

Environmental Assessment Document

Initial Environmental Examination

Grant Number: 0093 NEP

March 2011

Nepal: Rural Reconstruction and Rehabilitation Sector Development Program

Dudhe-Sivaganj-Mahabhara-Kunjibari-Korobari- Birpur-Bagaha Chaudhari Road Subproject, Jhapa 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**

[ADBGrant 0093NEP]

Initial Environmental Examination (IEE) Report

Of

**Dudhe-Sivaganj-Mahabhara-Kunjibari-Korobari-
Birpur-Bagaha Chaudhari Road Subproject**

Jhapa District

Submitted to:

Ministry of Local Development

Government of Nepal

Proponent:

District Development Committee/

District Technical Office

Bhadrapur, Jhapa

March, 2011

Prepared By:

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ABBREVIATIONS

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

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EXECUTIVE SUMMARY

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 30.580 km long Dudhe-Sivaganj-Mahabhara-Kunjibari-Korobari-Birpur-Bagaha Chaudhari Road in Jhapa District is one of the Subprojects selected under the RRRSDP. It is an existing gravelled road proposed for upgrading in Blacktop standard.

Project Proponent

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

Objectives of the IEE Study

The objectives of the IEE study is to identify the impacts on the physical, biological, socio-economic and cultural environment of the project influence area from construction and operation of the Proposal, and recommend site-specific adverse impact mitigation measures and beneficial impact augmentation measures. The Study will assess if the IEE level study is sufficient for the Subproject.

Relevancy of the Proposal

The proposed Subproject will connect the southern part Bagaha Chaudhari of Jhapa district with East West highway. It will provide easier access to people to social services, and market access for local products like rice, maize, wheat, mustard, sugarcane and vegetables. As a result, the subproject will assist to promote economic activities and increase socio-economic conditions of the people of the area.

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 on 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 following the Environmental Protection Act, 1997 and Environmental Protection Rules, 1997 (second amendment 2007) of the Government of Nepal (GoN); and Environmental Assessment Guidelines, 2003, and Safeguard Policy Statement, 2009 of ADB. The report follows the Terms of Reference for IEE Study approved by MoLD on 8 October, 2009 (22/06/2066 BS).

Brief Description of the Subproject

The road starts from Dudhe market of East West highway and ends at Bagaha Chaudhari. The 30.580 km road is motorable and from Ch 0+000 to Ch 5+670 km road surface is blacktopped but in worse condition. The road passes through Satashidham, Shivaganj, Panchgachhi, Mahabhara and Korobari Village Development Committees (VDCs). The average width of road is 6 m. There are two existing bridge which need to be repaired at Ch 7+150 and 14+740. A bridge is proposed for new construction at Ch 22+225 over Kamal Khola. Total project cost including Bridge is NRs. 255,832,155.95 and per km cost is NRs. 8,365,995.94 and excluding Bridge is NRs. 209,812,155.95 and per km cost is NRs. 6,861,090.78.

Existing Environmental Condition

The road starts from Dudhe market of Satashidham VDC at 107m amsl and passes through Bagaha Chaudhari at 67m amsl. The proposed road lies in Terai and hence there are no slope instability problems. Ambient air and water quality of the proposed project area is observed to be good and there is no noise pollution. Irrigation canal at Ch 2+850 and 10+800 across the road. At Ch 8+200, 25+670 water logging problem has been seen and at Ch 8+000 river flood damage 50 m road embankment. The road passes through cultivated land and settlements.

The dominant vegetations found in the road alignment on private lands are Sisso (*Dalbergia Sisso*), Mango (*Mangifera Indica*), Coconut (*Cocos nucifera*), Betelnut (*Areca catechu*), Bamboo (*Bambusa vulgaris*), Kadam (*Anthrocephalus chinensis*) and Peepal (*Ficus religiosa*). There is no any wild animals are found but *Corvus splendens* (Crow), *Passer domesticus* (Sparrow), *Columba livia* (Pigeon), Parrot are the birds found in the Subproject area. The road does not fall under any protected area or their buffer zones. Total population of the Subproject area is 17,556 and total household number is 3296, and average family size is 5.32. Brahmin, Chettri, Rajbanshi, Tharu, Yadav, Limbu, Tamang, and occupational caste are living in the area.

Subsistence agriculture and livestock farming are the main occupation. Due to limited transportation facilities agriculture farming is not enough for subsistence level. Moreover, significant percentage of the economically active male population also migrates to various places including India and abroad for employment.

Major Environmental Impacts

Beneficial Impacts

The immediate benefit from this road Subproject is employment opportunities. The implementation of Subproject require about 135,326 person days of unskilled and 26,313 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 Zone of Influence (Zol)¹ 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 Zol 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 Zol of project area. The better land network will result in increased land price which will be beneficial for land owners.

Adverse Impacts

Some adverse environmental impacts are likely to result from the proposed upgrading of road works. Disposal of soil and earth material, operation of borrow pit might result in roadside erosion, water logging during construction and operation. Furthermore, spoils generated during construction can create the water pollution to the nearby water sources.

There will be no change in land use, since the road will be upgraded and widened under the existing width of 6m and no additional acquisition of land is necessary, no trees are required to cut down during road construction. Also there are not any houses, temples, chautaras will be displaced.

¹ Zol is one and half hour walking distance from the road alignment.

Irrigation canal at Ch 2+850 and 10+800 will be affected by spoil materials during construction of road. At Ch 8+200, 25+670 water logging problem, at Ch 8+000 river flood damage 50m road embankment problem are seen. Labours and local people are prone to health effects and accidents relating to construction activities.

During operation stage, vehicular movement, monsoon rain might result in erosion in embankment of road. 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. 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. The construction of road will be based on Contractor Modality and LEP (Labour-based, Environment friendly and Participatory 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 earthworks, pavement works, operation of construction vehicles and equipments, disposal of spoils and borrow and quarrying activities. Necessary trainings and awareness programs will be conducted. Construction materials will not dispose irrigation canal, embankment will be raise water logging area and 50 m gabion protection work/river training will be done along the flood damage area. Tree plantation and Bioengineering will be done for roadside greenery. At construction site, the workers will be provided insurance, first aid facilities and safety equipments like helmet, boots, gloves and mask. 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 management plan has been identified as follows:

SN.	Description	Amount (NRs.)	Remarks
1	Environmental awareness raising training and other training	100,000.00	To be included in project cost
2	Insurance of workers	400,000.00	To be included in BoQ
3	Bio-engineering and Tree plantation	646,300.00	To be included in project cost
4	Construction of access Road, affected infrastructures, Spoil management, Reinstatement of quarry, stockpiling etc.	300,000.00	To be included in project cost
5	Social Action Plan Cost	856,300.00	To be included in Social plan, project cost
6	Occupational health and safety, Information signboard	550,000.00	To be included in Project cost
7	Monitoring	200,000.00	
	Total	3,052,600.00	

Conclusion and Recommendation

The identified environment impacts will be seen in limited small areas and mainly during construction period. The implementation of proposed mitigation measures for identified adverse impacts will minimize as well as mitigate the adverse impacts on environment. 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 management plan. Therefore, the proposed Subproject does not require Environmental Impact Assessment.

1. INTRODUCTION

1.1 Background

1. The Rural Reconstruction and Rehabilitation Sector Development Program (RRRSDP) 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 Program 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). The Program covers twenty districts spread over the country. 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) / District Technical Office (DTO) are the Project Implementing Agencies. The DDC/DTO are supported by District Implementation Support Team (DIST) with engineering, safeguards and social mobilization responsibilities.

2. Jhapa District is one of the project districts under RRRSDP. This Proposal is for upgrading in bituminous standard of the 30.580 km long Dudhe-Sivaganj-Mahabhara-Kunjibari-Korobari-Birpur-Bagaha Chaudhari road in Jhapa District.

1.2 The Name and Address of Proponent

Name of Proposal	:	Upgrading of Dudhe-Sivaganj-Mahabhara-Kunjibari-Korobari-Birpur-Bagaha Chaudhari Road, and Bridge over Kamal Khola Jhapa District, Nepal
Name of Proponent	:	District Development Committee, District Technical Office, Jhapa
Address of Proponent	:	Bhadrapur, Jhapa District
		Phone No: 023-456273
		Fax No: 023-456273
Name of Preparer	:	Mr. Prakash Chaudhary (Environmental Specialist- DIST Jhapa)

1.3 Relevancy of the Proposal

3. The Project area is located at southern part of Jhapa district. The road is currently graveled and motorable in fair-weather. The area has high potential in production of rice, maize, wheat, mustard, vegetable, sugarcane and fruit. The upgrading of the road will enhance access of people to social services and market centers with significantly reduced travel time and cost, and will contribute in their socio-economic development. Access shall also attract other development infrastructures and open door to further development opportunities in the area. The total length of the road alignment was 31.59 Km as in approved ToR but after detail survey the road length is 30.580 Km.

1.4 Need and Objectives of the IEE Study

4. **Need:** An IEE study of the Proposal is a legal requirement according to the Environment Protection Act, 1997; and Environment Protection Rule, 1997 (Amendment 2007) of GoN; and according to the provisions of the Environmental Assessment Guidelines, 2003; and Safeguard Policy Statement, 2009 of ADB.

5. **Objectives:** The main objective of the IEE study is to identify the impacts from the construction and operation of the Proposal on the physical, biological, socio-economic and cultural environment of the Subproject area. The IEE study recommends practical and site specific environmental mitigation and enhancement measures, prepare and implement environmental monitoring plan and make sure that IEE is sufficient for the proposed road sub-project.

1.5 Methodology Adopted

6. The IEE study has followed the provisions of the EPA, 1997 and EPR, 1997, and the provisions of ADB. It follows methodology suggested in the approved Terms of Reference for IEE Study (Refer Annex 1). 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 Zol (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. The IEE report is based on the Terms of Reference for IEE study approved on 8 October, 2009 (22/06/2066 BS) by MoLD which is given in Annex (1). 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 were 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.

1.6 Public Consultation

7. In order to ensure the involvement of concerned stakeholders, following procedures were followed:
- Publication of Public Notice- a 15 days public notice was published on 29/06/2066 in the Rajdhani national daily newspaper (see Annex V) seeking written opinion from the concerned VDCs, DDC, schools, health posts and related local stakeholders. A copy of the public notice was also affixed in the offices of the above mentioned organizations and *Deed of Enquiry (muchulka)* was collected (see Annex VI and Annex VII).
 - Interaction with local communities and related stakeholders like District Forest Office, District Soil Conservation Office, District Agricultural Development Office and others were carried out during field survey to collect the public concerns and suggestions (see Annex VIII). Focus Group Discussions were conducted in all the four VDCs to collect and solicit their suggestions on protection of bio-physical and socio-economic environment in the Zone of Influence (ZOI) of the road. Summary of minutes of meeting is given in Annex IX and following Table 2.1.
 - Draft IEE report was kept at information center of DDC, Jhapa and Satashidham, Shivaganj, Panchgachhi, Mahabhara and Korobari VDCs for public disclosure. Information was also disseminated through person to person contacts and interviews and group discussions. Recommendation Letters for implementation of the Proposal were also obtained from all the concerned VDCs (see Annex X).

Table 1.1: Summary of FGD Meeting Conducted Under IEE Study

Location	VDC	Date	No. of Participants		Issues and Discussions	Decision
			Male	Female		
Dudhe	Satashi dham	20/05/2066	16		<ul style="list-style-type: none"> • There will be no conflict during road construction. If conflict arises it will be solved by VICCC. • The provision for proper drainage with drain covers shall be managed in Dudhe market by the project. • Road safety issues and potential road accidents that might occur during operation of road have been discussed and agreed to demand Traffic Park and steel railing at Dudhe Chwok. • Rehabilitation of Shatashi Primary School at Satashidham-6 is demanded. • Fencing around canal is demanded at Nahar Chwok. • Culvert structures and slabs are demanded at adjoining section of access roads. • It was discussed on lack of bus stand for parking and unmanaged existing parking situation and requested for managed vehicle stand at places assigned according to Dudhe Bazaar Bikas Committee. • Drinking water facility is demanded at Dudhe Bazaar and surrounding area. 	<ul style="list-style-type: none"> • Sufficient side drains and drain covers; Hume Pipe crossings will be provided. • Supplementary Program of RRRSDP will address for relevant issues. • Traffic delineators shall be provided at required locations. • Drinking water facilities will be addressed in supplementary infrastructures of RRRSDP.

Location	VDC	Date	No. of Participants		Issues and Discussions	Decision
			Male	Female		
Shivajun g Bazaar	Shivaju ng	2/5/206 6	11	5	<ul style="list-style-type: none"> Side drains are demanded on both side of the road which shall be extended from Bazaar area to VDC office. Black top road is demanded up-to Shivajing VDC along with repair of sheds at market places of Chandradagi Bazaar. Drinking water and school building is demanded for Shree Shukra M.B. School. Clean Drinking water and toilet is demanded. Priority for local employment is requested. 	<ul style="list-style-type: none"> Side drains will be provided at market places. Black top will be done on whole length of the road. Drinking water facilities will be addressed in supplementary infrastructures of RRRSDP. Local people will be given priority for employment.
Kunjibaa ri	Mahabh ara	21/5/20 66	16		<ul style="list-style-type: none"> Constructions of the School building, Health post are demanded. River training works and road embankment protections are demanded. Sewers, toilets, drinking water facilities and building are demanded at Kumjibari Bazaar. 	<ul style="list-style-type: none"> Supplementary Program of RRRSDP will address for relevant issues. Road embankment protection works will be done.

8. The approved IEE report is accessible to interested parties and general public through the websites of ADB and MoLD/DoLIDAR. The copy of approved IEE report has been distributed to following offices:

1. District Development Committee, Jhapa
2. District Technical Office, Jhapa
3. District Project Office, Jhapa
4. District Implementation Support Team, Jhapa
5. Ministry of Local Development, Environment Management Section
6. Department of Local Infrastructure Development and Agricultural Roads
7. Project Coordination Unit, RRRSDP
8. Asian Development Bank, Nepal Resident Mission

2. DESCRIPTION OF THE PROPOSAL

9. The proposed 30.580km long gravelled road lies in Jhapa District constructed 30 yrs ago that links the remote southern area Bagaha Chaudhari of the District to East West National highway at Dudhe market. The proposed road starts from Dudhe market of East West highway and ends at Bagaha Chaudhari. The 30.580km road is already motorable and from Ch 0+000 to Ch 5+670 km road surface is blacktopped but in worse condition. The road passes through Satashidham, Shivaganj, Panchgachhi, Mahabhara and Korobari Village Development Committees (VDCs) (see in Figure 1.1 and 1.2). The total width of road is 6 m. Earthwork in excavation and Embankment Preparation of sub-grade, sub-base, base, Premix carpeting work and bioengineering etc is planned to be implemented under the proposed rehabilitation works of the road. RCC Bridge of 40m length is proposed at Ch 22+400 over Kamal Khola. The total project cost including Bridge is NRs. 255,832,155.95 and excluding Bridge is NRs. 209,812,155.95 and per km cost is NRs. 6,861,090.78.

Salient Features of the Subproject:

- | | | |
|--|---|--|
| 1.Name of the sub-Project | : | Dudhe-Sivaganj-Mahabhara-Kunjibari-Korobari-Birpur-Bagaha Chaudhari Road |
| 2.Location | | |
| <u>Geographical Location</u> | | |
| i. Region | : | Eastern Development |
| ii. Zone | : | Mechi |
| iii. District | : | Jhapa |
| iv. VDCs | : | Satashidham, Shivaganj, Panchgachhi, Mahabhara and Korobari |
| v. Latitude | : | N 26°38.869' |
| vi. Longitude | : | E 87° 49.705' |
| vii. HH/Population served | : | 3296 / 17556 |
| <u>Geographical Feature</u> | | |
| i. Terrain | : | Plain |
| ii. Climate | : | Sub-tropical |
| 3.Land Use | : | Built Up Area & Agricultural Land
(The road does not pass through forests and national parks or protected areas and their buffer zones.) |
| 4.Road type | : | District Road |
| 5.Standard of Pavement | : | Premix Carpeting |
| 6.Length of Road | : | 30.580km |
| i. Starting point | : | Dhude |
| ii. End point | : | Bagaha Chaudhari |
| 7.Settlement on Alignment Surveyed: | : | Dhude, Naharchowk, Beyangdada, Simalchowk, Chandradangi, Shivganj Bazaar, Haldar Chowk, Jantachwok, Bulu Chowk, Naya Bazaar, Gaddigaun, Mahabhara, Kunjibari, Bhabsartol, Birpur, Tulachan, Korobari and Bagaha chaudhari. |
| 8. Design Criteria | | |
| i. Design speed | : | 40 km /hour |
| ii. Maximum gradient | : | 5% |
| 9. Cross section | | |
| i. Right of way | : | 5m each side (from center line) |
| ii. Formation width | : | 6m(7.5 m at Settlement area) |
| iii. Carriage way width | : | 3m(4.5 m at settlement area) |
| iv. Shoulder width | : | 1.5 m on either side |

- 10. Structure**
Cross Drainage Structure
i. Hume pipe culvert : 112.5 Rm
ii. Bridge : At Ch 22+400 (New Construction) and 2 existing at Ch 7+150 and 14+740 (Rehabilitation)
- Retaining Structure
i. Gabion wall : 302 cum
- Earthwork
i. Cutting cum : 4,102.72
ii. Filling : 31,029.83 cum
- 11. Project Cost (including Bridge)**
i. Cost of civil Works : NRs 255,832,155.95
ii. Cost per km : NRs 8,365,995.94
- 12. Project Cost (excluding Bridge)**
iii. Cost of civil Works : NRs 209,812,155.95
iv. Cost per km : NRs 6,861,090.78
- 13. Employment generation:**
i. Total employment : 161639 (person days)
ii. Skilled : 26313
iii. Unskilled : 135326
- 14. DTMP Code** : 04A015R

2.1 Construction Approach and Activities

10. The construction approach will be based on Contractor modality as well as Labour-based, Environment-friendly and Participatory (LEP) approach as far as possible. Contractor based will be used in works that cannot be done manually through road building groups. In such works, the construction will be carried by using the equipment and machineries but it will be used in such a way to ensure the minimum environmental damage.

11. Activities included during the road construction are: earthwork, retaining structures, Sub-base, base, premix carpeting, bioengineering and cross drainage works.

