisa pani-3	Descending	Earthen	Malbase	Settlement/CL	BMS, HR
82	10+009.00	10+049.00	Chisa pani-3	Descending	Earthen	Malbase	Settlement/CL	BMS, HR
83	10+049.00	10+155.00	Chisa pani-3	Rolling	Earthen	Malbase	Settlement/CL	BMS, HR
84	10+155.00	10+209.00	Chisa pani-3	Descending	Earthen	Malbase	TL	BMS, HR
85	10+209.00	10+260.00	Chisa pani-3	Rolling	Earthen	Malbase	TL	BMS, HR
86	10+260.00	10+338.00	Chisa pani-3	Descending	Earthen	Malbase	TL	BMS, HR
87	10+338.00	10+629.00	Chisa pani-3	Rolling	Earthen	Malbase	Forest	BMS, OR, MR

S.N	Chainage		Effective VDC	Profile	Type (Alignment Condition)	Settlements	Land use pattern	Soil Type
	From	To						
88	10+629.00	11+118.00	Chisa pani-3	Rolling	Earthen	Malbase	Forest	BMS, OR, MR
89	11+118.00	11+183.00	Chisa pani-3	Descending	Earthen	Tilkebhangang	Settlement	BMS, OR, MR
90	11+183.00	11+596.00	Chisa pani-3	Rolling	Earthen	Tilkebhangang	Cultivated	BMS,OS
91	11+596.00	11+824.00	Chisa pani-2	Descending	Earthen	Tilkebhangang	Settlement	BMS,OS
92	11+824.00	11+877.00	Chisa pani-2	Descending	Earthen	Tilkebhangang	Settlement	BMS,OS
93	11+877.00	11+999.00	Chisa pani-2	Descending	Earthen	Tilkebhangang	Settlement	BMS,OS
94	11+999.00	12+116.00	Chisa pani-2	Rolling	Earthen	Chisapani Bazar	Settlement	BMS,OS
95	12+116.00	12+402.00	Chisa pani-2	Descending	Earthen	Daurali Tole	Settlement	BMS,OS
96	12+402.00	12+523.00	Chisa pani-2	Descending	Earthen	Daurali Tole	Settlement	BMS,OS
97	12+523.00	12+912.00	Chisa pani-2	Ascending	Earthen	Sombare Bazar	Settlement	BMS,HS
98	12+912.00	13+363.00	Chisa pani-2	Ascending	Earthen	Sombare Bazar	Forest	BMS,HS
99	13+363.00	13+704.00	Chisa pani-2	Rolling	Earthen	Bihibare Bazar	Forest	BMS,HS
100	13+704.00	13+817.00	Chisa pani-2	Descending	Earthen	Bihibare Bazar	Cultivated	BMS,HS
101	13+817.00	14+084.00	Chisa pani1	Rolling	Earthen	Bihibare Bazar	Settlement	BMS,HS
102	14+084.00	14+156.00	Chisa pani1	Descending	Earthen	Bihibare Bazar	Settlement	BMS,HS
103	14+156.00	14+262.00	Chisa pani1	Descending	Earthen	Soktim	Settlement	BMS,HS
104	14+262.00	14+358.00	Chisa pani1	Rolling	Earthen	Soktim	Settlement	BMS,HS
105	14+358.00	14+560.00	Chisa pani1	Descending	Earthen	Soktim	Tea Garden	BMS,HS
106	14+560.00	14+661.00	Chisa pani1	Descending	Earthen	Guest House Danda	Tea Garden	BMS,HS
107	14+661.00	14+985.00	Chisa pani1	Rolling	Earthen	Soktim	Forest	BMS,HS
108	14+985.00	15+102.00	Chisa pani1	Descending	Earthen	Soktim	Forest	BMS,HS
109	15+102.00	15+230.00	Chisa pani 5	Rolling	Earthen	Lodia	Forest	BMS,HS
110	15+230.00	15+409.00	Chisa pani 5	Descending	Earthen	Lodia	Forest	BMS,HS
111	15+409.00	15+436.00	Chisa pani 5	Descending	Earthen	Lodia	Forest	BMS,HS
112	15+436.00	16+133.00	Chisa pani 5	Descending	Earthen	Lodia	Forest	BMS,HS
113	16+133.00	16+173.00	Chisa pani 5	Descending	Earthen	Lodia	Forest	BMS,GMS
114	16+173.00	16+632.00	Chisa pani 5	Ascending	Earthen	Lodia	Forest	BMS,GMS
115	16+632.00	17+025.00	Chisa pani 5	Rolling	Earthen	Lodia	Cultivated	BMS,GMS
116	17+025.00	17+121.00	Chisa pani 5	Descending	Earthen	Lodia Sero	Cultivated	BMS,GMS
117	17+121.00	17+623.00	Chisa pani 5	Ascending	Earthen/ Lodia Khola	Lodia Sero	Khola	BMS,GMS
118	17+623.00	17+724.00	Chisa pani 5	Rolling	Earthen	Lodia Bagaicha	Settlment	BMS
119	17+724.00	17+762.00	Chisa pani 5	Descending	Earthen	Lodia Bagaicha	Settlment	BMS
120	17+762.00	17+791.00	Dana bari 1	Ascending	Earthen	Lodia Bagaicha	Settlment	BMS
121	17+791.00	17+826.00	Dana bari 1	Rolling	Earthen	Lodia Bagaicha	Settlment	BMS
122	17+826.00	17+876.00	Dana bari 7	Ascending	Earthen	Lodia Bagaicha	Settlment	BMS
123	17+876.00	18+587.00	Dana bari 7	Rolling	Earthen	Lodia Bagaicha	Settlment	BMS
124	18+587.00	18+666.00	Dana bari 7	Rolling	Earthen	Kamal Tar	Settlment	BMS
125	18+666.00	18+741.00	Dana bari 7	Ascending	Earthen	Bar Pani	Cultivated	BMS
126	18+741.00	18+924.00	Dana bari 7	Ascending	Earthen	Bar Pani	Cultivated	BMS
127	18+924.00	19+037.00	Dana bari 7	Descending	Earthen	Bar Pani	Cultivated	BMS