2.2 Proposed Schedule for Implementation of Subproject

12. Following Table 1.1 shows the proposed implementation schedule of the Subproject:

Table 2.1: Subproject Implementation Schedule

SN	Activity	2008 IV	2009				2010				2011			
			I	II	III	IV	I	II	III	IV	I	II	III	IV
1	Detailed survey and design													
2	Preparation of resettlement plan													
2.1	Life skill and income generation training													
3	Environment Assessment and Monitoring													
3.1	IEE report preparation and approval													
3.2	Implementation of EMP													
3.3	Environmental monitoring													
4	Construction Work													
4.1	Civil construction work by contractors													
4.2	Civil construction work by RBGs													

Note:

I - January, February, March
III - July, August, September

II - April, May, June
IV - October, November, December

Figure 1.1: Map of Nepal showing the location of : Dudhe-Sivaganj-Mahabhara-Kunjibari-Korobari-Birpur- Bagaha Chaudhar Road Subproject in Jhapa District

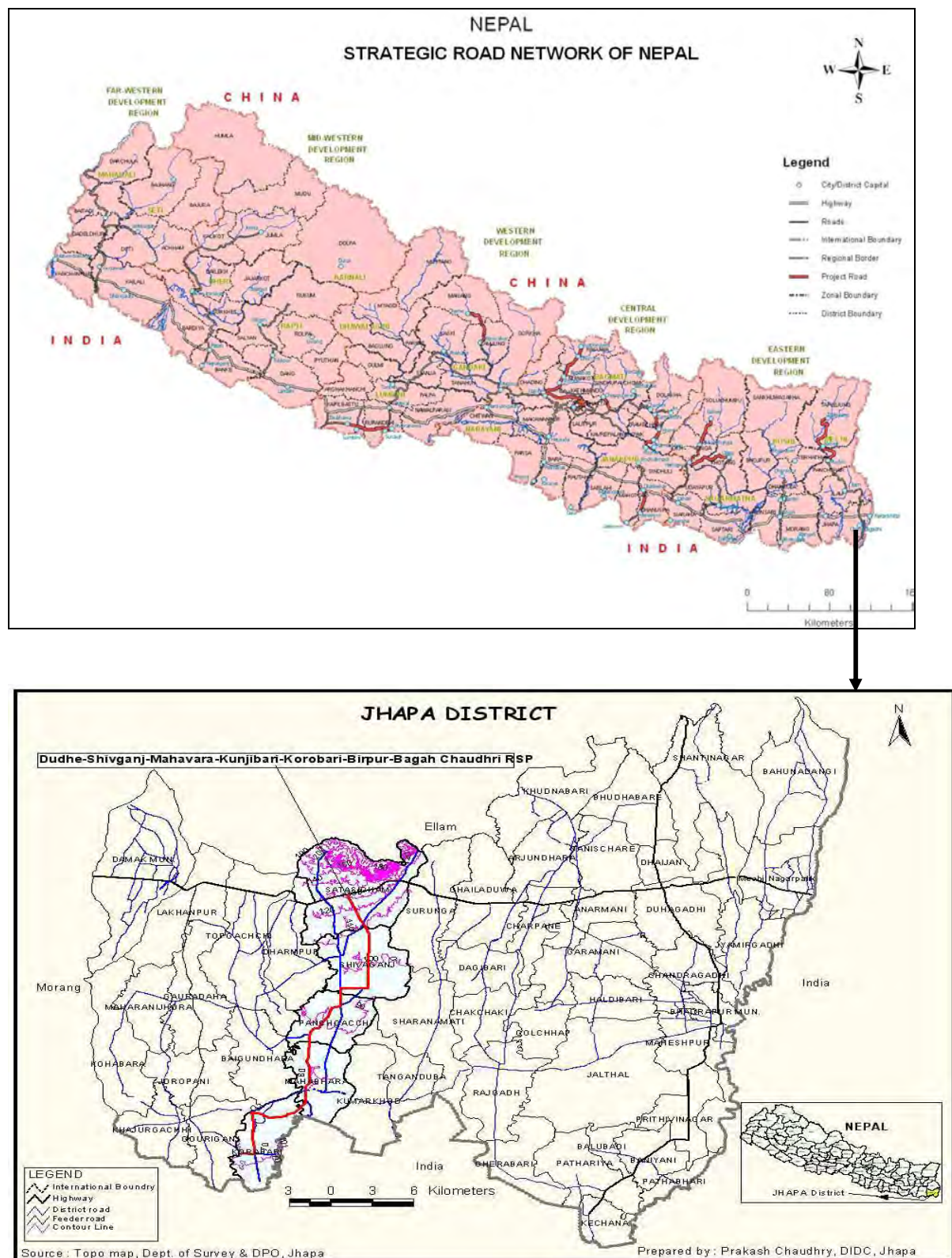
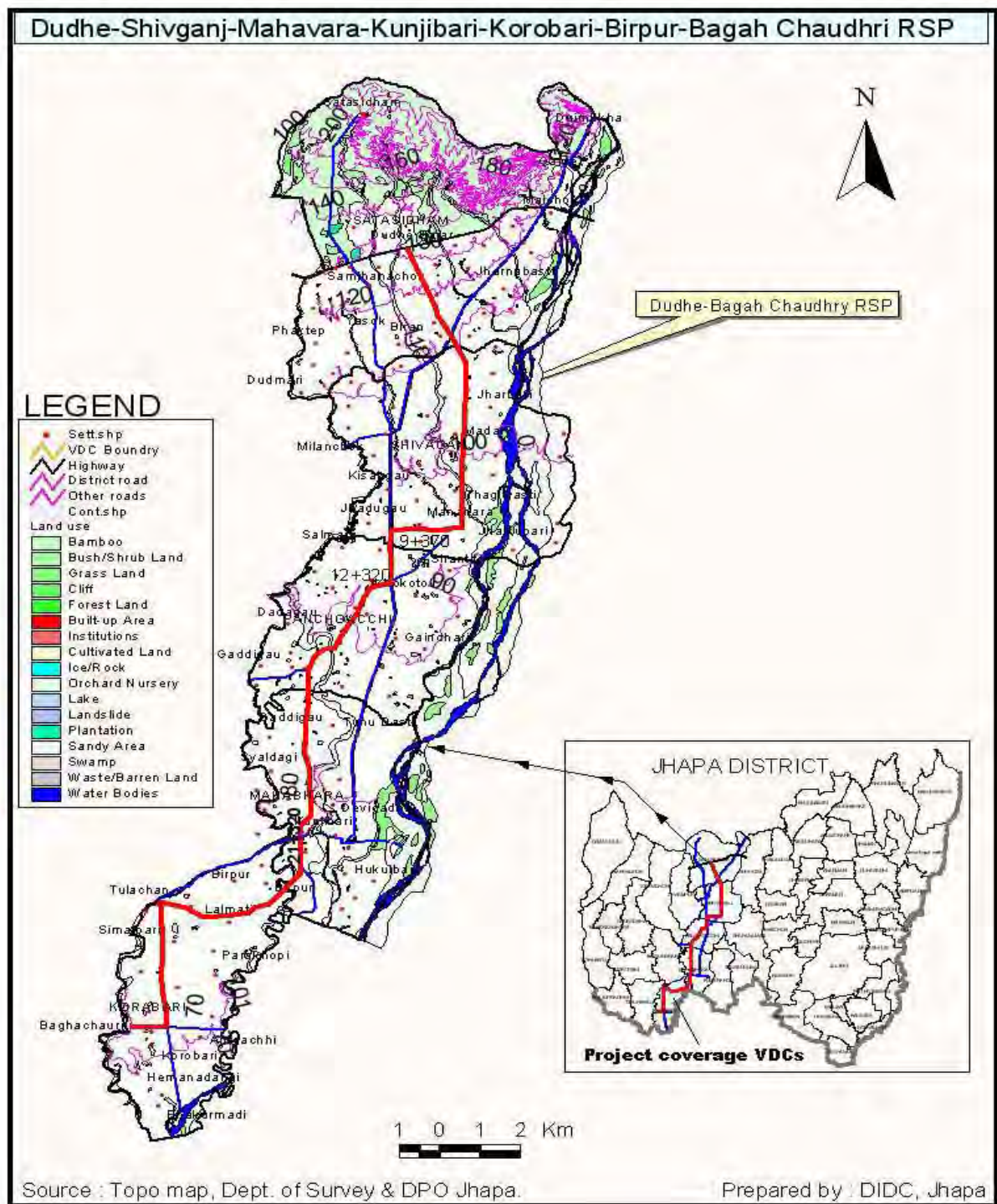


Figure 1.2: Alignment of Dudhe-Sivaganj-Mahabhara-Kunjibari-Korobari-Birpur- Bagaha Chaudhar Road Subproject



3. REVIEW OF RELEVANT ACTS, REGULATIONS AND GUIDELINES

13. The IEE study has followed the provisions of following acts, regulations and guidelines of Government of Nepal and ADB to ensure conservation of environment during proposal implementation and operation.

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), 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), 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	<i>Batabaraniya Nirdesika</i> (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	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
8	Land Acquisition Act, 2034 BS (1977 AD) and Land Acquisition Rules, 2026 BS (1969 AD), GoN	Specifies procedural matters on land acquisition and compensation
9	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.
10	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.

SN	Environmental Acts, Regulations and Guidelines	Description of Requirements
11	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.
12	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
13	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
14	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
15	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.
16	The Interim Constitution of Nepal, 2063 (2007).	Has provision of right regarding environment - Every person shall have the right to live in clean environment.
17	The Labor Act, 2048 BS (1992 AD)	Regulates the working environment and deals with occupational health and safety.
18	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.

4. BASELINE ENVIRONMENTAL CONDITION IN THE SUBPROJECT AREA

14. Baseline information on the existing physical, biological, socio-economic and cultural environment of the zone of influence (Zoi) of the proposed Subproject is described in this Chapter.

4.1 Physical Environment

4.1.1 Topography

15. The proposed road lies in Terai. The highest elevation of the proposed road is at Dudhe 107 m amsl and lowest elevation at Bagaha Chaudary is 67 m amsl. It is located at 26°38.788' north (latitude) and 87°53.577" east (longitude). The road passes through flat plain area. The altitude of bridge site over Kamal Kholā is 78 m amsl.

4.1.2 Geology and Soil Type

16. Most of the soils in the proposed road alignment area are alluvium and sandy soil. River bed area comprises coarse sediments of sands.

4.1.3 Land Use

17. Land use pattern of the area through which the road passes have been classified into two types: cultivated land and built up area as shown in Table 4.1. About 0.06 ha of barren land will be required (Site clearance) during bridge construction.

Table 4.1: Summary of Land Use Pattern along the Road Alignment

Type of Land	Chainage		Length(m)	Existing Width(m)	Additional Width (m)	Existing area (ha)	Additional Area (ha)
	From	To					
Built up area	0+000	1+800	1800	6m	0m	1.08	No
	2+700	3+000	300	6m	0m	0.18	No
	6+400	6+500	100	6m	0m	0.06	No
	9+200	9+500	300	6m	0m	0.18	No
	21+000	21+100	100	6m	0m	0.06	No
	28+000	28+300	300	6m	0m	0.18	No
	31+400	31+535	135	6m	0m	0.081	No
Sub total			3035			1.82	
Agricultural land	1+800	2+700	900	6m	0m	0.54	No
	3+000	6+400	3400	6m	0m	2.04	No
	6+500	9+200	2700	6m	0m	1.62	No
	9+500	21+000	11500	6m	0m	6.9	No
	21+100	28+000	6900	6m	0m	0.69	No
	28+300	31+400	2100	6m	0m	1.26	No
Sub total			28500			17.1	
Total (Built up area + Agriculture land)			31535			18.92	

Source: Field Survey, November, 2009

4.1.4 Climate

18. The road lies in the Sub-tropical climatic region. Rainy season starts from June and ends in September. The meteorological record shows on an average Jhapa gets 2451.3 mm of annual rainfall. Minimum temperature of the project area is 8°C and maximum temperature is 34 °C (District Profile of Jhapa,2063)

Table 4.2: Meteorological Records from Jan –Dec 2004

Year/Month	Temperature		Rainfall
	Maximum	Minimum	
2004 January	23.0	8.8	20.4
2004 February	27.5	11.3	0.00
2004 March	31.7	17.6	10.2
2004 April	31.4	20.5	93.2
2004 May	32.8	22.7	245.3
2004 June	33.3	23.7	308.7
2004 July	31.6	24.1	903.0
2004 August	34.2	24.9	327.1
2004 September	33.2	23.3	412.7
2004 October	31.9	18.7	130.7
2004 November	30.6	13.0	0.00
2004 December	27.4	11.3	0.00
			2451.3

Source: District Profile of Jhapa, 2063

4.1.5 Hydrology and Drainage System

19. There are four major rivers Satashi Khola, Makal Budda Khola, Baniyani Khola and Kamal Khola along the road alignment at Chainage 7+150, 8+150, 14+740 and 22+400 respectively. A 40 m span RCC bridge is proposed over Kamal Khola. The irrigation canal at Ch 2+850 and 10+800 crosses the road. At Ch 8+200, 25+670 water logging problem, 50m toe cutting has been seen at Ch 8+000. No wetlands are found within the vicinity of the road. There are existing 12 pipe culverts along the road alignment.

4.1.6 Soil Erosion and Sedimentation

20. Proposed alignment does not pass through landslides or erosion-prone areas. At Ch 7+480, 7+680 and 7+700 embankment erosion has been seen.

Table 4.3 : Geological Features along the Road Alignment

Chainage		Terrain slope	State of Land	Land Use Pattern	Geological Problem
From	To				
0+000	1+800	Plain	Dry	Built up area	No
1+800	2+700	Plain	Dry	Cultivated land	No
2+700	3+000	Plain	Dry	Built up area	No
3+000	6+400	Plain	Dry	Cultivated land	No
6+400	6+500	Plain	Dry	Built up area	No
6+500	9+200	Plain	Dry	Cultivated land	No
9+200	9+500	Plain	Dry	Built up area	No
9+500	21+000	Plain	Dry	Cultivated land	No
21+000	21+100	Plain	Dry	Built up area	No
21+100	28+000	Plain	Dry	Cultivated land	No
28+000	28+300	Plain	Dry	Built up area	No
28+300	31+400	Plain	Dry	Cultivated land	No
31+400	31+535	Plain	Dry	Built up area	No

Source: Field survey, November 2009

4.1.7 Existing Road Condition

21. The road is blacktopped from chainage 0+000 to Chainage 5+670 km but in worse condition and remaining sections is graveled. The road is operable only during dry season. Average width of the road is 6m. Bridge at Ch.22+400 over kamal Khola is proposed to upgrade as all weather road.

4.1.8 Air, Noise and Water Quality

22. The air, noise and water quality are not measured or tested, but are observed to be within acceptable limit. Dust emission during vehicle operation has been a nuisance which becomes more significant during dry and winter seasons.

4.2 Biological Environment

23. This alignment does not pass through any forest, national park, protected area or their buffer zones.

4.2.1 Vegetation

24. The dominant vegetations found along the road alignment on private lands are Sisso (*Dalbergia Sisso*), Mango (*Magnifera Indica*), Coconut (*Cocos nucifera*), Betelnut (*Areca catechu*), Bamboo (*Bambusa vulgaris*), Kadam (*Anthrocephalus chinensis*), and Peepal (*Ficus religiosa*).

4.2.2 Forest

25. The road does not pass through any type of forest.

4.2.3 Wildlife

26. Wildlife like Common Mongoose (*Herpetes edwardsii*) and Jackal (*Canis aureus*) are found in Zol. Crow (*Corvus splendens*), Sparrow (*Passer domesticus*), Pigeon (*Columba livia*), Bakula, Parrot (*Cacatua sp.*) are the birds found in the Subproject area.

4.2.4 Aquatic Life

27. Four major rivers, Satashi Khola, Makal Budda Khola, Baniyani Khola and Kamal Khola along the road alignment lies at Chainage 7+150, 8+150, 14+750 and 22+400 respectively where local fishes like Rau, Magur etc are found in small number.

4.2.5 Endangered and protected species

28. Faunal species: Common Mongoose (*Herpetes edwardsii*) and Jackle (*Canis aureus*) is listed in CITES Appendix-III.

4.3 Socio-economic and Cultural Environment

4.3.1 Population, Household and Ethnicity

29. The demographic profile of the concerned VDCs is presented in following Table 4.4. Major castes in the area are Brahmin, Chettri, Rajbanshi, Tharu, Yadav, Limbu, Tamang, and occupational caste. Indigenous people (Satar, Meche) are also present in the Project area with the Population of 1205.

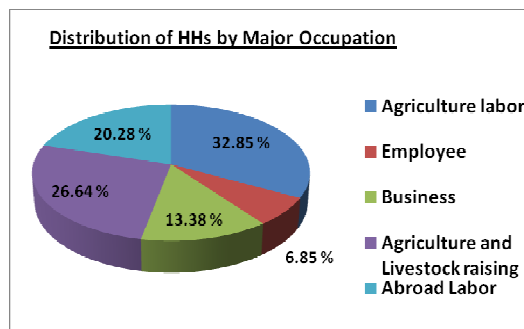
Table 4.4: Demographic Profile of VDCs

VDC	Population			HH	Average HH Size
	Male	Female	Total		
Satasidham	1919	1796	3715	692	5.36
Shivajung	2257	2107	4364	786	5.55
Panchgachhi	1633	1473	3106	568	5.46
Mahavara	1803	1688	3491	680	5.13
Korobari	1517	1363	2880	570	5.05
TOTAL	9129	8427	17556	3296	5.32

Source: Field Survey, November 2009

4.3.2 Main Occupation

30. The main occupation of the area is Agriculture & Livestock (26.64%), Agriculture labour (32.85%), Businee and Commerce (13.38%), Empoloyee (6.85%) and household working abroad is 20.28%. There are not any dependent fisher people on Kamal Khola. Details of Distribution of households by Occupation are given in **Annex XI d**.



Source: Field Survey, November 2009

4.3.3 Market Centres and Business Facilities

31. There are 587 shops (hotel and restaurant, tea shops, grocery shops, stationery, medicine, tailoring etc.) and 39 rice mills present within the Zol of the subproject area.

4.3.4 Local Economy

32. The economy of the area is predominantly (57% of the population) agriculture-based. Rice is the main agricultural crop grown in this area. Local people are gradually attracted towards cultivation of cash crops such as mustard, sugarcane and off season vegetable. Dairy production and selling it to the local market has been also another source of income for local farmers. Cultivation of fruits and vegetables for commercial purpose aiming major market of Jhapa such as Shivajung, Dudhe, Birtamode, Damak and Kakadvitta seems to be increasing. Local people also do business activities in Dudhe Bazaar, Shivajung Bazaar, Janta Bazaar and Naya Bazaar area.

4.3.5 Agriculture Pattern

33. Major crops grown in the Subproject area are rice, wheat, maize, mustard, sugarcane and beans. Major cash crops grown in the area are mustard, sugarcane, vegetable, tea and fruits like coconut, mango and Betelnut.

4.3.6 Livestock

34. The project area has also potentiality of buffalo farming for dairy and goat farming for meat. It is expected that the trend will still increasing in the coming days with the upgrading of the road. Dairy Development Centre at Chandradangi (Ch 6+850) encouraged people of Subproject area to produce milk in commercial scale.

4.3.7 Industry

35. Some local people are engaged in weaving of bamboo products, making furniture, dairy production, tea production, and tailoring. The area has high potentiality for agro-based industries. There are 39 nos. of rice/flour mill and 2 milk collection centers within Zol.

4.3.8 Tourism Related Services

36. Some lodges are in operation at Dudhe and Shivajung Bazaar area.

4.3.9 Health and Sanitation

37. People use water from Tube well and Tap. Open defecation is also prevalent. Major health problems observed in the area are gastric, water borne diseases, gout, respiratory diseases, skin disease, malnutrition, and typhoid. Sanitation awareness among local people is increasing and many of them have toilets in their home, but there is no public sewerage system.

4.3.10 Public Services and Infrastructures

Table 4.5: Public Services and Infrastructures along the Road Alignment

Type of Public Service and Infrastructure	Chainage/ Location	Distance from the Road CL
R.R.Higher Secondary School	0+000	RoW
Satasi Primary School	0+500	RoW
Jharana Primary School	0+720	RoW
Bhim Narayan Primary School	0+800	RoW
Chetena H.Secondary School	4+000	RoW
Chandradangi Seeds and Dairy Development Centre	6+850	RoW
Satashi khola Crossing	7+150	Damage existing bridge
Makal Budda Khola Crossing	8+150	
Primary Health Centre	8+500	RoW
Jana Aardasha H.Secondary School	9+300	RoW
Kankai Irrigation Cannel Crossing	10+682	Across the road
Pathibhara L. Secondary School	13+000	RoW
Irrigation Cannel Crossing	14+820	Across the road
Banyani Khola Crossing	14+750	Across the road
Bal Kalyan S.School	20+000	RoW

Type of Public Service and Infrastructure	Chainage/ Location	Distance from the Road CL
Hulaki Road Crossing	20+000	Across the road
Kamal Khola Crossing	22+400	Across the road
Korobari H.Secondary School	28+100	RoW
Sub-Health Post	28+100	RoW
Access road	3+000, 9+500	

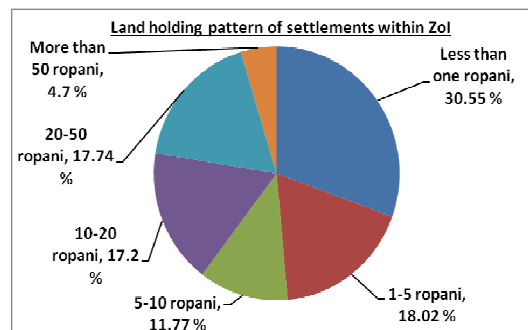
Source: Field Survey, November 2009

4.3.11 Existing Traffic Situation

38. Five regular passenger buses daily ply on the road, whereas about 10 numbers of mini truck/pick-up and 850 motorcycles are found to operate in the road.

4.3.12 Land Holding Pattern

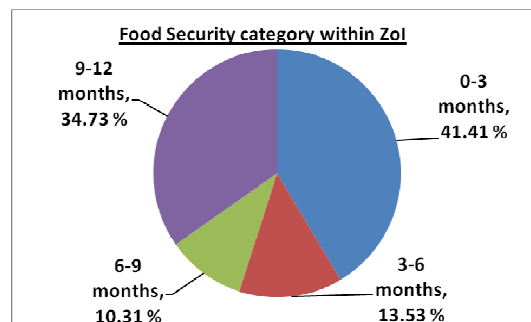
39. Land holding pattern within the Zol of the road demonstrates that about 30.55% of households have less than 1 Ropani land while 18.02%, 11.77%, 17.20% 17.74% and 4.7% of households have 1-5, 5-10, 10-20, 20-50 Ropani and more than 50 Ropani respectively. Details of Distribution of households by Land Holding Pattern are given in **Annex XI b**.



Source: Field Survey, November 2009

4.3.13 Food Security

40. About 41.41 % of household have food Security only for upto 3 months while about 13.53%, 10.31% and 34.73% of households have food Security upto 3-6 months, 6-9 months and 9-12 months respectively. Food Sufficiency Condition is given in **Annex XI c**.



Source: Field Survey, November 2009

4.3.14 Migration Pattern

41. Temporary migration takes place towards Jhapa, various part of India and abroad.

4.3.15 Settlement and Market

42. Major settlements within Zol are Dhude, Naharchowk, Beyangdada, Simalchwok, Chandradangi, Shivganj Bazaar, Halder Chowk, Jantachwok, Bulu Chowk, Naya Bazaar, Gaddigaun, Mahabhara, Kunjibari, Bhabsartol, Birpur, Tulachan, Korobari and Bagaha chaudhari. Housing pattern of these settlements is mostly clustered type. Some of the houses in main markets have rented shops in the ground floor and are used as residential purposes for upper floors. This type of commercial cum residential buildings is seen in dense form at the Dudhe and Shivajung market area. The agricultural land adjacent to the main roads of these areas has been turning into residential and commercial plots.

4.3.16 Potential for Development

43. The potential of the Subproject area are as mentioned in Table 4.7 below.

Table 4.6: Development Potentialities in Various Sectors

SN	Sector	Development potentiality
1	Agriculture	Rice, maize, wheat, mustard, sugarcane, vegetable and fruit farming, dairy production.
2	Small and Cottage Industry	Bamboo products, furniture, tea industry, dairy industry within the whole Zol
3	Trade and business	Development several rural market centres at various places along the road alignment and main market centres at Dudhe Bazaar, Shivajung Bazaar, Janta Bazaar and Naya Bazaar.

Source: Field Survey, November 2009

4.3.17 Religious, Cultural and Historical Sites

44. There are no significant sites of religious, cultural and historical importance in the Zol.

5. PROJECT ALTERNATIVES

45. Assessment on alternatives of the Subproject is discussed as in the following subsections.

5.1 No Action Option

46. This alternative assesses the consequences if the Proposal is not implemented. The gravel road currently exists. The road connects North-South part of the district with high potential in rice, maize, wheat, mustard, sugarcane, dairy, vegetable and fruit productions. People have been selling the products to the markets of Dhude and Shivajung. However, travel time and cost is high due to not good condition of the existing road. Upgrading of the road will decrease the cost as well as provide better access facility with enhanced opportunity for development of the area without any additional significant adverse impacts. The no action option may avoid environmental impacts, but only at the cost of poverty and underdevelopment of the area. Development is must for attaining poverty reduction goal of the government, and access facility is the basic infrastructure that facilitates overall development. Thus, this option is not relevant for the Proposal.

5.2 Proposal Alternatives

47. 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 purpose of efficient transportation requirement as well as this road links with East-West National Highway and it will be alternative route of Jhiljhile-Korobari road to reach Korobari.

5.3 Alternative Alignment

48. The alignment of the road is an existing motorable and 6 m width. Since this is an existing road, the proposed rehabilitation measures do not need to acquire additional land and clearing of trees. Hence, new alternative alignment is not feasible and the proposed existing alignment can be the best option.

5.4 Alternative Design and Construction Approach

49. The proposed road has been designed considering Contractor based modality for Premix carpeting, construction of RCC bridge, gabion structure, cross drainage structures and RBG for roadside tree plantation, bio-engineering.

5.5 Alternative Schedule

50. The construction period is more appropriate from October to June due to dry weather, and then the people are generally free from farming activities.

5.6 Alternative Resources

51. Stones, boulders, aggregates and sand has to be transported from Biring river. The proposed construction will optimally use the local labour force and local materials.

6. IDENTIFICATION AND EVALUATION OF IMPACTS, BENEFIT AUGMENTATION AND MITIGATION MEASURES

52. 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 and maintenance 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 and maintenance 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

6.1.1 Construction Stage

Employment Generation and Increase in Income

53. *Impacts:* One of the major direct beneficial impacts of the road during construction stage is the creation of employment opportunity to the local community. Total employment during construction of this road and bridge is 161639 person days in which 26313 person days as skilled and 135326 person days as unskilled. It will assist towards enterprise development with multiplier effect if wage is used for economic investments. This is one of the direct and significant impacts of the project but it is of short-term and local in nature.

54. *Measures:* Work will be implemented through RBG and Contractor. 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 conduct Livelihood Enhancement Skills Training (LEST) program and awareness programs. The costs of these training are included in cost of Social Action Plan.

Skill Enhancement

55. *Impacts:* Working in construction of the road and bridge are likely to enhance skills of local people in construction works. Trainings on construction and maintenance of structures will further enhance their skill. The skill and knowledge thus acquired will make them find employment opportunities in future projects. This impact is indirect, medium, local and long-term.

56. *Measures:* Training on masonry, gabion work, bioengineering works, and roadside tree plantation will be given. Livelihood Enhancement Skills Training (LEST) programs under social plan will be provided.

Enterprise Development and Business Promotion

57. *Impacts:* During construction period, different types of commercial activities like daily commodities will come into operation in order to meet the demand of workers. Since they will have good purchasing power, they will regularly demand for different types of food, beverage and other daily necessary items. Local shops and restaurants will be opened to meet these demands around the vicinity of the construction sites. Development of several rural market centres at Dudhe Bazaar, Shivajung Bazaar, Janta Bazaar and Naya Bazaar. This impact is direct, low significance, local and short term.

58. *Measures:* Providing support to local entrepreneurs, promotion of cooperatives and linkage with bank and other financial institutions.

Community Empowerment and Ownership

59. *Impacts:* During construction various road construction coordination committees and road building groups will be constituted in order to facilitate in implementation of the road. In this process, they will be oriented and trained to build and safeguard community infrastructures which will result in community empowerment and feeling of ownership. This impact is indirect, low, local and short term.

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

Women and Disadvantaged People Empowerment

61. *Impacts:* Women and indigenous people in particular may be benefited more from improved access to the market centers and various service providing agencies like health centers, banks, training institutes, women development office etc. Frequency of visit to such agencies will increase awareness level and empowerment. The impact will be indirect, significant, local and for long-term.

62. *Measures:* Programs under Gender Action Plan (GAP) of social plan will be provided whose budget is included in social plan of the project.

6.1.2 Operation and Maintenance Stage

Improvement in Accessibility and Saving of Time and Transportation Cost

63. *Impacts:* Upgrading of road and construction of bridge will enhance the access of people to social services, and quick transportation of goods. Once the road project is completed, the people living within the road corridor will have easy access to markets. It will save more than 50% of travel time and transportation cost too. After completion of bridge construction, it makes all weather road and makes easier access for local people and vehicle on rainy season. This impact is direct, high, regional and long term.

64. *Measures:* Proponent will undertake regular maintenance of the road and river training works.

Increase in Trade, Commerce and Development of Market

65. *Impact:* Improved access will increase economic activities and minor local markets like Dudhe Bazaar, Shivajung Bazaar, Janta Bazaar and Naya Bazaar will grow. Productivity will increase due to cheaper transportation of agricultural inputs. Sale of farm and livestock products will increase in the bigger markets of Jhapa district. This will support the economy of rural area. The impact will be indirect, significant, local and long term in nature.

66. *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 will be coordinated with district agriculture office.

Appreciation of Land Value

67. *Impacts:* Upgrading of road will lead to appreciation of land values by two times due to availability of reliable access facility. Land value is likely to be increased by twice in Dudhe Bazaar, Shivajung Bazaar, Janta Bazaar and Naya Bazaar. This will uplift the economy of local people. Financial institutions may accept their land as mortgage for lending. The impact is indirect, medium, local and for long term.

68. *Measures:* Awareness program shall be organized on use of high value land to get bank loans for setting up enterprise ventures.

Enhancement of Community Development Services

69. *Impacts:* Improved access will contribute in improvement of social services in the area such as education, health, government offices, saving and credits. Improved access will facilitate stay of extension workers, teacher, and doctor to their rural duty areas. This is indirect, significant, regional and long-term impact of the proposed project.

70. *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

71. The proposed road will be constructed according to Contractor modality and RBGs where manual works are possible. The likely impacts on physical, biological, socio-economic and cultural resources of the proposed road area and respective mitigation measures are presented hereunder.

6.2.1.1 Physical Impacts

Change in Land Use

72. *Impacts:* The upgrading works of road construction will be in existing road width, no require additional land. Rehabilitation of bridge at Ch 7+150 and 14+740 and new construction at Ch 22+400 require 0.06 ha of land. Additional land is require for borrow operation. The extraction of earth from

nearby areas will cause depression in the ground surface will result in water logging problems. Therefore, the impact on loss of agricultural land will be direct, low, short term and site specific.

73. *Measures:* Site selected for borrow pits must be lands where the effect will be temporary and generally involve lower value land and the sites shall be rehabilitated soon after use or compensation will be given in private land.

Slope Instability

74. *Impacts:* The road lies in Terai. Embankment erosion and toe cutting by river along the road are at Ch 7+375-10+680 and 21+947 - 22+690. The likely impact is low, site specific and short term.

75. *Measures:* The mitigation measures will Grass plantation, Brush layering, and Bamboo/tree plantation; and river training work. Protection of bridge embankment, Gabion structures and Bioengineering measures (Grass plantation, Brush layering and tree plantation will be done. Recommended civil engineering structures and bioengineering measures necessary at various chainages have been given in Annex XII.

Spoil Disposal

76. *Impacts:* Unmanaged disposal of spoil may block drainages and irrigation canals, damage farm lands, crops, water loggings. The road lies in Terai and embankment filling is needed than earth cutting. Excess spoil will be generated is lesser quantity. During bridge construction spoil will generate. It affects river flow, aquatic life. The impact from spoil disposal will be direct, medium, site specific and short term in nature.

77. *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 vegetation and adequate protection against erosion. Proper management of spoils and waste, provision of proper drainages, toe walls. Proposed spoil disposal sites for bridge construction is 22+250.

Quarry/ Borrow Operation

78. *Impacts:* Disturbance in river regime, disturbance in natural drainage patterns, water logging and water pollution. The likely impact will be direct, medium in magnitude, site specific in extent and short term in duration.

79. *Measures:* The mitigation measures will be quarry and borrow operation plan will be prepared and approved by Engineer; fertile farm land will be avoided for quarry / borrow operation; sites will be rehabilitated by providing appropriate civil engineering structures and bioengineering measures (Tree plantation, Bamboo plantation) after the extraction is complete. Recommended quarry sites in the area are given in Table 6.1.

Table 6.1: Recommended Quarry Sites

SN	Chainages	Places of recommended quarry sites
1.	22+400	Aggregates, Stone and sand quarry from Biring river which is 30 km far from the road alignment.

Source: Field Survey, November 2009

Air, Noise and Water Pollution

80. *Impacts:* Although the air quality of the project area is not measured, the air does not appear to be polluted. Air pollution will be major problem during both the construction and operation of the road and Bridge. Impact on air quality will be direct, low, local, reversible and for short term.

81. The project area at present does not experience higher levels of noise pollution. However, during construction, the increased construction activities may increase the noise level to some extent. It will affect on health of local people and worker. Also excavated material of bridge will affect on river and aquatic life. The impact of road construction on the noise level will be direct, low, site specific, reversible and short term.

82. The water quality in the project area appears to be fairly clean and not polluted. During construction of Bridge these water bodies may be polluted by spoil and construction wastes. The impact will be direct, low, local, short term and reversible.

83. *Measures:* The mitigation measures will include use of face mask by the workers working in the areas of high dust generation; contractor will frequently sprinkle water during surfacing of the road; avoid

disposal of excavated materials in the water bodies; cover dry material or make it wet during transportation. Plantation of 5000 no. of trees (Mango, Gulmohar and Kadam), which will act as sound and noise barrier.

Drainage Management

84. *Impacts:* River Crossing and Irrigation crossing may get blocked due to road construction. The irrigation canal at Ch 2+850 and 10+800 crosses the road which will block during road construction. At Ch 8+200, 25+670 water logging problem, at Ch 8+000 river flood damage 50 m road embankment. During construction of bridge river flow will block. The impact will be direct, medium, site specific and medium term.

85. *Measures:* Construction materials will not be disposed on or near irrigation canal, embankment will be raise water logging area and 50 m gabion protection work will be done for flood damage area, provide adequate numbers of drainage structures in order to have minimum interference with natural drainage pattern of the area; channelize surface water discharge from side drains; do not block or divert water away from natural watercourse. River flow will not be affected by construction of Bridge.

Location of Camp Sites and Storage Depots

86. *Impacts:* Contractor will establish camp if he bring labors from outside the area. Siting of camp may cause encroachment of agriculture land and alteration of drainage, solid waste and waste water problems. Impact will be direct, medium significance, site specific and short-term.

87. *Measures:* The mitigation measures will be use of local labors to avoid camp; rent local house instead of camp to keep labors; sitting camp away from productive lands areas; pay compensation for using private farm or lands for storage or camp; fuel and chemical storage areas will be on paved surface with surrounding catch drain to protect soil from leakage. Appropriate camp sites have been observed at 6+000 near Chandradangi, 12+400 near Janta Bazaar and 20+300 near Kunjibari Bazar. Appropriate camp site for bridge construction is at 20+850.

Use of Bitumen

88. *Impacts:* Bitumen is required for black topping. Spillage of bitumen damage soil productivity and pollution. Accident will occur.

89. *Measures:* The following mitigation measures will be adopted

- Use kerosene for heating and strict prohibition to heat bitumen by using fuel wood.
- Appropriate storage of material.
- Use of appropriate safety gears to ensure safe health of workers such as masks, boot, gloves, hat.

Construction equipment vehicles

90. *Impacts:* The contractor will use machineries and tools (Rollers, tippers, bitumen boiler, spreader, water tanker etc.). The related negative impacts are increase in air pollution due to emission of smoke, increase in vibration due to vehicular movement. Impact will be direct, high significance, site specific and short-term.

91. *Measures:* The equipment/vehicles deployed for construction activities shall be regularly maintained. All the vehicles deployed for material movement shall be spill proof to the extent possible.