S.N	Chainage		Effective VDC	Profile	Type (Alignment Condition)	Settlements	Land use pattern	Soil Type
	From	To						
128	19+037.00	19+323.00	Dana bari 7	Rolling	Earthen	Bar Pani	Cultivated	BMS
129	19+323.00	19+343.00	Dana bari 7	Ascending	Earthen	Kanchhi Kaman	Sett/For/Tea	BMS
130	19+343.00	19+479.00	Dana bari 7	Ascending	Earthen	Kanchhi Kaman	Sett/For/Tea	BMS
131	19+479.00	19+567.00	Dana bari 7	Descending	Earthen	Kanchhi Kaman	Sett/For/Tea	BMS
132	19+567.00	19+890.00	Dana bari 7	Rolling	Earthen	Hatichhiraya	Tea/Forest	BMS
133	19+890.00	20+233.00	Dana bari 7	Descending	Earthen	Hatichhiraya	Tea/Forest	BMS,OR,MR
134	20+233.00	20+367.00	Dana bari 7	Rolling	Earthen	Hatichhiraya	Thin Forest	BMS,OR,MR
135	20+367.00	20+462.00	Dana bari 7	Ascending	Earthen	Hatichhiraya	Thin Forest	BMS,OR,MR
136	20+462.00	20+513.00	Dana bari 7	Rolling	Earthen	Hatichhiraya	Thin Forest	BMS,OR,MR
137	20+513.00	20+799.00	Dana bari 7	Ascending	Earthen	Hatichhiraya	Thin Forest	BMS,OR,MR
138	20+799.00	21+001.00	Dana bari 7	Rolling	Earthen	Hatichhiraya	Tea/Settlement	BMS,OR,MR
139	21+001.00	21+056.00	Dana bari 5	Descending	Earthen	Hatichhiraya	Tea Garden	BMS,OR,MR
140	21+056.00	21+122.00	Dana bari 5	Rolling	Earthen	Hatichhiraya	Tea Garden	BMS,OR,MR
141	21+122.00	21+354.00	Dana bari 5	Ascending	Gravel	Hatichhiraya	Bl	BMS,OR,MR
142	21+354.00	21+422.00	Dana bari 5	Ascending	Stone Pitching	Hatichhiraya	Tea/Settlemen	BMS,OR,MR
143	21+422.00	21+537.00	Dana bari 5	Descending	Earthen	Chilimicot	Tea Garden	BMS,OR,MR
144	21+537.00	21+855.00	Dana bari 5	Rolling	Earthen	Chilimicot	Tea Garden	BMS,OR,MR
145	21+855.00	21+971.00	Dana bari 5	Rolling	Stone Pitching	Chilimicot	Tea Garden	BMS,OR,MR
146	21+971.00	22+020.00	Dana bari 5	Ascending	Earthen	Chilimicot	Tea Garden	BMS,OR,MR
147	22+020.00	22+207.00	Dana bari 5	Ascending	Earthen	Chilimicot	Tea Garden	BMS,OR,MR
148	22+207.00	22+336.00	Dana bari 5	Descending	Earthen	Chilimicot	Tea Garden	BMS,OR,MR
149	22+336.00	22+428.00	Dana bari 5	Rolling	Earthen	Chilimicot	Tea Garden	BMS,OR,MR
150	22+428.00	22+513.00	Dana bari 5	Ascending	Gravel	Chilimicot	Tea Garden	BMS,OR,MR
151	22+513.00	22+604.00	Dana bari 5	Rolling	Stone Pitching	Chilimicot	Tea Garden	BMS,OR,MR
152	22+604.00	22+804.00	Dana bari 5	Ascending	Gravel	Chilimicot	Tea Garden	BMS,OR,MR
153	22+804.00	22+978.00	Dana bari 5	Rolling	Gravel	Chilimicot	Tea Garden	BMS,OR,MR
154	22+978.00	23+041.00	Dana bari 5	Rolling	Gravel	Sitali Bazar		BMS,OR,MR