6.2.1.2 Biological Impacts

Loss or Degradation of Forests and Vegetation

92. *Impacts:* Road alignment does not pass through forest areas. There is no loss of any type of tree or vegetation during road construction.

93. *Measures:* However roadside tree plantation 5000 nos. will be done.

Impact on Wildlife Due To Loss of Habitat and Hunting

94. *Impacts:* The proposed area is not significant habitat for wildlife and bird species. However, the construction of road may disturb bird species present in surrounding forests within ZoI along the road corridor. The impact will be indirect, low, local and short term in nature.

95. *Measures:* The following mitigation measures will be adopted:

- Roadside tree plantation will be done.
- Workers shall be prohibited harassing of birds or animals.

Impact on Aquatic Life

96. *Impacts:* During bridge construction there will be loss fishes of Kamal Khola. There is small number of fishes are found so the impact will be direct, low, local and short term in nature.

97. *Measures:* Avoid construction materials on river, do not block river flow, workers shall be strictly prohibited for fishing.

6.2.1.3 Socio-economic Impacts

Loss or Degradation of Farm Land and Productivity

98. *Impacts:* The upgrading works of road will be in existing road width, therefore will not require additional land. But dust settling on crop and vegetation will affect production. This impact is expected to be of low in magnitude, local in extent and short term in duration.

99. *Measures:* Tree plantation will be done along the road to minimize dust pollution.

Impact on Community Infrastructure

100. *Impacts and Measures:* During construction, the increased construction activities may increase the noise level to some extent and affect the community structure. The impact of road construction on the noise level will be direct, low, site specific, reversible and short term.

Table 6.2: Impact on Community Infrastructure and Mitigation Measures

Infrastructure	Location	Impact	Mitigation Measure
R.R.Higher Secondary School	0+000	Noise and dust pollution	Information signboard will be placed. Two rows roadside tree plantation will be done.
Satasi Primary School	0+500	Noise and dust pollution	Information signboard will be placed. Two rows roadside tree plantation will be done.
Jharana Primary School	0+720	Noise and dust pollution	Information signboard will be placed. Two rows roadside tree plantation will be done.
Bhim Narayan Primary School	0+800	Noise and dust pollution	Information signboard will be placed. Two rows roadside tree plantation will be done.
Chetena H.Secondary School	4+000	Noise and dust pollution	Information signboard will be placed (Such as School area, Speed limit), Restriction on use of horns. Two rows roadside tree plantation will be done.
Chandradangi Seeds and Dairy Development Centre	6+850	Noise and dust pollution	Information signboards.
Satashi khola Crossing	7+150	Across the road	Bio-engineering for embankment protection.
Makal Budda Khola Crossing	8+150	Across the road	Bio-engineering for embankment protection.
Primary Health Centre	8+500	Noise and dust pollution	Information signboard will be placed (Such as Health Centre, Speed limit), Restriction on use of horns. Two rows roadside tree plantation.
Jana Aardasha H.Secondary School	9+300	Noise and dust pollution	Information signboard will be placed (Such as School area, Speed limit), Restriction on use of horns. Two rows roadside tree plantation.
Kankai Irrigation Canal Crossing	10+682	May blocked during road construction	Removal of spoil material from irrigation cannel.
Pathibhara L. Secondary School	13+000	Noise and dust pollution	Information signboard will be placed (Such as School area, Speed limit), Restriction on use of horns. Two rows roadside tree plantation.
Irrigation Canal Crossing	14+820	May blocked during road construction	Removal of spoil material from irrigation cannel.
Banyani Khola Crossing	14+750	Across the road	Bio-engineering for embankment protection.
Bal Kalyan S.School	20+000	Noise and dust pollution	Information signboard will be placed (Such as School area, Speed limit), Restriction on use of horns. Two rows roadside tree plantation.
Hulaki Road Crossing	20+000	Across the road	Information signboards. Leveling
Kamal Khola Crossing	22+400	Across the road	Bridge, river training and Bio-engineering for embankment protection.
Korobari H.Secondary	28+100	Noise and dust pollution	Information signboard will be placed (Such as School area,

Infrastructure	Location	Impact	Mitigation Measure
School			Speed limit), Restriction on use of horns. Two rows roadside tree plantation.
Sub-Health Post	28+100	Noise and dust pollution	Information signboard will be placed (Such as Health Centre, Speed limit), Restriction on use of horns. Two rows roadside tree plantation.

Source: Field Survey, November 2009

Health and Safety Matters

101. *Impacts:* During construction of both road and bridge, workers will be exposed to respiration and eye diseases due to exposure to dust, risk of accident during work, polluted drinking water, unhygienic sanitary facilities, hearing loss due to high level of noise. 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.

102. *Measures:* Make mandatory the use of helmets, safety belts, masks, gloves and boot by workers depending on nature of work; sprinkle water at high dust sites; provide 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; provide group accidental insurance for workers. Awareness generation to local people and workers on HIV AIDS and other communicable diseases. Safety measures (Helmets, boots, Gloves) will be used for bridge construction.

Impacts on Cultural, Religious and Archeological Sites

103. *Impacts:* There are no any cultural, religious and archeological sites along the road alignment.

6.2.2 Operation Stage

6.2.2.1 Physical Environment

Road Slope Instability and Management

104. *Impacts:* River flood, water logging and blockage of drains can lead to embankment erosion. Sensitive areas for possible soil erosion and instability problems are at Ch 7+375-10+680 and 21+947-22+690. The impact will be direct, medium local and long term nature.

105. *Measures:* The mitigation measures to be adopted include clear drainages and embankment protection by civil structures and bio-engineering.

Impact Due to Air, Noise and Water Pollution

106. *Impacts:* Dust will be generated from the gravel road and vehicles emit gaseous pollutants. Continued dust pollution may 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. Thus, the impact will be direct, low, local and long term.

107. Noise during operation of road will increase. However, due to low traffic volume, the impact due to noise pollution will be direct, low, local and long term.

108. The disposal of spoil and household wastes, washing of vehicles in water bodies may degrade the water quality. The impact will be direct, low, local and long term.

109. *Measures:* Measures to be adopted will include plantation of trees on both sides of road as far as possible; restrict horn near health posts, schools and settlements; provide speed limit for vehicle at sensitive areas.

6.2.2.2 Biological Environment

Disturbance to the Wildlife and Bird

110. *Impacts:* There are no significant habitats of wildlife in the Zol. Although illegal hunting of birds might occur.

111. *Measures:* Community and authorities will remain vigilant and alert on illegal killing of birds.

6.2.2.3 Socio-economic and Cultural Impacts

Unplanned New Settlement and Market Center Development

112. *Impacts:* Expansion of settlement area and market can be observed at Dudhe Bazaar, Shivajung Bazaar, Janta Bazaar and Naya Bazaar. Encroachment of RoW may take place. This will reduce road capacity, increase road accidents, and adversely impact road. The impact will be direct, medium, local and long term.

113. *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. Authorities and VDCs will conduct awareness for control of encroachment.

Change in Social Behavior

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

115. *Measures:* Support awareness raising programs and strengthen communities against such nuisances.

Road Safety Measures

116. *Impacts:* Movement of vehicles and inadequate road safety measures may invite accidents. The impact will be direct, medium, local and long term in nature.

117. *Measures:* The mitigation measures to be adopted will be applying appropriate road safety measures such as delineator post in high embankment and necessary safety signs will be used along the road.

7. ENVIRONMENTAL MANAGEMENT PLAN

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

7.1 Institutions and Their Roles

Table 7.1: Concerned Institutions 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 (MLD)	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.	<ul style="list-style-type: none"> 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 MLD responsible to execute infrastructure projects under MLD. 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 MLD	First Class Officer / DDG of DoLIDAR has been heading the PCU.
District Development Committee / District Technical Office	DDC/DTO is Project Implementing Agency.	<ul style="list-style-type: none"> Prepare IEE ToR and submit for approval to PCU/MLD Conduct IEE Study, Public Consultation, and prepare IEE Report Receive comments from PCU/ADB/MLD and modify accordingly. Get final approval from MLD. 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

119. 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 manual construction works. Contractor will be appointed for works requiring higher skill and mechanized support.

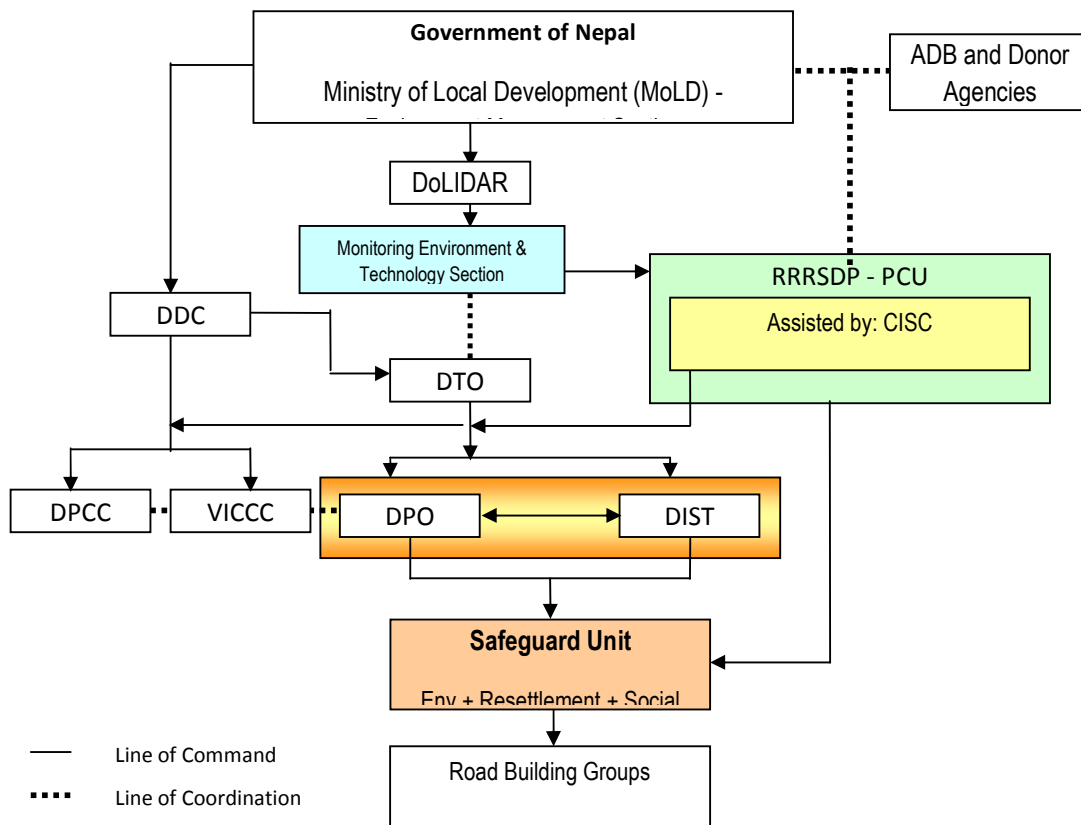
7.2 Reporting

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

121. The monthly reports will be based on recurrent site inspections and will report on the effectiveness of the mitigation measures; the contractor's compliance with the environmental specifications; measures recommended in the events of non-compliance, and recommendations for any other corrective plan.

122. 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.

Fig. 7.1: Environmental Management Organization Structure



7.3 Benefit Augmentation and Adverse Impact Mitigation Strategy

123. 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 EMP compliance. Overall implementation of the EMP will be the responsibility of the Proponent. Framework for implementing environmental management plan is shown in Table 7.2.

Table 7.2: Beneficial Impacts and Proposed Enhancement Measures of Road Subproject

Activity	Effect	Related Beneficial Impacts	Type of Impact *)				Benefit Augmentation Measures	Responsible Agencies		
			Nat	Ma g	Ext	Dur		Executing Agency	Supporting Agency	
Construction Stage										
Construction of road	Employment Generation and Increase in Income	Increase in income level. Employment generation of Skilled-26313, and unskilled 135326	D	H	L	ST	Maximize manual work through local, poor, vulnerable and women. Proponent will conduct Livelihood Enhancement Skills Training (LEST) program and awareness programs.	DDC/DTO/ DIST	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, Training on masonry, gabion work, bioengineering works, and roadside tree plantation will be given. LEST program under social plan.	DPO/DIST	DDC/DTO / CISC/PCU	
Construction of road	Enterprise Development and Business Promotion	Enhancement in local economy. Market centers at Dudhe Bazaar, Shivajung Bazaar, Janta Bazaar and Naya Bazaar.	D	M	L	ST	Providing support to local entrepreneurs, promotion of cooperatives and linkage with bank and other financial institutions.	Contractor/ RGB	DIST/ CISC/PCU	
Construction coordination committee and RBG program	Community Empowerment and Ownership	Increase in income and ownership.	IN	L	L	ST	Coordination committees will be constituted and training will be given to them.	DPO/DIST	DDC/DTO / CISC/PCU	
Operation of Road	Women and Disadvantaged People Empowerment	Poor, disadvantaged and women will have easy and frequent access to social services (education, health, community development, bank, training)	IN	H	L	LT	Programs under Gender Action Plan (GAP) of social plan will be provided whose budget is included in social plan of the project.	DDC /DTO	VDC / DDC	
Operation & Maintenance Stage										
Operation of Road	Improvement in Accessibility and Saving of Time and Transportation Cost	Saving in travel time and travel cost. It will save more than 50% of travel time and transportation cost	D	H	R	LT	Regular maintenance of the road and river training works	DTO/DDC	DoLIDAR	
Operation of Road	Increase in Trade, Commerce and Development of Market centers	Shifts towards improved commercial agriculture and increase in non-agricultural occupation	IN	H	L	LT	Manage planned growth with required infrastructure facilities in the market areas. Agriculture extension services, market linkages and networking for better market price.	DPO	DDC/VDC	
Operation of Road	Appreciation of Land Value. Land value increase by twice in Dudhe Bazaar, Shivajung Bazaar, Janta Bazaar and Naya Bazaar.	Improvement in local economic condition	IN	M	L	LT	Awareness program shall be organized on use of high value land to get bank loans for setting up enterprise ventures.	DDC/DPO	DDC/VDC	
Operation of Road	Enhancement of Community Development Services	Ease of access to social service and raise in quality service	IN	H	R	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 of Road Subproject

Activity	Potential Negative Effects	Related Adverse Impacts	Type of Impact *)					Mitigation Measures	Responsibility for Mitigation Measure	
			Nat	Mag	Ext	Dur	Rev		Executing Agency	Supporting Agency
Construction Stage										
Physical Environment										
Construction of Road, site clearance	Change in land use	The extraction of earth from nearby areas will cause depression in the ground surface will result in water logging problems and soil erosion	D	L	SS	ST	IR	Site selected for borrow pits must be lands where the effect will be temporary and generally involve lower value land and the sites shall be rehabilitated soon after use.	DDC/DTO	DIST
Construction of Road, earth excavation	Spoil Disposal	Gully erosion, 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 is 22+250.	DDC/DTO	DIST/VICCC/ VDC
Site clearance, excavation	Slope Instability	Embankment erosion are at Ch 7+375-10+680 and 21+947-22+690	IN	L	SS	ST	Re	Civil structures with bio-engineering application (Such as Grass plantation, Tree/Shrub plantation, Brush layering, Palisades, Bamboo plantation,) shall be used to protect road embankment.	DDC/DTO	DIST
Construction of Road	Drainage Management	The irrigation canal at Ch 2+850 and 10+800 crosses the road which will be blocked during road construction. At Ch 8+200, 25+670 water logging problem, at Ch 8+000 river flood damage 50 road embankment	D	M	SS	MT	Re	Construction materials will not dispose irrigation canal, embankment will be raise water logging area and gabion protection work will be done for flood damage area ; proper drainage structures and proper spoil disposal, Avoid blockage or diversion of river and natural channels due to construction of road ,bridge and disposal of spoils.	DDC/DTO	DIST
Construction works, operation of construction vehicles, material hauling and unloading etc. Earthwork, spoil and waste disposal.	Air pollution due to dust from exposed surface, from construction equipments and vehicles	Affect on local people and workers health and affect on agriculture.	D	L	L	ST	Re	Use of face mask while working on dust prone areas, covering of dust sources	DDC/DTO / RBGs	DIST
	Noise pollution	Disturbance and annoyance around school, health posts.	D	L	SS	ST	Re	Restrict horn near school, health posts, settlement.; cover material during transportation. Plantation of 5000 no. of trees (Mango, Gulmohar and Kadam), which will act as sound and noise barrier.	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/ Contractor/	DIST/VICCC

Activity	Potential Negative Effects	Related Adverse Impacts	Type of Impact *)					Mitigation Measures	Responsibility for Mitigation Measure	
			Nat	Mag	Ext	Dur	Rev		Executing Agency	Supporting Agency
Cutting of slopes	Quarry/borrow operation and its potential effect on instability, landslide	Change in river regime, instability, land slide; damage to farmland and property; water pollution	D	M	SS	ST	Re	Recommended quarry sites is Bring river which is 30 KM far from the road.	DDC/DTO/ Contractor/ RBGs	PCU/CISC/DIST/ VICCC
Construction of road	Location of Camp Sites, Storage Depots	Encroachment of agriculture land, solid waste and waste water may cause pollution	D	M	SS	ST	Re	Locate camp site away from productive land (potential sites at 6+000, 12+400 and 20+300, use local labour and local houses as camp; pay compensation to land owner of camp area; proper storage of chemical and materials.	DPO assisted by DIST/ Contractor	DIST/VICCC
Construction of road	Use of Bitumen	Damage in soil productivity, air pollution due to heating of bitumen	D	M	L	ST	IR	Use kerosene for heating and strict prohibition on firewood uses, safety gears to workers (Such as gloves, boots, masks etc), appropriate storage of materials	DPO assisted by DIST/ Contractor	DIST/CISC/PCU
Operation of construction equipments	Construction machineries and tools (Rollers, tippers, spreader, water tanker etc.)	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. All the vehicles deployed for material movement shall be spill proof to the extent possible.	DPO assisted by DIST/ Contractor	DIST/CISC/PCU
Biological Environment										
Construction activity	Impact on Wildlife Due To Loss of Habitat and Hunting	Loss of biodiversity and valuable species of wildlife	IN	L	L	ST	Re	Work only in day time, Workers shall be prohibited harassing of birds or animals, Roadside tree plantation will be done.	DDC/DTO/ DFO	DFO/CFUGs/DIST
Social-economic Environment										
Acquisition of land for maintaining road width*	Loss or Degradation of Farm Land and Productivity	No need additional land, Dust settling on crop and vegetation will affect production	D	L	L	ST	IR	Plantation of 5000 no. of trees(Mango, Gulmohar and Kadam) along both sides of the road to act as dust and noise barrier. Tree planted along RoW will minimize settlement and crops from dust.	DDC/DTO	CFC ² DIST/VICCC
Construction of road	Impact on Community Infrastructure (see table 6.3)	Air pollution and Noise pollution during the construction of road. River Crossing and Irrigation canal may get blockaged due to disposal of spoil materials and construction activities.	D	L	SS	ST	Re	Information signboard will be placed (Such as Health post, School Area, Speed limit), Use of horns should be restricted. Removal of spoil and construction materials from river crossing and irrigation canal.	DDC/DTO	PCU DIST/CISC/VICCC/ VDC
Occupational health and safety	Health and safety matters	Injury, fatal accidents, outbreak of epidemics and diseases, decline in	D	H	L	ST	IR	Occupational health and safety regulations, first aid facility at sites with health treatment arrangements,	DDC/DTO / Contractors	DIST/CISC

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

² The Land Acquisition Guidelines, 1991 specify the establishment of an Acquisition and Rehabilitation Committee (also known as Compensation Fixation Committee, “CFC”) 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		Executing Agency	Supporting Agency
aspects		capacity to work						contingency planning; Proper drinking water and toilet facility for construction crew		
Operation & Maintenance Stage										
Physical Environment										
Quarrying, operation of construction equipments	Road Slope Instability	Embankment erosion, Ch 7+375-10+680 and 21+947-22+690.	D	M	L	LT	Re	Regular maintenance ; drainages and embankment protection by civil structures and bio-engineering.	DDC/DTO/ VDC	DoLIDAR , DFO, District Watershed and Soil Conservation Office (DWSSC)
Operation of vehicles, Inadequate drainage	Air, Noise and Water Pollution	Disturbance to students, patients, effect to nearby agriculture land and crops	D	L	L	LT	Re	Speed limit for vehicles, no horn signs, use vegetation barrier; Regular maintenance of drainage.	DDC/DTO	DoLIDAR/Local administration
Biological Environment										
Road operation	Disturbance to the Wildlife and Bird	There are no significant habitats of wildlife in the Zol. Although illegal hunting of birds might occur.	IN	L	L	LT	IR	Community and authorities will remain vigilant and alert on illegal felling of timber and killing of birds.	DTO/ CUGs	DDC/CDO / DFO
Social-economic Environment										
Easy Access by road operation	Unplanned New Settlement and Market Center Development	Encroachment of Row, increased accidents, delay in traffic movement, depletion of local resources, water pollution	D	M	L	LT	IR	Awareness program, enforcement of law, planning of land development, plantation of trees.	DDC/DTO	CDO / VICCC
Operation of Road	Change in Social behavior	Social and cultural conflicts	IN	M	L	LT	IR	Awareness, Enforcement of law and order, Provision of training for skill	DTO	DDC/DoLIDAR
Operation of Road	Road Accidents	Increase in accidents	D	M	L	LT	IR	Necessary 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

Table 7.4: Beneficial Impacts and Proposed Enhancement Measures of Bridge

Activity	Effect	Related Beneficial Impacts	Type of Impact *)				Benefit Augmentation Measures	Responsible Agencies		
			Nat	Ma g	Ext	Dur		Executing Agency	Supporting Agency	
Construction Stage										
Construction of new bridge at 22+400	Employment Generation and Increase in Income, temporary tea stall, shop	Increase in income level, Enhancement in some people's economy. Skilled-5752 person days, unskilled 29584 person days.	D	H	L	ST	Local people will be given first priority for the employment generation.	DDC/DTO/DIST	DPCC / VICCO / CISC/PCU	
On the job training to local labour	Skill Enhancement	Increase in income generating activities, employment opportunities	IN	M	L	LT	Training on Bridge maintenance.	DDC/DPO/DIST	CISC/PCU	
Operation Stage										
Operation of bridge	Improvement in Accessibility and Saving of Time and Transportation Cost	Saving in travel time and travel cost. Easy transportation of goods and daily commodities and local people gets transport facilities in all weather condition.	D	H	R	LT	Proper maintenance (regular, emergency) , river training works	DTO/DDC	DoLIDAR	

Table 7.5. Adverse Impacts and Proposed Mitigation Measures of Bridge

Activity	Potential Negative Effects	Related Adverse Impacts	Type of Impact *)					Mitigation Measures	Responsibility for Mitigation Measure	
			Nat	Mag	Ext	Dur	Rev		Executing Agency	Supporting Agency
Construction Stage										
Construction of new bridge at 22+400	Change in land use Loss of 0.06 ha. of barren land during construction of bridges.	Loss of barren land,	D	H	L	LT	IR	Compensation will be given.	DDC/DTO	DIST/ ACAP
Construction of bridge, earth excavation	Spoil disposal	Disruption of river flow, affects on aquatic life, water pollution etc.	D	M	SS	ST	Re	Proper management of spoils and waste; Proposed spoil disposal sites is at Ch 22+250.	DDC/DTO	DIST/VICCC/DC
Construction works, material hauling and unloading etc.	Air , dust, noise and water pollution	Affect on local people and workers health, excavated material of bridge affect on rivers aquatic life	D	L	L	ST	Re	Use of ear muffs, helmet to lessen noise pollution during rock breaking and quarrying and bridge works. Strictly follow excavated materials will be disposed in proposed location. No impact is envisaged as the snow cold water of the rivers do not have fishes and other aquatic life.	DDC/DTO/ Contractor	DIST

Activity	Potential Negative Effects	Related Adverse Impacts	Type of Impact *)					Mitigation Measures	Responsibility for Mitigation Measure	
			Nat	Mag	Ext	Dur	Rev		Executing Agency	Supporting Agency
Collection of Construction materials	Quarry site, or boulder, sand and aggregates	Water pollution, disturbance in natural drainage damage forest and vegetation	D	L	L	ST	Re	Biring river which is 30 km far from the road alignment.	DDC/DTO/ Contractor/RBGs	CISC/DIST/ VICCC/ ACAP
Construction of Bridge	Location of Camp Sites, Storage Depots	Encroachment of forest, agriculture land, disposal of solid waste, and waste water	D	L	L	ST	Re	Proper sanitary facilities by providing Pit Latrine, sockpit. Appropriate camp sites for bridge is at 20+850	DDC/DTO/ Contractor	DIST/VICCC
Occupational health and safety aspects	Health and safety matters	Injury, fatal accidents, outbreak of epidemics and diseases, decline in capacity to work	D	H	L	ST	Re	During bridge construction safety measures (ear muffs, helmet, boots) will be provided to workers, first aid facility at sites with health treatment arrangements, contingency planning; Proper drinking water and toilet facility for construction crew.	DDC/DTO / Contractor	DIST/CISC/PC U
Construction of Bridge	Impact on aquatic life	Loss of fishes of Kamal Khola	D	L	L	ST		Avoid construction materials on river, do not block river flow, workers shall be strictly prohibited for fishing	DDC/DTO / Contractor	DIST/CISC/PC U
Operation Stage										
Operation of bridge	River bank erosion near bridge site.	Slides and slope failure	D	L	L	ST	R	Up-stream and down-stream river protection shall be done to stabilize river banks.	DDC/DTO	VDC, CBMC

* 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

124. The estimated cost for benefit 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 safety gears, accidental insurance of RBGs, bio-engineering measures, tree plantation will be incorporated in the project cost. 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 7.6**.

Table 7.6: Cost Estimate for Environmental Enhancement and Mitigation Measures

SN.	Environmental Protection Measures	Estimated Budget (NRs.)	Remarks
1. Benefits Augmentation Measures			
1.1	Training to Leader of RBGs	50,000.00	To be included in project cost
1.2	Enhancement in Technical Skills (Bio-engineering)	50,000.00	To be included in project cost
	Sub-Total (1)	100,000.00	
2. Adverse Impacts Mitigation Measures			
2.1	Bio-engineering work and Tree plantation	6,46,300.00	To be included in project cost
2.2	Insurance	4,00,000.00	To be included in BoQ
2.3	Construction of access Road, affected infrastructures, Spoil management, Reinstatement of borrow pit etc.	300,000.00	To be included in Project cost
2.4	Social Action Plan cost	856,300.00	To be included in Social plan, project cost
2.5	Occupational health and safety, Information signboard	550,000.00	To be included in Project cost
	Sub-Total (2)	2,752,600.00	
	Total	2,852,600.00	

7.5 Implementation of Mitigation Measures

125. The mitigation measures will be integrated into project design and tender documents so that the mitigation measures will automatically become part of the project implementation and operation. Mitigation measures will be included as separate items in the Bill of Quantities, and monitoring will be done based on these. The Proponent and the contractor will be bound by the parameters identified in the IEE Report and specific mitigation measures spelled in the contract. The final acceptance of the completed works will not occur until all the environmental clauses have been satisfactorily implemented.

126. The contract agreement document will explicitly mention the penalizing action to be taken against failure to comply with EMP requirements.

7.6 Environmental Monitoring

7.6.1 Monitoring Responsibility

127. The Proponent will develop in-built monitoring mechanism to safeguard environment during construction and operation stages. The DPO will be supported by DIST in the district, and PCU will be supported by CISC at center to ensure effective monitoring and undertaking corrective actions, as required. A Safeguard Unit will be established in DPO. The social, resettlement and environment specialists / officers from DPO/DIST will work in cooperation under the Safeguard Unit. They will undertake Subproject level monitoring under supervision and coordination of Specialists from PCU/CISC.

128. MoLD/DoLIDAR will be responsible for central level monitoring of EMP compliance. A provision of NRs. 100,000 will be allocated for the periodic monitoring by the center.

129. The Safeguard Unit at Subproject level shall submit monthly monitoring report to the PCU, who will forward a copy to ADB, NRM. Total cost of environmental monitoring (field visits, observation, review of reports and report preparation), excluding the cost of personnel, is estimated at NRs. 200,000.00 as given in Table 7.5.

Table 7.7: 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		50,000.00
5	Transportation		LS		50,000.00
6	Cost for Monitoring by MoLD/DoLIDAR		LS		100,000.00
	TOTAL				200,000.00

Thus, total environmental monitoring and management cost is NRs. 3,052,600.00.

7.6.2 Types of Monitoring and Monitoring Parameters

130. Monitoring is an on going component of the environmental assessment process and subsequent environmental management and mitigation activities. There are basically three types of monitoring: baseline monitoring, Compliance Monitoring and Impact Monitoring. Environmental Monitoring for this sub project are:

- Compliance Monitoring – that verifies whether the EMP provisions are properly implemented in the field. The framework for compliance monitoring is given in the Table 7.6.
- Impact Monitoring - that confirms the result of implementing mitigation measures. The framework for impact monitoring is given in the Table 7.7.

Table 7.8: Compliance Monitoring for Dudhe-Sivaganj-Mahabhara-Kunjibari-Korobari-Birpur-Bagaha Chaudhari Road Construction Works

Parameters/Issues	Responsible Implementing Agency	Verifiable Indicators	Verification Methods	Schedule	Responsible Monitoring Agency
Final alignment selection as per IEE /EMP recommendation	DPO / DIST	Alignment incurs minimum requirements to acquire land from agri. land, and minimum nos. of trees to clear.	Look the alignment on topo map with land use resources; verify it by walkthrough along final road alignment	preconstruction phase	PCU / CISC; DoLIDAR
Land and property acquisition and compensation Voluntary land acquisition	Proponent with assistance of DIST	Cadastral records, Land and properties acquisition procedures; Procedures followed during voluntary donation of Land; Preparation of inventory of structures likely to be affected Payment of compensation	Public consultation, photos; geo-referencing; Check inventory against cadastral records and discuss with land owners Check record of pending compensation	pre-construction phase before construction begins	CFC / PCU (CISC) / DoLIDAR / MoLD
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	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. Protection of wildlife and sensitive habitats and Use of fuelwood for heating and cooking.	Site inspection; Discussion with local people; Records; Photos; Sampling and laboratory tests.	During construction period and include in monthly report	DPO / DIST at district and PCU/CISC at center
Protect environment from air & noise pollution	Contractor	Dust level and noise level at work sites, major settlements and sensitive spots like health centres and schools; Crusher operated during night	Visual observation, Observation of good construction practices and discussion with residents and workers; DIST to measure air/noise level at sensitive spots.	Once in a month during construction; measurement once during peak construction	DPO / DIST at district and PCU/CISC at center
Protect water bodies from pollution	Contractor / DPO / DIST	Visual observation, observation of open defecation and pit toilets at work sites/waste management/spoil disposal around water sources.	Site inspection.	Observation once in a month during construction; Upon demand for testing with field kit	DPO / DIST at district and PCU/CISC at center
Use of local labour, particularly vulnerable groups and women	DPCC / VICCC / RBGs / Contractor	Percentage of employment of local labour, especially vulnerable groups and women and their wage rate.	Verification from records	During the entire period where labour work is contracted	DPO / DIST at district and PCU/CISC at center

Parameters/Issues	Responsible Implementing Agency	Verifiable Indicators	Verification Methods	Schedule	Responsible Monitoring Agency
Awareness and orientation training on road construction locally employed labourers	DPO / DIST	Training programmes for skill development, occupational safety and environmental protection associated with road construction works; employment generation skill	Training records, assess feedback from participants	Beginning of construction and during construction	DPO / DIST at district and PCU/CISC at center (DTO)
Compliance to occupational health and safety matters	DPO / 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.	Spot checks at work sites, accident records, safety equipment at site; discussion with workers	throughout construction stage	DPO / DIST at district and PCU/CISC at center
Restoration, rehabilitation, reconstruction of all infrastructure services disrupted or damaged during the construction work	Contractor / RBG / DIST	Continued services by the facilities and functional public life	Site observation; Public Consultation Meetings	Once in 15 days during construction	DPO / DIST at district and PCU/CISC at center
Clean up and reinstatement of the construction sites (camps, quarries, borrow pits)	Contractor	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	At end of construction period	DPO / DIST at district and PCU/CISC at center

Table 7.9: Impact / Effect Monitoring for Dudhe-Sivaganj-Mahabhara-Kunjibari-Korobari-Birpur-Bagaha Chaudhari Road Construction Works

Parameters /Issues	Verifiable Indicators	Verification Methods	Location	Schedule	Responsible Implementation and Monitoring Agency
Slope stability and erosion	Slope failures & their causes; Fresh gullies and erosion; Success/failure of bio-engineering solutions	Site observation, photos discussion with people and technicians	At landslide areas and sites where bio-engineering failed	Continuously during construction and operation	DIST during construction; Proponent / DPO / Soil Conservation Office during operation
Disposal of Spoils and construction wastes	Damage to agriculture land, blocked drainage, hazard to downhill residents and agricultural lands	Site observation and interviews, photos	At specific locations where such sites occur	During construction at monthly basis	DPO / DIST at district and PCU/CISC at center
Borrow pit and Quarrying of construction materials	Erosion, changes in river regime, bank cutting	Site observation, photos	Quarry site areas	During construction at monthly basis	DPO / DIST at district and PCU/CISC at center
Disruption of drainage system	Blocked drainage, waterlogging, slope cutting and erosion by water	Observation, photos	Site specific areas	During construction at rainy season	DPO / DIST at district and PCU/CISC at center
Water quality	Water borne disease; adverse impact on aquatic life	Record of disease, measurement of water sample using standard field kit; impact to fish in streams	Construction sites; local streams	During construction at quarterly basis	DPO / DIST at district and PCU/CISC at center
Air quality	Dust level increase	Discussion with people at sensitive locations	At construction sites and at sensitive spots (schools, health post, market and settlements)	During construction at dry season	DPO / DIST at district and PCU/CISC at center
Change in economy	Nos. of new houses built; shops opened; New enterprises by local people	Discussion with local people	Project Area	Yearly during construction phase	DPO / DIST at district and PCU/CISC at center
Occupational safety and hazard	Type and number of accident occurred during construction	Records and interview with labourers	Project Area	During construction	DPO / DIST at district and PCU/CISC at center
Social conflict and nuisance	No of social conflicts between project and people;	Observations, interview with local people	Project Area	During construction	DPO / DIST at district and PCU/CISC at center / VDC
Ribbon settlement	RoW encroachment	Records, observations	Project Area	During operation	DDC/CDO

8. CONCLUSION AND RECOMMENDATION

8.1 Conclusion

131. The IEE study of the proposed Dudhe-Sivaganj-Mahabhara-Kunjibari-Korobari-Birpur-Bagaha Chaudhari Road Subproject does not pass through any environmentally sensitive area, and have minimal adverse impact associated with loss of agricultural land. Most of the adverse impacts predicted are of low significance and short term as well as reversible. The upgrading of road will provide better access to market and social services, and is expected to enhance productivity and improving quality of life of the people. Local people will get direct employment opportunity as workers during construction works, which will contribute in improving their income. The beneficial impacts from the implementation of the proposed road are more significant and long term in nature against the adverse impacts most of which could be avoided or minimized or compensated.

132. 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 study. Therefore, this IEE is sufficient for approval of the Subproject.

8.2 Recommendation

133. The Subproject does not require acquisition of any private properties, public infrastructures or agricultural land. There are no forest areas along the road alignment and not any government/private trees need to be cut down during road construction.

134. The proposed road project is recommended for implementation with incorporation of mitigation measures and environmental management plan.