Source: Field Survey and Detailed Design, 2009

* Codes:

HS – Hard Soil
OS – Ordinary Soil
SS – Soft Soil
LS – Loose Soil
BMS–Boulder Mixed Soil
GMS–Gravel Mixed Soil
OR – Ordinary Rock
MR –Medium Rock
HR – Hard Rock

Appendix– XVII:
Summary of Resettlement and Rehabilitation Cost

Total cost of Resettlement of Rajduwali-Chisapani–Danabari Road sub-project					Remarks
Item		Unit	Total loss	Amount(NRs)	
1. DIRECT COST					
1.1	Compensation for private land	Sqm	32,058.57	0	44,27,252.00
1.2	Compensation for structure(houses)	Nos.	3	789,670.80	
1.3	CFUG Trees	-	-	-	
1.4	Private Trees(fodder and other types)	Nos.	57	5,240.00	
	Sub-Total(1)			**794,910.80**	
2. INDIRECT COST					
2.1	Movement Allowance	LS no. HH		-	
2.2	Rental Stipend	LS no. HH		-	
2.3	Deed Transfer Assistance	HHNs	94	32,000.00	
2.3	Transportation Allowance	LS	-	80,000.00	
2.4	Official Deed Transfer fees	LS		20,000.00	
	Sub Total(2)			**132,000.00**	
3	Income Generation and Livelihood improvement programme			655,000.00	
	Appreciation Program for APs			75,000.00	
	Sub Total(3)			**730,000.00**	
	Total(1+2+3)			**9,26,911.00**	
4	Contingency (5%)			46,345.54	
5	Reserve fund for absentee owner	LS		500,000.00	
6	Reserve fund for grievance	Lumsum		-	
	Grand Total	**NRs.**		**14,73,256.54**	

Appendix– XVIII:
Summary of HHs by type of Loss (Structure) in the road alignment