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ANNEX

Annex I: Terms of Reference



नेपाल सरकार
स्थानीय विकास मन्त्रालय
(वातावरण व्यवस्थापन शाखा)

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

पत्र संख्या ०६६/०६७

चलानी नं. ९१



मिति:- २०६६/६/२३

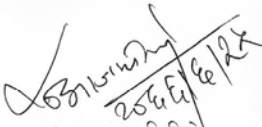
विषय :- प्रारम्भिक वातावरणीय परीक्षण (IEE) को कार्यसूची स्वीकृत भएको ।

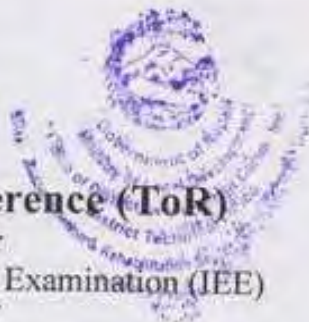
श्री ग्रामीण पुनर्निर्माण तथा पुनर्स्थापना आयोजना,
आयोजना समन्वय इकाई,
एकान्तकुना, जावलाखेल ललितपुर ।

उपर्युक्त विषयमा ग्रामीण पुनर्निर्माण तथा पुनर्स्थापना आयोजना, जिल्ला आयोजना कार्यालय भ्यापाद्वारा प्रस्तावित त्यस आयोजना अन्तर्गत भ्यापा जिल्लामा निर्माण हुने निम्नानुसारका सडकहरुको प्रारम्भिक वातावरणीय परीक्षण (IEE) को कार्यसूची (TOR) स्वीकृतिको लागि यस मन्त्रालयमा पेश भएकोमा नेपाल सरकारको मिति २०६६/६/२२ को निर्णय (सचिवस्तर) अनुसार स्वीकृत भएको व्यहोरा अनुरोध गर्दछु । साथै स्वीकृत कार्यसूची २/२ थान यसै साथ सम्लग्न राखी पठाईएको छ ।

निम्न

- (क) सुरुङ्गा-शर्णामती-टाघनडुब्बा-डिगल बैक सडक ।
- (ख) साधुटार-मदनपुर-लक्ष्मीपुर-धेरावारीसडक ।
- (ग) दुधे-शिवगंज-महाभारा-कुञ्जवारी-कोरोवारी-वीरपुर-वगाह चौधरी सडक ।


२०६६/६/२४
(डण्डुराज घिमिरे)
उप-सचिव



Terms of Reference (ToR)
for
Initial Environmental Examination (IEE)
of
**Dudhe-Shivaganj-Mahavara-Kunjibari-
Korobari- Birpur-Bagaha Chaudhari
Road Sub-Project**

Submitted to:
**Ministry of Local Development,
Government of Nepal**

Proponent:
**District Development Committee (DDC)/
District Technical Office (DTO)**

Jhapa
Telephone No. – 023,456273
Fax No. – 023,456394

September 2009

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 Project co-ordinator

ABBREVIATIONS

ADB	Asian Development Bank
Ch	Chainage
CF	Community Forest
CISC	Central Implementation Support Consultants
CITES	Convention on International Trade in Endangered Species of Flora and Fauna
DDC	District Development Committee
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
DTO	District Technical Office
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EMS	Environmental Management Section
EPA	Environmental Protection Act
EPR	Environmental Protection Rules
FGD	Focus Group Discussion
GoN	Government of Nepal
IEE	Initial Environmental Examination
IUCN	The World Conservation Union
Km	Kilometer
LEP	Labour based, environment friendly and participatory
MLD	Ministry of Local Development
NGO	Non-Governmental Organization
PAM	Project Administrative Memorandum
PCU	Project Coordination Unit
REA	Rapid Environmental Checklist
RRRSDP	Rural Reconstruction and Rehabilitation Sector Development Project
SF	Social Funding
SDC	Swiss Agency for Development and Cooperation
SDS	Social Development Specialist
SM	Social Mobilizer
TA	Technical Assistance
ToR	Terms of Reference
VDC	Village Development Committee
Zol	Zone of Influence



1.0 NAME AND ADDRESS OF THE PROPONENT

The District Development Committee (DDC)/District Technical Office (DTO), Jhapa is the executing agency at the district level and the proponent of the Initial Environmental Examination (IEE) study for the rehabilitation of Dudhe-Shivganj-Mahavara-Kunjibari-Korobari-Birpur-Bagaha Chaudhari road sub-project in Jhapa District. 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)
Chandragadhi, Jhapa
Telephone No. :- 023,456273
Fax No. :- 023,456394

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 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 coordinating government department is the Department for Local Infrastructure Development and Agricultural Roads (DoLIDAR) under the Ministry of Local Development (MLD).

The DDCs 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 which includes engineering, safeguards, and social mobilization staff.

Everest Engineering Consultant JV inclusive consultant Pvt.Ltd, Old Baneshwor, Kathmandu is District Implementation Support Team (DIST) for RRRSDP and has the responsibility of providing technical assistance in Jhapa District.

This Terms of Reference (ToR) is prepared to conduct an IEE study of Dudhe-Shivganj-Mahavara-Kunjibari-Korobari-Birpur-Bagaha Chaudhari of Jhapa District.

2.2 BACKGROUND OF THE SUB-PROJECT

The proposed road sub-project Dudhe-Shivganj- Mahavara- Kunjibari- Korobari- Birpur- Bagaha Chaudhari lies in the western part of Jhapa district of Eastern Development region of Nepal. This sub-project starts from Dudhe bazaar of Satashidham VDC and ends at Bagha Chaudhari of Korobari VDC. Major settlements along the road alignment are Dudhe, Nahar chowk, Beyangdada, Simachowk, Chandradangi, Sivganj bazaar, Jantachowk, Bulu Chowk, Kunjibari, Tulachan, Korobari and Baghachaudhari. Total length of the road alignment is 31 Km.

The starting point of the road Dudhe-Shivganj- Mahavara- Kunjibari- Korobari- Birpur- Bagaha Chaudhari is Dudhe bazaar, a point of East West Mahendra Highway, 31 km far from Chandragadhi, district headquarter of Jhapa. Among total length of 31 km of road 5.60 km road is blacktopped. The remaining length of the road is gravelled and the average road width is 8-10 m. Carriageway of road varies from 3.5m to 5.0 m. From Chainage 10+860 to 22+050, the road alignment passess along the Kankai irrigation canal.

The people in this project area are facing transportation problems due to poor condition of road. Local people have no access to the market centre to fulfill their daily needs. The road covers the area with high value of agriculture production. The agriculture production like rice, maize, wheat, oily products and cash crops i.e. ginger, capsicum (chilly), off-seasonal vegetables are getting low prices than it may fetch. Other development facilities such as water supply, electricity, health centre and telephone facilities are also far from the reach of people due to lack of all weather road. So, DDC Jhapa has been allocating budget annually to maintain the road.

The rehabilitation and upgrading of road will mainly enhance the transportation facilities for *cereal and cash crops* produced in areas of road corridor & other VDCs and 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 minimizes migration to major city of Nepal and gulf countries in search of work. Consequently, local people will get long-term benefit which will enhance their economic status within the Zol of road corridor.

This road is also prioritized in the District Transport Master Plan (DTMP) as a rural road class A. Rehabilitation and upgrading of this road will provide physical and economical access to the people of north-eastern part of the district with district headquarter and other part of Nepal.

The location and alignment of the road is given in **Figure 1 and 2**.

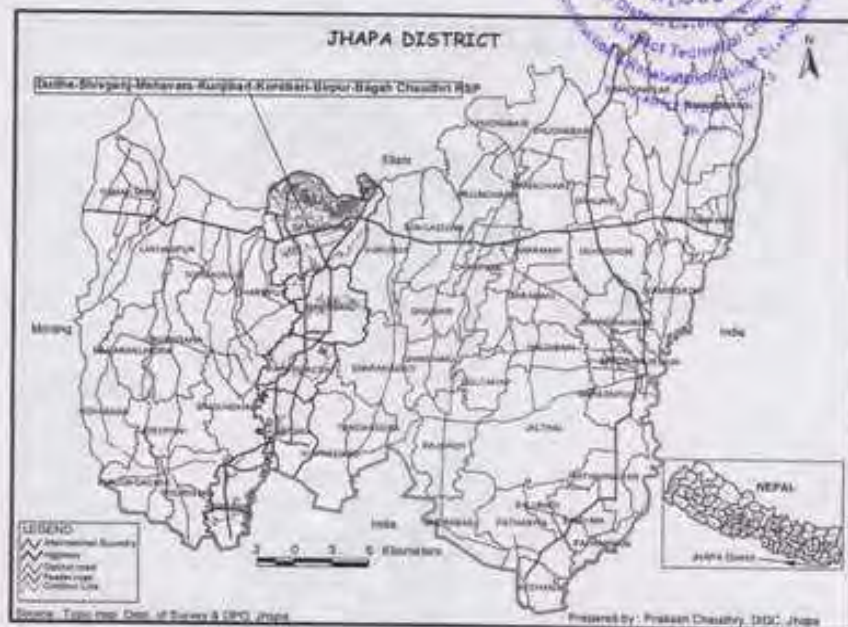


Figure1. Map of Nepal showing location of Dudhe-Shivganj-Mahavara-Kunjibari-Korobari-Birpur-Bagaha Chaudhari road sub-project in Jhapa district.



Figure 2. Map of Jhapa district showing Dudhe-Shivganj-Mahavara-Kunjibari-Korobari-Birpur-Bagaha Chaudhari road sub-project.

For IEE of Dudhe-Shivganj-Mahavara-Kunjibari-Korobari-Birpur-Bagaha Chaudhari road sub-project in Jhapa District

Project co-ordinator

2.3 OBJECTIVES

The objectives of the proposed IEE study includes 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,
- recommend practical and site specific environmental mitigation and enhancement measures, prepare and implement environmental monitoring plan for the sub-project,
- make sure that IEE is sufficient for the proposed road sub-project, and
- provide information on the general environmental setting of the sub-project area as baseline data.

2.4 RELEVANCY OF THE SUB-PROJECT


The proposed road connects Satashidham, Sivganj, Pachagachhi, Mahavara, Baigundhura and Korobari VDCs. This road starts from Dudhe of Mahendra highway, which is a small market and is a potential growth centre. Since the road corridor area is highly fertile for agriculture production seasonal and offseason vegetable production, cereal and cash crops production and Dudhe bazaar has potentiality for agricultural market. It has also possibility to expand as a big market centre of several VDCs of the areas. The road runs towards south-west direction and the end point of this rehabilitation section of road is Bagha chaudhari of Korobari VDC. Shivganj bazar lies in the road alignment which is another market centre of the areas.

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 (EPA, 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 assesment (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 carry out 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:

ToR for IEE of Dudhe-Shirganj-Mahavara-Kanjhari-Kumhar-Biruri-Bagaha Chaudhari road sub-project in Jhapa District



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 from DIST team Jhapa, 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

Shahj
Project co-ordinator

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

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Project Co-ordinator

- 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 augmentation 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 augmentation 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 Augmentation/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 Consultation 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 Augmentation/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.

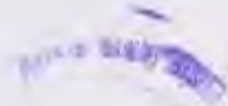
xii. Environmental Management Plan: This section summarizes the recommended implementation of IEE, monitoring parameters/indicators, activities, methods and responsibilities.

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 condition
 - 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

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Project coordinator



Annex II: Rapid Environmental Assessment (REA) Checklist

Rapid Environmental Assessment (REA) Checklist

Instructions: <ul style="list-style-type: none"> <input type="checkbox"/> 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. <input type="checkbox"/> This checklist is to be completed with the assistance of an Environment Specialist in a Regional Department. <input type="checkbox"/> 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. <input type="checkbox"/> 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/ Rural Reconstruction and Rehabilitation Sector Development Program (RRRSDP)**

Sub Project: **Dudhe-Sivaganj-Mahabhara-Kunjibari-Korobari-Birpur-Bagaha Chaudhari Road**

SCREENING QUESTIONS	Yes	No	REMARKS
A. Project Silting			
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?	✓		
Deterioration of surface water quality due to silt runoff and sanitary wastes from worker- aced camps and chemicals used in construction?		✓	
Increased local air pollution due to rock crushing, cutting and filling works,	✓		

SCREENING QUESTIONS	Yes	No	REMARKS
and chemicals from asphalt processing?			
Noise and vibration due to blasting and other 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?		✓	
poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations?		✓	
Creation of temporary breeding habitats for mosquito vectors of disease?		✓	
Dislocation and compulsory resettlement of people living in right-of-way?		✓	
Accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials and loss of life?		✓	
Increased noise and air pollution resulting from traffic volume?		✓	
Increased risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road?		✓	

Annex III: Abstract of Cost

Road:Dudhe-Mahavara-Kunjibari-Birpur-Korobari-Bagaha Chaudary Road Subproject
Rural Reconstruction & Rehabilitation Sector Development Program (RRRSDP)
Jhapa

S.N.	Description of works	Unit	Quantity	Rate	Amount(NRs)
A.	General				
1	Insurance of works, Plants and materials, construction equipments and against accident to workmen including third party insurance.(GCC 13)	Ps	1.00	1500000.00	1500000.00
2	Provision and maintainance of labour Camps payable in equal Installments.(SP G-17)	Job	1.00	150000.00	150000.00
3	Carry out additional tests for material and works as required and instructed by the Engineer.(SP 5)	PS	1.00	200000.00	200000.00
4	Arrangement of traffic during construction(G-12)	PS	1.00	150000.00	150000.00
5	Transportation facilities (four wheels vehicles) for project supervision.(G-16)	per-month	12.00	75000.00	900000.00
6	Transportation facilities (Motorcycle/150CC) for project supervision.(G-18)	No.	4.00	144000.00	576000.00
7	Provision of Site Office including logging facility (G-19)	per-month	12.00	15000.00	180000.00
	Sub-Total				3656000.00
B.	Earth Works				
8	Excavation in road way and drain including removal and satisfactory dispoal of all materials up to a lead of 50 m along the lead route this including handling, stacking or hauling(to sites of embankment construcion) of suitable cut materials as required and also disposal of unsuitalbe cut materials in specified manner. (Respective clause of specifications 2-1.2.2,2-1.8 and 2-1.9)				
	a) ordinary soil	Cum.	3716.98	118.45	440276.28
9	Excavation in foundation including removal and satisfactory dispoal of all materials up to a lead of 50 m along the lead route this including handling, stacking or hauling(to sites of embankment construcion) of suitable cut materials as required and also disposal of unsuitalbe cut materials in specified manner. (Respective clause of specifications 2-1.2.2,2-1.8 and 2-1.9)				
	a) ordinary soil	Cum.	385.74	118.45	45690.90
	Sub-Total				485967.18
C.	Sub-Grade				
10	Construction of roadway in embankment, Shoulder and structures backfilling with Soil obtained from roadway excavation or borrow pits or other sources including transportation of the material from source to the site, spreading in layers, watering and compaction; (Respective clause of specifications 2-5)	Cum.	31174.49	309.81	9658168.75
11	Formaton of embankment including compaction in layres not exceeding 150mm compacted depth, watering and haulage 10m etc. all complete as per specification,by River Bed materials (Activity no.9-05,Clause no. 909 - DoR)	Cum	24361.33	1257.70	30639244.74
12	Scarifying existing granular road surface for carring out the required operation neccsary to complete the work.This includes handling,salvaging,stacking and disposing of scarified material upto lead of 100 m along the lead route.(Respective clause of specifications 2-5.7.6 and 2-5.4.3)	Sqm	16500.00	47.38	781770.00
	Sub-Total				41079183.49
D	Sub-Base and Base				

13	Providing,laying,spreading, watering, levelling and compaction of natural sand gravel subbase grading as per table 12.1 of standard specification lead up to 10m.(Spc.Clause no. 1201-DoR)	Cum	13492.31	2824.46	38108489.90
14	Carring out Construction operations of base course including full compaction.(Respective clause of specifications 3-2)	Cum	9772.85	5039.01	49245478.80
	Sub-Total				87353968.70
E	<u>Bituminous Course</u>				
15	Providing and spraying bituminous prime coat MC30/MC70 including cleaning the road surface using wire,brushes,brooms etc.before applying prime coat(Spc.Clause no. 1301,1302-DoR)	Lit	92790.00	112.53	10441658.70
16	Providing,mixing,laying and compaction of premixed carpet(Spc.Clause no. 1307,1308-DoR)	Cum.	1895.48	11037.11	20920621.26
17	Providing,mixing,laying and compaction of seal coat with fine river grits or coarse sand(Respective clause of specifications 4-5)	Sqm	92790.00	111.90	10383201.00
	Sub-Total				41745480.96
F	<u>Structure Works</u>				
18	Supply and place of Brick Soling on Flat(Activity no.14.03, Spec. clause no.1403-DoR)	Sqm	92.82	476.20	44200.88
19	Supply and Place Brick masonry in (1:4) mix ratio.(Respective clause of specifications 7)	Cum.	77.90	13974.06	1088579.27
20	Supply and Place Concrete Class M 10 (1:3:6)(Respective clause of specifications 11,A,a)	Cum.	18.57	8424.11	156435.72
21	Supply and Place NP-3,RCC pipe- 900 mm.(Respective clause of specifications 15-5 and 15-6 a,b)	rm	22.50	5440.76	122417.10
22	Supply and Place NP-3,RCC pipe- 600 mm.(Respective clause of specifications 15-5 and 15-6 a,b)	rm	90.00	3813.80	343242.00
23	Preparation of bedding for pipe with granular materials.(Respective clause of specifications 15-4)	Cum.	27.74	1491.49	41373.93
	Sub-Total				1796248.91
G	<u>Gabion Masonary Work for Structure</u>				
24	Supply and place different size rockfilled gabion boxes of hexagonal mesh with heavy coated GI wires,Mesh Size 100*120 mm,mesh wire 10 SWG,selvedge wire 7 SWG and binding wire 12 SWG.(Respective clause of specifications 17-1.4,17-5, 17-6)	Cum.	302.00	3043.13	919025.26
H	<u>Miscellaneous Work</u>				
25	Supply & Install Standard sign board as per Instruction for project information.(SP 20-2)	No.	2.00	3000.00	6000.00
26	Supply & placed 1 Km post as per DOR Standard.(SP 20-3)	No.	24.00	2635.00	63240.00
27	Supply & placed 5 Km post as per DOR Standard.(SP 20-3)	No.	6.00	6800.00	40800.00
28	Preparation of a video documentary of the sub project with Social, Environment, Resettlement and Technical aspect	PS	1.00	100000.00	100000.00
	Sub-Total				210040.00
I	<u>Rehabilitaion and New Construction Bridge Work</u>				
29	Rehabilitaion of Satasi Khola bridge	Rm	30	50,000	1500000.00
30	Rehabilitaion of Banyani Khola bridge	Rm	30	50,000	1500000.00
31	Construction of Kamal Khola bridge	Rm	45	800000	36000000.00
	Sub-Total				39000000.00
J	<u>Dayworks</u>				
	Day works shall be executed only on the written instruction of the project manager:(SP G-15)				
32	Labour				
	Skilled labour	Hr.	1200	42.50	51000.00
	Unskilled labour	Hr.	2400	25.00	60000.00
33	Equipments	Hr.	1000	300.00	300000.00
34	Materials	Cum	169.41	885.41	149997.31

	Sub-Total				560997.31
i)	Without including S.N I (i.e Rehabilitation and New Construction Of Bridge)				
	Sub Total- 1 (NRs.)				177806911.82
	VAT @ 13% of Sub Total-1				23114898.54
	Provision for Contingencies @ 5% of Sub-Total				8890345.591
	Grand Total				209812155.95
	Per Km Cost				6861090.78
ii)	Including S.N I (i.e Rehabilitation and New Construction Of Bridge)				
	Sub Total- 1 (NRs.)				216806911.82
	VAT @ 13% of Sub Total-1				28184898.54
	Provision for Contingencies @ 5% of Sub-Total				10840345.59
	Grand Total				255832155.95
	Per Km Cost				8365995.94

A. GENERAL SOCIO-ECONOMIC SITUATION OF THE INFLUENCE AREA³

VDC	Name of Settlement	Household and Population	Caste/ethnic distribution	General Comment

VDC	Settlement	Number of HH and Percentage of Population engaged in					
		Agriculture & Livestock	Labor & Porter	Business/ Commerce	Cottage Industry	GO/NGO Employees	Others (specify)

[illegible]

A. _____ B. _____ C. _____ D. _____ E. _____
F. _____ G. _____ H. _____ I. _____

[illegible]

3.10	Bee-keeping										
3.11	Others										

A. _____ B. _____ C. _____ D. _____ E. _____
F. _____ G. _____ H. _____ I. _____

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

- (b) Seasonal migration in search of work.

Month	No. of Total HH	Destination	Purpose

8. Dominant off-farm occupation in the settlement in descending order

B. DEVELOPMENT POTENTIAL ACCORDING TO SETTLEMENT

- B.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. N.	Name of Area	Description of Development Potential

- B.2. Scope of the proposed linkage in view of promoting socio-economic development (communication, agricultural production, education and health).

S. No.	Sectors to get direct benefit	Describe how it will benefit

B. Historic and Cultural Resources Within The Settlement

Type of Resource	Name/specification	Affecting activities	Location from project

प्रारम्भिक वातावरणीय परिक्षण (IEE) सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना

सूचना प्रकाशित मिति : २०६६/६/२८

ग्रामिण पुर्ननिर्माण तथा पुर्नस्थापना आयोजना (RRRSDP) अन्तर्गत एशियाली विकास बैंक (ADB) अन्तराष्ट्रिय विकास विभाग (DFID) स्वीस सरकार विकास निवेशको (SDC) अनुदान सहयोग अन्तिमको (O) ID) क्षण सहयोग तथा नेपाल सरकार जिल्ला विकास समिति र लाबराडी समेतको लगानीमा निर्माण गर्न प्रस्ताव मागिएको सुरक्षा-सर्जामती-टापनढुङ्गा-दिगल वैक सडक, साधुटार-मधनपुर-लक्ष्मीपुर-धारावारी सडक, दुधे-शिवराज-महाभारा-कुन्जवारी-कोरावारी-विरपुर-बगाहाधारी सडक उपआयोजनाहरूको प्रारम्भिक वातावरणीय परिक्षण (IEE) प्रतिवेदन कार्यान्वयन गर्ने सिलसिलामा वातावरण संरक्षण नियमावली २०५४ (प्रांतीय) सभोधन २०५५ समेतको नियम २७२६ अनुसार यो सूचना प्रकाशित गरिएको छ।


प्रस्तावकको नाम:- जिल्ला विकास समितिको कार्यालय, जिल्ला प्राविधिक कार्यालय, जिल्ला आयोजना कार्यालय भन्दा प्रस्तावित सडक उपआयोजनाहरूको विवरण:-

क्र.सं.	सडकको नाम	प्रभाव गर्ने गा.वि.स. हरू	प्रस्तावको विवरण	लम्बाई
१.	सुरक्षा-सर्जामती-टापनढुङ्गा-दिगल वैक सडक,	सुरक्षा, सर्जामती, टापनढुङ्गा, सुमरखोटा	यो उपआयोजना सुरक्षा पञ्चक रेलि पुराना भर्नामती टापनढुङ्गा पञ्चकको रेलि पञ्चकको सीमाना बिचले फैले गरी बनाई हुनेछ।	२५.५८ कि.मि.
२.	साधुटार-मधनपुर-लक्ष्मीपुर-धारावारी सडक	सुनुवावारी, अर्जुनधारा, धौलाढुङ्गा, झाँगीवारी, बकावारी, राजगढ, धारावारी	यो उपआयोजना सुनुवावारी गा.वि.स.को माथुवाबाट सुरु गरी मदनपुर, माथीपुर रेलि पञ्चकको गा.वि.स.भन्दा सुरु गरि बनाई हुनेछ।	३२.५० कि.मि.
३.	दुधे-शिवराज-महाभारा-कुन्जवारी-कोरावारी-विरपुर-बगाहाधारी सडक	सतासीधाम, शिवराज, पाँचगाछी, महाभारा, कोरावारी	यो उपआयोजना सतासीधामको कुन्जवारीबाट सुरु गरी भावराज पञ्चक, पाँचगाछी, कुन्जवारी, तुलापन रेलि पञ्चकको गा.वि.स.को बगाहा धौधारी सडकसम्म गरी बनाई हुनेछ।	२१.२३ कि.मि.

उक्त प्रस्तावको कार्यान्वयन बाट वातावरणमा पर्ने सम्बन्धित प्रभावको बारेमा सम्बन्धित गा.वि.स., विद्यालय, स्वास्थ्य चौकी, बग उपभोक्ता समिति तथा अन्य सरकारी वातावरणमा रहेको वा सम्बन्धित यो सूचना प्रकाशित भएको मितिले १५ (पन्ध्र) दिन भित्र निम्न ठेगानामा आफ्नो राय सुझाव पठाई सहयोग गरिदिनुहुन अनुरोध गरिएको छ।

राय सुझाव पठाउने ठेगाना:-

जिल्ला विकास समितिको कार्यालय, भन्दा टेलिफोन नं. ०२३-४४५१५४, फ्याक्स नं. ०२३-४४६२९४	जिल्ला प्राविधिक कार्यालय/जिल्ला आयोजना कार्यालय, भन्दा टेलिफोन नं. ०२३-४४६१२९, ४४६२७७ फ्याक्स नं. ०२३-४४६२७३
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 नेपाल सरकार
स्थानीय विकास मन्त्रालय


गाउँ विकास समितिको कार्यालय
कोशी, कापा

प.स. ०९६/०९६
स.स. ८४

मिति ०८८/०९५

विषय सुचना राँस उरी मुचुलका पढाएँको बारे।

श्री जिल्ला प्राविधिक कार्यालय
आमोचुन निर्माण तथा उन्नयनको क्षेत्र, जिल्ला आगोशका कार्यालय।
अपरोक्ष विषयमा तहाँ कार्यालयको च.नं.
३० मिति ०८८/०९५ को प्राप्त सुचना राँस उरी मुचुलका
बारे जानकारीका लागि अनुप्रेषण छ।
यसै साथ मुचुलका धातु-१ संलग्न छ।


०८८/०९५
दीपेन्द्र ओझा
अध्यक्ष
गा.वि.स. संवाहन समिति



नेपाल सरकार
स्थानीय विकास मन्त्रालय

सबैको सबैको विकास
विभिन्न क्षेत्रमा समुदाय

गाउँ विकास समितिको कार्यालय

सतलुधाम, भक्तपुर

मिति २०६३/५/१३

विषय: सञ्चालन

श्री जिल्ला आयोजना कार्यालय
मुसुहर (सुदूर)

जिल्ला आयोजना कार्यालयबाट निर्देश ०६६/५/११
को पत्र नं-३० विपुष्पा बुझी निर्देश
अनुसार उनीहरूलाई जानकारी गराइएको छ।

[Signature]
६/१३

मह-प्रशासक



नेपाल सरकार
स्थानीय विकास मन्त्रालय

गाउँ विकास समितिको कार्यालय

Office of the Village Development Committee

प.स. / LNo. ३०६६/१६६
स.स. / Ref. No. १२१

महाभारत जिल्ला (नेपाल)
Maha Bharat Jilga (Nepal)

सबै वक्ताको वचन सम्झा र
मिति उल्लेख गर्नुहोस्।

मिति / Date ०६६/६/१६/१

विषय/Subject:-

शी/Shree

हुन्चरा रसम गरेको जानकारी हस्तान्तरण।
जिल्ला प्रशासन कार्यालय, महाभारत जिल्ला, काठमाडौं।

उपरोक्त हस्तान्तरण गर्ने कार्यको क्रममा ०६६/६/१६/१ मा प्राप्त पत्रमा उल्लेख भई गरिएको हुन्चरा रसम गर्ने गरी ०६६/६/१६ गते हुन्चरा रसम भएको व्यवस्था गरिएको छ।

(Signature)
०६६/६/१६
राम प्रसाद उप्रेती
अध्यक्ष
गाउँ विकास समिति, काठमाडौं



नेपाल सरकार
स्थानीय विकास मन्त्रालय

कानून पत्रको पत्र सम्बन्ध र
मिति सम्बन्ध गर्नुहोस्।

गाउँ विकास समितिको कार्यालय

प.सं. ०६६१९६
स.सं. २६५



मिति २०६६।६।१५

विषय: सूचना तालिम जरी जानकारी पठाइएको
थी जिल्ला प्रशासिक कार्यालय,
का. पू. तथा पू.स्थापना समिति
अर्घपुर (का.पु.)

प्रस्तुत विषयमा तहां कार्यालयको च.सं.
२० मिति २०६६।६।१५ को प्राप्त पत्र स्मरण
सूचना यस्तै कार्यालयको सूचना जरी मा
मिति २०६६।६।१५ मा तालिम जरी जानकारी
पठाइएको समितिमा अनुरोध छ।

मार्ग प्रशासक/महाराई
अ.स.सं.
प्र.वि.स. विकास समिति



समान सचिवालय
समाजीय विकास उपसचिवालय

समान सचिवालय
समाजीय विकास उपसचिवालय

गाउँ विकास समितिको कार्यालय

वीरगञ्ज, नेपाल

स.स. ०६८/०६६
ख.नं. ९८०

मिति २०६८/०८/१८

विषय: तात्काली कार्य

१) जिल्ला विकास समितिको कार्यालय, जिल्ला प्रशासन कार्यालय
अधीन पुनर्निर्माण तथा पुनर्स्थापना कार्यको लागि जिल्ला
प्रशासन कार्यालय (१०८०, काठमाडौं)

उपरोक्त सचिवालय जिल्ला विकास समितिको कार्यालय
जिल्ला प्रशासन कार्यालय अधीन पुनर्निर्माण तथा
पुनर्स्थापना कार्यको लागि, जिल्ला प्रशासन कार्यालय
को कार्यालयको मा. १०८० बिल्लि १०८८/०९९३
प्रकाशित मिति १०८८/०९/१९ को निर्देशनमा पुनर्निर्माण
कार्यको लागि सचिवालय कार्यालयको मा. १०८० बिल्लि
१०८८/०९/१९ को निर्देशनमा पुनर्निर्माण कार्यको लागि
सचिवालयको मा. १०८० बिल्लि १०८८/०९/१९ को निर्देशनमा
पुनर्निर्माण कार्यको लागि सचिवालयको मा. १०८० बिल्लि
१०८८/०९/१९ को निर्देशनमा पुनर्निर्माण कार्यको लागि

सचिवालय
समाजीय विकास
उपसचिवालय
वीरगञ्ज, नेपाल



श्री आदर्श माध्यमिक विद्यालय

कोरोबारी-५, टटवामारी, भापा

प न १६/६६
ब न १६/६६

दि ति ०६६/६/१८

श्रीमान/श्रीमती जिल्ला विकास अधिकारी दुः
श्री जिल्ला विकास समिति भापा

विषय जानकारी गराइस्के वहे ।

महोदय, उक्त विषयमा तहो को कार्यलयबाट
प्रेषित मिति ०६६/६/१९ को सन्चता राहु सम्बन्धि
पत्र अगुसा यह विद्यालयमा जिल्ला प्राविधिक
कार्यलय अर्न्तगत ग्रामिण पुनर्निर्माण तथा परम्परा
गो आगोजनाको प्रारम्भिक क्षतावरवीय परीक्षण
सम्बन्धि राय सुझाव को सार्वजनिक सन्चता
यह विद्यालयमा सन्चता पर्येमा राहु गरीमा
आगुसेका लाग भुन्छका सहित पठाइस्के
तहोरा अगुसे छ

मीमाप्राविणी
१० ११
प्रमाणित



श्री बाल कल्याण माध्यमिक विद्यालय

महभारा-३, कुजिवारी (भरपा)

नं. १४

सा-२०१३

दि. ०८/०६/१३

विषय जानकारी जारी करने के बारे में।

श्रीमान् श्रीमान् श्रीमान्



प्राथमिक पुनर्निर्माण तथा पुनर्स्थापना कार्यक्रम
मिलान कार्यक्रम कार्यक्रम
भद्रपुर (भरपा)

उपरोक्त खसकाना तथा कार्यक्रमों के प्रति

च. ० नं. ३० को सूचना यह श्री बाल कल्याण मा. वि.
महभारा को सूचना पत्रिका द्वारा जारी करने की जानकारी
जारी है।

(Handwritten signature in red ink)
०८/०६/१३

श्री बाल कल्याण मा. वि.
महभारा-३, कुजिवारी



गणतन्त्र
वन तथा भू-संरक्षण मन्त्रालय

पत्रांक
२०१६

वन विभाग

जिल्ला वन कार्यालय, काठमा



पत्र संख्या :
६००

दिनांक : २०७६/०६/१९

विषय :- भुक्ताना गर्ने गरी जग्गामा पठाइएको भेट।
१. विज्ञापन उपविभाग कार्यालय
आन्तरिक प्रशासन तथा प्रशासनिक प्रशासन
विभाग कार्यालय कार्यालय

आन्तरिक विभाग, तामा कार्यालय २१-०६-२०७६
०६६/०६१९१-०६/०६-२०७६ आन्तरिक प्रशासनिक प्रशासन
विभाग कार्यालय भुक्ताना गर्ने गरी पठाइएको भेट।
भुक्ताना गर्ने गरी पठाइएको भेट। भुक्ताना गर्ने गरी पठाइएको भेट।

महोदय
०६६/०६१९१
दिनांक : २०७६/०६/१९

संघीय लोकसेवा आयोग
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय

सुनसरी, सापौ

पत्र संख्या: प्र. का. ०६४/५४

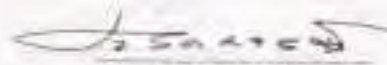
मिति ०९/११/९५

पत्राको नम्बर: १०१३

विषय- जानकारी बारे ।

श्री उपनिषद् पुनर्निर्माण तथा पुनर्स्थापना समिति
सुनसरी जिल्ला विकास समिति
सुनसरी

त्यस कार्यालयको प.नं. ३५५ - - मिति २०६४/०६/१९
को पत्रमा संलग्न भई आएको सूचना यस कार्यालयको सूचना पाटीमा
मिति २०६४/०६/१९ मा उल्लिखित भएको स्थानीय जानकारीको लागि
अपुरोष छ ।



०९/११/९५

जायब शुभा

Annex VII: Name of the Organizations

SN	Name or Organization	Address
1	District Project Office	Bhadrapur, Jhapa
2	District Development Committee	Bhadrapur
3	Office of Village Development Committee, Satasidham	Dudhe
4	Office of Village Development Committee, Shivajung	Shivajung Bazaar
5	Office of Village Development Committee, Panchgachhi	Panchgachhi
6	Office of Village Development Committee, Mahabhara	Mahabhara
7.	Office of Village Development Committee, Korobhari	Korobari
8	District Forest Office, Jhapa	Jhapa
9	Shri Adarsa Secoundary School, Korobhari	Korobhari-5
10	Shri Bal Kalyan Secoundary School, Mahabhara-3	Kunjibari

Source: Field Survey, November, 2009

Annex VIII: List of persons consulted

SN	Name	Organization	Remarks
1	Bupal Bd Niroula	DDC	LDO
2	Hemlal Aryal	DFO	DFO
3	Murlidhar Mishra	DADO	CADO
4	Lekhnath Pokhrel	DAO	Ass CDO
5	Prem Dahal	Surunga	memberDDC
6	Dewman Thebe	Kumarkhod VDC	Ex Chairman
7	Bhatai Chaudhary	Survey Office	Amin
8	Shamvu Karki	DTO	Chief DTO
9	Meghraj Pokhrel	NTC	
10	Chatra Babu Ojha	Satasidham	VDC Secretary
11	Teknath Mainali	Satasidham	Users
12	Hasta Bhadr Joshi	Satasidham	Users
13	Ram Prasad Mainali	Satasidham	Users
14	Bishanu Prasad Kharel	Satasidham	Users
15	Sarbajeet Bhandari	Satasidham	Users
16	Ganga Prasad Bhattarai	Shivajung	VDC Secretary
17	Chandra Bhadr Gurung	Shivajung	Users
18	Chandra Bhadr K.C	Shivajung	Users
19	Bimal Basnet	Shivajung	Users
20	Purna Samsher Kuwar	Panchgachhi	VDC Secretary
21	Ram parsad Uperity	Mahabhara	VDC Secretary
22	Dipendra Ojha	Korobari	VDC Secretary
23	Parsu Ram Kafle	Mahabhara	Users
24	Tek Prasad Dahal	Mahabhara	Users

Annex IX: Meeting minutes with local people

"DRILP" update for RRRSDP (Draft)

COMMUNITY CONSULTATION MEETING NOTES RECORD SHEET (Sample outline)

उप-आयोजनाको नाम: दुधौ - कुन्जीबारी ग्रामीण सडक मिति: २०६६/१०/२०

जिल्ला: भोजपुर गा.वि.स.: सुतासीधाम वडा नं.: ६ टोल: दुधौ

कार्यक्रम सञ्चालकको नाम: RRRSDP

आज मिति २०६६ साल भाद्र महिना २० गते शनिबार का दिन यस ग्रामीण समितिमा
तथा पुनर्स्थापना कार्यक्रम (RRRSDP) को दुधौ - कुन्जीबारी सडक उप-आयोजनाको सघार तथा
स्तरोनतीका लागि सुतासीधाम गा.वि.स.का सचिव श्री हज्रवाबु इरामा
को अध्यक्षतामा बैठक बसी तपसिल बमोजिमका व्यक्तिको उपस्थितिमा सामूहिक
छलफल गरी निर्णय गरियो।