S. N.	Chainage		Name of House Owner	Settlement	VDC	Distance from Center Level	Material Used for Construction	Total Area (sq. f.)	Type of Structure	No of Story
	From	To								
1	11+478	11+596	Bhim Kumari Khaki	Chisapani Bazaar	Chisapani-3	2	stone,mude, wood, CGI	484.74	Residential	2
2	11+622	11+700	Bhim Kumari Khaki	Chisapani Bazaar	Chisapani-2	2.5	stone,mude, wood, CGI	907.3	Residential	2
3	11+754	11+824	Krishna Kumar Khaki	Chisapani Bazaar	Chisapani-2	3.2	stone,mude, wood, CGI	436.2	Residential	2
Total										

Appendix- XIX: Structure for Slope Stabilization

Recommended civil structures and Bio-engineering works for slope stabilization at various places:

S.N	Structure(GWRET) QUANTITY									
	Chainage	Length	Left				Right			
			GW	Height	Area (m^2)	Volume (m^3)	GW	Height	Area (m^2)	Volume (m^3)
1.	0	50	GW		9	450				
2.	250	50	GW		9	450				
3.	1060	20					GW	4	6.5	130
4.	2060	20					GW	6	11.5	230
5.	4060	20					GW	6	11.5	230
6.	4820	20	GW	5	9	180				
7.	4960	20					GW	6	11.5	230
8.	4980	20					GW	6	11.5	230
9.	5000	20					GW	6	11.5	230
10	5020	20					GW	6	11.5	230
11	5040	20					GW	6	11.5	230
12	6240	20					GW	4	6.5	130
13	6340	20					GW	4	6.5	130
14	6380	20	GW	5	9	180				
15	6460	20	GW	4	6.5	130				
16	6600	20					GW	5	9	180
17	6820	20	GW	5	9	180				
18	6840	20	GW	4	6.5	130				
19	6940	20	GW	5	9	180				
20	6960	20	GW	6	11.5	230				
21	6980	20	GW	7	14.5	290				
22	7040	20	GW	4	6.5	130				
23	7320	20	GW	5	9	180				
24	7340	20	GW	6	11.5	230				
25	7500	20	GW	6	11.5	230				
26	7580	20	GW	4	6.5	130				
27	7600	20	GW	6	11.5	230				
28	7720	20	GW	4	6.5	130				
29	9500		GW	Detail assessment will be done						

Source: Detailed Design, 2009

Appendix- XX: Summary of Cross Drainage Structures

S.N	Chainage		Terrain	Type of Cross Drainage	Length	Width of river(m)	Remarks
	From	To					
1.0	0+340.00	0+345.00	Mountains	Cause way	10.00	4.00	Kholsi
2.0	0+635.00	0+640.00	Mountains	Cause way	10.00	4.00	Thauda Khola
3.0	1+035.00	1+045.00	Mountains	Cause way	10.00	4.00	Kholsi
4.0	2+110.00	2+115.00	Mountains	Cause way	10.00	4.00	Kholsi
5.0	2+290.00	2+295.00	Mountains	Cause way	10.00	4.00	Kholsi
6.0	2+380.00	2+385.00	Mountains	Cause way	10.00	4.00	Kholsi
7.0	3+113.00	3+118.00	Mountains	Cause way	10.00	4.00	Kholsi
8.0	3+525.00	3+531.00	Mountains	Cause way	10.00	4.00	Kholsi
9.0	6+900.00	6+905.00	Mountains	Cause way	10.00	4.00	Kholsi
10.0	8+150.00	8+157.00	Mountains	Cause way	10.00	4.00	Kholsi
11.0	9+385.00	9+390.00	Mountains	Cause way	10.00	4.00	Kholsi
12.0	9+413.00	9+418.00	Mountains	Cause way	10.00	4.00	Kholsi
13.0	9+703.00	9+708.00	Mountains	Cause way	10.00	4.00	Kholsi
14.0	14+085.00	14+095.00	Mountains	Cause way	10.00	4.00	Kholsi
15.0	14+370.00	14+375.00	Mountains	Cause way	10.00	4.00	Kholsi
16.0	15+100.00	15+105.00	Mountains	Cause way	10.00	4.00	Kholsi
17.0	15+546.00	15+551.00	Mountains	Cause way	10.00	4.00	Kholsi
18.0	21+001.00	21+008.00	Mountains	Cause way	10.00	4.00	Kholsi
19.0	19+996.00	20+001.00	Mountains	Cause way	10.00	4.00	Kholsi
20.0	19+641.00	19+646.00	Mountains	Cause way	10.00	4.00	Kholsi
21.0	18+671.00	18+681.00	Mountains	Cause way	10.00	4.00	Kholsi

Source: Field Survey, November, 2009

Appendix - XXI:
Purposed Pipe culvet for Water Management

S.N	Chainage	300 mm	600 mm	900 mm	1200 mm	Remarks
1	1+804		✓			Pipe culvert
2	4+380		✓			Pipe culvert
3	8+570		✓			Pipe culvert
4	17+025		✓			Pipe culvert
5	17+141		✓			Pipe culvert
6	17+641		✓			Pipe culvert
7	17+689		✓			Pipe culvert
8	18+041		✓			Pipe culvert
9	18+691		✓			Pipe culvert
10	18+395		✓			Pipe culvert
11	18+721		✓			Pipe culvert
12	19+241		✓			Pipe culvert
13	20+630		✓			Pipe culvert
14	20+951		✓			Pipe culvert
15	21+001		✓			Pipe culvert
16	21+354		✓			Pipe culvert
17	21+372		✓			Pipe culvert
18	21+855		✓			Pipe culvert

Source: Detailed Design, 2009

Appendix - XXII: List of affected trees in the road alignment

S.N.	Name of Owner	Address	Chainge		Detail of Loss				
			From	To	Species	Nos.	Girth	Height\ Length	Volume
1	Santamaya Rai	Chisapani	6+684	6+850	Simal	2	0.8	10	0.20
			6+584	6+850	Chilaune	5	0.5	8	0.06
2	Ashok Tamang	Chisapani	12+402	12+436	Simal	1	1	9	0.28
3	Dhanmaya Rai	Chisapani	8+455	8+492	Kabhro	2	0.5	8	0.06
			8+455	8+492	Chilaune	3	0.4	8	0.04
4	Ran Bdr.Rai	Chisapani	11+183	11+204	Saj	1	0.8	10	0.20
			11+183	11+204	Simal	1	0.8	10	0.20
5	Ashim Adhikari	Godak	1+795	1+804	Uttis	10	0.4	6	0.03
6	Dhan Bdr.Magar	Godak	0+176	1+041	Gogun	2	0.5	10	0.08
7	Tilak Bdr.Limbu	Chisapani	9+387	9+545	Simal	2	0.9	8	0.20
			9+348	9+387	Chilaune	3	0.3	6	0.02
8	Keshav Prasad Kafle	Chisapani	8+177	8+154	Chilaune	5	0.4	5	0.03
9	Indra Kumari Thebe	Chisapani	9+706	9+730	Chilaune	3	0.4	5	0.03
10	Jas Bahadur Tamang	Chisapani	9+616	9+678	Saj	2	0.6	8	0.09
			9+545	9+587	Chilaune	6	0.5	5	0.04
11	Lok Bahadur Tamang	Chisapani	6+870	6+903	Kabhro	2	0.7	7	0.11
12	Tek Bahadur Tamang	Chisapani	8+338	8+395	Mauwa	2	0.6	6	0.07
			8+338	8+395	Chilaune	5	0.4	5	0.03
Total						**57**			1.753

Source: Field survey and ZoI HH survey of RRRSDP, 2009

Appendix– XXIII :
Community Forests along the RoW and periphery of road alignment

S.N.	Name of CF	Area (ha.)	Nos. of HHs	Village/ VDC	Remarks (Botanical Species Forest Type/ Nos. of affected trees)
Godak VDC					
1	Paripakha	20.00	97	Godak-6	
	Chihandanda and Bhamdare	15.04	39	Godak-1	
	Suryodaya	91.00	104	Godak-3	Ch: 2+000-4+800km(Within the Row)
Chisapani VDC					
	Gangune	196.00	54	Chishapani-9	
	Pathivara	110.00	56	Chishapani-5	
	Tinghare Bhadre	320.00	44	Chishapani-8	
	Juntara	246.00	60	Chisapani-9	
	Bajaicha sere	254.50	200	Chisapani-5	Shakhuwa, Saj, Karam, Dhayero, Halude, Lampate, Malagiri
	Soktim Vhyali	177.00	120	Chisapani-1	Shakhuwa, Chilaune, karam, Saj, Lampate, Dhayero, Simal Ch: 13+000-14+100km (within the RoW)
	Gagurmukhi	191.00	59	Chisapani-5	
	Jala kanya	162.00	52	Chisapani-2	Sakhuwa, Chilaune, Dhayero, Champ
	Kothidanda	217.00	70	Chisapani-2	Sakhuwa, Chilaune, Saj, Dhayero, Karam etc.
	Sisne Kharka	115.00	67	Chisapani-6,7	
	Malbase Tilke Bhanjyang	229.00	57	Chisapani-3	Sakhuwa, Chilaune Ch:10+100-11+020km (within the Row)
	Sal Bote Kareli	83.48	57	Chisapani- 5	
	Rangapani Satre	160.56	66	Chisapani- 4	
Danabari VDC					
	Sukhani	377.25	333	Danabari-3	
	Namuna	657.00	206	Danabari-3	
	Laligurans	157.00	64	Danabari-3	
	Sunakhari	262.00	90	Danabari-3	
	Sapana	207.00	93	Danabari-4	
	Jhante chuli	937.00	173	Danabari-1	
	Kankai	292.00	128	Danabari-9	
	Khande Chuli	598.00	168	Danabari-9	
	Majhi Chuli	700.00	57	Danabari-5	
	Shrijana	131.00	102	Danabari-4	
	Kali Khola	361.00	219	Danabari-9	
	Chandra Surya	351.00	41	Danabari-1	
	Shiva Pokhari	705.00	138	Danabari-7,8	
	Sayapatri	42.00	119	Danabari-1	
	Pragati Namuna	450.00	100	Danabari-8	
	Suryadaya	592.00	91	Danabari-9	
	Kalpataru	148.00	79	Danabari-2	
	Sarashowati	855.00	125	Danabari-1	
	Laxmi	603.00	55	Danabari-9	
	Mai Bhagawati	391.32	58	Danabari-9	

Appendix - XXIV:

Photograph – I

PHOTO NO. 1
The starting point of proposed road at Ch:0+000 on the Junction way to Mechi Lok Marg near Mai Khola Bridge.

PHOTO NO. 2
The ending point of the proposed road at Ch: 23+300 near Sittali Bazaar, Danabari-7

PHOTO NO. 3
The road alignment passes near by Shiva Mandir of Rajduwali Tappu at Ch:0+850.

PHOTO NO. 4
The water was diverted through the irrigation Kulo to Chilmkot-7 at Ch: 18+900km.

PHOTO NO. 5
Irrigation crossing at Ch:2+100.

PHOTO NO. 6
Affected Sakhuwa trees in the RoW at Ch: 4+300 before reaching to the Junction way to Bhandari besi.

Photograph – II

PHOTO NO. 7
The road alignment with sharp bending portion at Ch:4+500 near Chauri Danda need to be improved and protected from gully erosion.

PHOTO NO. 8
Major landslide at Ch: 9+500km, Rangapani.

PHOTO NO. 9
The Interaction meeting and FUG were held at Tapu, Godak with local people.

PHOTO NO. 10
Affected houses at Bhanjyang Chisapani-2.

PHOTO NO. 11
Affected houses at Sombare Bazaar area Chisapani-3.

PHOTO NO. 12
Pipeline crossing at Ch: 13+700 km near Batase Phedu, Chisapani-2 and tap stand is within RoW.