क्र.सं.	सहभागीको नाम	ठेगाना	हैसियत	हस्ताक्षर
१.	हज्रवाबु ओझा	सुतासीधाम	सचिव/गा.वि.स.	
२.	सिंहवीर शम्शेर	सुतासीधाम	अध्यक्ष/वडा सचिव	
३.	कुमा प्रसाद गह्राई	सुतासीधाम	स्थानीयवासी	
४.	मेर खड्का नास्वी	" ६	स्थानीयवासी	
५.	प्रेम खड्का थेवे	" ६	वडा सचिव	
६.	लाहान र. तुम्नापा	" ६	"	
७.	आनंद प्र. घिमिरे	" ६	वडा सचिव	
८.	दिक्ती रमण खतिवडा	" ६	स्थानीयवासी	
९.	रमण र. खड्का	" ६	स्थानीयवासी	
१०.	सुतासीधाम	" ६	स्थानीयवासी	
११.	जिबनराज पाठक	" ६	वडा सचिव	
१२.	उमर खड्का नास्वी	" ६	स्थानीयवासी	
१३.	पुनः बा. शम्शेर	सुतासीधाम	वडा सचिव	
१४.	राजन शम्शेर	सुतासीधाम	वडा सचिव	
१५.	राजु खड्का र. र. र. र.	" ६	"	
१६.	हरी प्रसाद घिमिरे	" ६	स्थानीयवासी	

Resettlement Resource Guide

RP

दलफलका विषय र प्रस्तावः

१. सडक निर्माण कार्यलाई विवादरहित वातावरण कायम गर्ने सम्बन्धी ।

२. ढल निष्कास निर्माण सम्बन्धी ।

३. दूध चौकमा ट्राफिक पार्क निर्माण सम्बन्धी ।

४. सार्वजनिक सँघसंस्थाको भौतिक पुनर्निर्माण सम्बन्धी ।

५. सडक दायावायाका बालाहरुको सुरक्षा सम्बन्धी ।

६. नैऋत्य क्षेत्रमा भूकम्पन बार् निर्माण सम्बन्धी ।

७. सडकको दायावायाका बारा तथा घरहरुमा जानैकलमर् तथा स्लाभ निर्माण ।

८. बस स्टेण्डको व्यवस्थापन सम्बन्धी ।

९. खानेपानी ओभरहेड टैंकको निर्माण सम्बन्धी ।

१०. शारवा मार्गहरुमा गाबेल तथा कलमर् निर्माण सम्बन्धी ।

११. स्थानीय श्रमको उपयोग सम्बन्धमा ।

१२. वातावरणको सुरक्षा सम्बन्धमा ।

१३. प्रहरी चौकी भवन निर्माण सम्बन्धमा ।

१४. शक्ति, शिक्षा, निर्माण, प्र. वि. को भवन पुनर्निर्माण ।

१. प्रस्ताव नं. १ माथि व्यापक दलफल हुँदा RRRSDP संस्थाको आयोजनामा दूध-कुञ्जिबारी सडक सुधार तथा स्तरोन्नतिका लागि योजना सञ्चालन हुने बुझिएकाले योजना सञ्चालन भव्यतामा हुने पनि पश्चात्ताद वाध्य भइरहने भएकाले आइएन नदिई स्वतन्त्र ढंगबाट काम गर्ने वातावरण मिलाउनु हामी सबै उपभोक्ताहरुको कर्तव्य हुने हुँदा सानालिना सबलहरुलाई विवादको रुपमा विकसित हुन नदिई स्थानीय स्तरमा नै सुल्झाउने काममा सबै उपभोक्ताहरु प्रतिक्रिया रहने भनी आजको यस उपभोक्ता भेलाबाट सर्वसम्मत निर्णय पारित गरियो ।

२. प्रस्ताव नं. २ माथि दलफल हुँदा दूध-कुञ्जिबारी सडक सुधार कार्यक्रम तथा योजना सञ्चालनको सन्दर्भमा दूध बजार क्षेत्र अन्तर्गत सडकको दायावाया ढकनी सहितको ढलानिकास निर्माण गर्न अत्यन्त जरुरी भएकाले हुँदा आयोजक संस्थालाई सोही कुराको ध्यानाकर्षण गराउने भनी यस उपभोक्ता भेलाबाट सर्वसम्मत निर्णय पारित गरियो ।

३. प्रस्ताव नं. ३ माथि दलफल गर्दा दूध चौकमा सडक उपभोक्ताको अवस्था अत्यन्त खतरा उन्मुख भएकाले हुँदा चौकमा ट्रैफिक पार्क स्थापना गरी चौकको विस्तार र फलाम रेलिङ निर्माण गर्न RRRSDP संस्थालाई अनुरोध गर्ने भनी निर्णय पारित गरियो ।

कूलफलका विषय र प्रस्तावहरू:

१.
२.
३.
४.
५.

उपरोक्त प्रस्ताव उपरका निम्नहरू:

४. दुधौ कुञ्जिबारी सडक सुधार कार्यक्रम अन्तर्गत सडकको आसपासमा रहेका सामुदायिक सैन्य संस्थाहरूको जीर्ण भवनहरूको समेत पुनर्निर्माण गर्ने RRRSDP संस्थाले उद्देश्य हुने बुझिन्छोले स्थानीय जनघोसोका रूपमा रहेका निम्न कमोजिमका संस्थाहरूको भवन पुनर्निर्माणको लागि आयोजना संस्थालाई अनुमति गर्ने निर्णय पारित गरियो।

निम्न

(क) श्री सतासी प्रा.वि. सतासीधाम - ६ दुधौ ।

(ख)

५. नैहरचोकमा बाटोको दायाबायाँ बेराबाराको व्यवस्था हुन नसकी मानिसहरू, सवारी साधन र पशुप्राणीहरू समेत नहरमा खस्ने दुर्घटना हुने क्रम बढिरहेको हुँदा त्यसको सुरक्षाका लागि फलामे बेराको निर्माण गर्ने RRRSDP संस्थाको ध्यानाकर्षण गराउने भनी निर्णय पारित गरियो।

६. प्रस्ताव नं. ७ मा कूलफल हुँदा दुधौ-कुञ्जिबारी सडक सुधार कार्यक्रम अन्तर्गत सडकको दायाँ बायाँ जाने बाटोहरू र आसपासका घरहरूमा जाने कालोआडो समस्या हुनसक्ने हुँदा त्यस स्थानमा कूलफे तथा स्लैबहरूको व्यवस्था मिलाइदिन अनुमति गर्ने भनी निर्णय पारित गरियो।

७. दुधौ कुञ्जिबारी सडकमा सञ्चालन हुने वस तथा ट्याक्सीहरूको पार्किङ गर्ने व्यवस्थित वस स्टेण्डको अभावमा जतासुकै पार्किङ गरी ट्राफिक नियमको उल्लंघन भइरहेको अवस्थामा दुधौ बजार समितिले निर्धारण गरिएको स्थानमा व्यवस्थित किसिमको वस स्टेण्डको पूर्वाधार विकासमा सहयोग पुऱ्याइदिन RRRSDP लाई अनुमति गर्ने निर्णय पारित गरियो।

८. उक्त प्रस्ताव नं. ८ माथि व्यापक कूलफल पर्दा यस दुधौ बजार र आसपासका क्षेत्रहरूमा खानेपानीको उचित व्यवस्था हुन नसकेकोले RRRSDP सँग खानेपानीको लागि ओभर हेड टैंको सहितको खानेपानी योजना सञ्चालन गराइदिन अनुमति गर्ने निर्णय गरियो।

कुमशः

COMMUNITY CONSULTATION MEETING NOTES RECORD SHEET

(Sample outline)

उप-आयोजनाको नाम: दुधौ - बिर्ता - दुधौ - वडा नं. १ मिति:

जिल्ला: मोरङ गा.वि.स.: शिपकोट वडा नं. ६/८ टोल: चन्द्रदेवी बजार

कार्यक्रम सञ्चालकको नाम: RRRSDP

आज मिति २०६८ साल २५ महिना २ गते का दिन यस ग्रामीण पुनर्निर्माण तथा पुनर्स्थापना कार्यक्रम (RRRSDP) को सडक उप-आयोजनाको सुधार तथा स्तरोन्नतीका लागि श्री आविर्का आविर्का को अध्यक्षतामा बैठक बसी तपसिल बमोजिमका व्यक्तिको उपस्थितिमा सामुहिक छलफल गरी निर्णय गरियो।

क्र.सं.	सहभागीको नाम	ठेगाना	हैसियत	हस्ताक्षर
१)	आविर्का आविर्का	शिपकोट-८	आपापि	
२)	चन्द्र देवी पाण्डे	— ६	रा.उ.पा.	
३)	चेतु राज वैसी	— ८	र.आ.को.प.	
४)	कुशी पाण्डे	— २	सं.रा.प.	
५)	केन्दु देवी खत्री	— ६	आपापि	
६)	विमल खत्री	— ६	— ५	
७)	लक्ष्मी काला	— ६	— ५	
८)	कस्तुर राई	— ८	सं.रा.प.	
९)	कुलरा देवी खत्री	— ६	सि.प.	
१०)	रविन्द्र प्रधान	— ५	क.स.प.	
११)	शुभ सुब्बा	— ६	क.स.प.	
१२)	उत्तर खत्री	— ६	आपापि	
१३)	शुभ नाम साकोट	— ६	व.ज.प.	
१४)	प्रमिला माथी	— ५	स.प.	
१५)	रुपा पौडेल	— ५	— ५	
१६)	विनाय जोशी	— ८	आपापि	

छलफलका विषय र प्रस्तावहरू:

१. छल निष्काष (संस्थापन)
 २. गा.वि.स. शिवगंज कार्यलय सम्म कालो पत्र र बजार तहसम्म तसम्बन्धमा
 ३. श्री शुक्र ति. मा. वि. मा शुद्ध पिउने पानी र भवन मर्मत,
 ४. चन्द्रडांगी बजार-चोक परिसरमा होली बस्तीको छल विकास, सतासी खोलामा पुल
 ५. बजारमा शुद्ध पिउने पानी र खोलाको निर्माण तथा मर्मत
- उपरोक्त प्रस्ताव उपरका निर्णयहरू ६) स्थानिय श्रमको सम्बन्धमा
१. प्रस्ताव नं. १ मा त्रुटि रोडको दुवै तर्फ छल विकासको लागि नाली/कुलो हुनुपर्ने र उक्त नाली छल विकासको लागि बजार हुँदै गा.वि.स. भवन हुँदै सम्म लाने निर्णय गरियो।
 २. प्रस्ताव नं. २ मा गा.वि.स. शिवगंज भवन सम्म कालो पत्र र चन्द्रडांगी बजारको तहसम्म मर्मत गर्नको लागि माग गर्ने निर्णय गरियो।
 ३. प्रस्ताव नं. ३ मा श्री शुक्र ति. मा. वि. शिवगंज-८ मा शुद्ध पिउने पानी र भवन मर्मत को लागि माग गर्ने निर्णय गरियो।
 ४. प्रस्ताव नं. ४ मा चन्द्रडांगी बजार परिसरमा कुछि फारमको बाटो हुँदै होली बस्तीको छललाई व्यवस्थित गर्ने र मोहन लिम्बुको घर परिसरमा सतासी खोलामा एक पक्की पुल निर्माण गर्न माग गर्ने निर्णय गरियो।
 ५. प्रस्ताव नं. ५ मा बजारमा शुद्ध पिउने पानी र खोलाको भवन निर्माण तथा मर्मत को लागि माग गरियो।
 ६. प्रस्ताव नं. ६ मा दुधे माहाभारा सडक कालो पत्र बाटो निर्माण गर्दा ज्याला/मजदुरीको आवश्यकता पर्ने हुँदा स्थानिय मजदुरलाई नै प्राथमिकताको आधारमा श्रममा लगाउनु पर्ने निर्णय गरियो।



COMMUNITY CONSULTATION MEETING NOTES RECORD SHEET

(Sample outline)

उप-आयोजनाको नाम दुई छिमेक पायजीमहागरी - कुन्जीवारी स्थिति बिप्लव - कोशी, लुङ्गा-गैँडी

जिल्ला मोरङ गा.वि.स. महागरी वडा नं. ३ टोल कुन्जीवारी

कार्यक्रम सञ्चालकको नाम RRRSDP

आज मिति २०७६ साल भाद्र २९ गते शनिवार का दिन यस समीप पुनर्निर्माण तथा पुनर्वासमा कार्यरत २०७६ साल को दुई छिमेक पायजीमहागरी रडक उप-आयोजनाको सुधार तथा स्तरोन्नतिमा लागि दुई छिमेक पायजीमहागरी मा गोविन्द कुँवर को अध्यक्षतामा बैठक बसी तपसिल बमोजिमका व्यक्तिको उपस्थितिमा सम्पन्न भएको छ।

क्र.सं.	सहभागीको नाम	ठेगाना	हैसियत	हस्ताक्षर
१)	गोविन्द बहादुर कुँवर	महागरी - कुन्जीवारी	ने.क.पा. (एम.सि.) गोविन्द	
२)	धर्म राम कार्पेल	महागरी - १	ने.क.पा. एम.सि.	
३)	हेम प्रसाद बहाल	महागरी - २	ए.ने.क.पा. भा.स.का.व.स.	
४)	गणेश ठकाल	महागरी - १	ए.ने.क.पा. भा.स.का.व.स.	
५)	सुशमन राजवंशी	महागरी - ३	ने.क.पा. भा.स.का.व.स.	
६)	काली प्रसाद राजवंशी	महागरी - ६	सदभावना	
७)	हेम बहादुर राजवंशी	महागरी - ६	सदभावना	
८)	दिप नारायण शर्मा	महागरी - ७	म.स.का.व.स.	
९)	राजेश राजवंशी	महागरी - ३	युवा कार्यकर्ता	
१०)	विजय प्रसाद राजवंशी	महागरी - ३	ए.ने.क.पा. भा.स.का.व.स.	
११)	शिवराम कुँवर गोष	महागरी - ३	ने.क.पा. (एम.सि.)	
१२)	हर सिंह कोच	महागरी - ३	समाज सेवा केन्द्र	
१३)	हर सिंह शम्शेर	महागरी - ३	व्यक्ति	
१४)	विजय प्रसाद राजवंशी	महागरी - ३	रेक्टर/एम.सि.	
१५)	राजकुमार कोच	महागरी - ३	मजदुर	

मोर्चा विकास समिति
महागरी, मोरङ
२०७६ साल

(Signature)
सुम प्रसाद उप्रेती
समिति, सम्बन्धित समिति, सम्बन्धित

अन्य फल का विषय र प्रस्तावना:

1. विवादों विषय
2. स्थानिय भूमि के बारे में
3. वातावरण प्रदूषण वारे
4. स्कूल सम्बन्धमा
5. हेतय गैर सम्बन्धमा

6. नदी नियन्त्रण सम्बन्धमा
6. वजार व्यवस्थित गर्ने बारेमा

उपरोक्त प्रस्ताव उपरका निर्णयहरू:

1. दुई कुन्जिवारी छाट निर्माण गर्दा कुनै विवाद छैन ।

2. स्थानिय आवश्यक अनुसार भूमि गर्न तयार छौं ।

3. वातावरण प्रदूषण सम्बन्धमा अलफन डकडन प्रदूषण भएको हुदा हामीबाट कुनै विरोध हुने छैन ।

4. स्कूलको विषयमा यस क्षेत्रमा पिछडिएको दुर्गम भएको हुदा स्कूल जम्न 10+2 टिचु जास टु संचालनको लागि भवन निर्माणको लागि अनुरोध गर्दछौं ।

5. हाम्रो घर मद्गरा क्षेत्र पिछडिएको आदीवासीको बसोबास भएको हुदा अनिवार्य छलफलको निर्माणको लागि अनुरोध गर्दछौं ।




6. नदी नियन्त्रणको लागि कमल वनियानी नदीलाई छेक्न खोला गाँजा वस्ती र गढी गाँउ भन्ने ठाँउमा नद्वन्द्वन गर्नुपर्ने

7. रकुन्जिवारी खाल कवयान मा.वि. र्ख नदी नियन्त्रण नद्वन्द्वन गर्नुपर्ने आवश्यक हैसियतको अनुरोध गर्दछौं । साथै कुन्जिवारी दक्षिण भारतको सिमाना कोडर सम्म जाने पाटो कम्प्लेक्स बनाउ गरौं बाटो अपडेट भएको हुदा नदी निर्माण साथै उक्त बाटो निर्माणको लागि अनुरोध गर्दछौं ।

8. दक्षिण भेगमा रहेको एक मठ कुन्जिवारी म.वि.सी. (पु.बु. वजार) भएको हुदा वजारलाई व्यवस्थित करीकवाट भित्रै गर्नेको लागि ढल पिकास, संचालन, खानेपानी, फाउन्टेन भवन निर्माणको लागि अनुरोध गर्दछौं ।

प्रमाणित
राम प्रसाद उप्रेती
उपप्रधान
रा.प्र.स. वन्यजन्तु संरक्षण, महेन्द्र

Annex X: Recommendation letters

	नेपाल सरकार स्थानीय विकास मन्त्रालय	प्राप्त पत्रको पत्र संख्या र मिति उल्लेख गर्नुहोला
पत्र सं. ०६६/०६६ च.न. ६६६	गाउँ विकास समितिको कार्यालय	मिति: २०६६/९/२६
	शिवगञ्ज, भापा	
विषय: प्रतिक्रिया पठाइएको बारे ।		
श्री ग्रामीण पुननिर्माण तथा पुनर्स्थापना आयोजना जिल्ला आयोजना कार्यालय भद्रपुर, भापा		
<p>प्रस्तुत विषयमा तहौ कार्यालय बाट तयार भएको दुधे-शिवगञ्ज-माहाभार-कोरोवारी-विरपुर-वगाहाचौधरी सडकको प्रारम्भिक वातावरणीय परिक्षण प्रतिवेदन गा.वि.स.को संयन्त्र सदस्य लगायत नागरिक समाजको बैठकमा छलफल गराई उक्त आयोजना कार्यान्वयन बाट कुनै पनि वातावरणीय प्रतिकूल प्रभाव नपर्ने देखिएको पाइएको तथा यस कार्यालयमा टँसीएको वातावरणीय प्रभाव सम्बन्धी सूचना अनुसार पनि कुनै पनि व्यक्ति र संस्थाको प्रतिकूल प्रभाव सम्बन्धी उजुरी नपर्ने देखिएकाले उक्त अयोजना कार्यान्वयनका लागि सिफारीस साथ अनुरोध गर्दछु ।</p>		
	 ०६६/९/२६ गा.वि.स. सचिव प्रसाद भट्टराई उपस्थित गा.वि.स. सचिवको कार्यालय	



नेपाल सरकार
स्थानीय विकास मन्त्रालय

प्राप्त पत्रको पत्र संख्या र
मिति उल्लेख गर्नुहोला

गाउँ विकास समितिको कार्यालय



पत्र सं.
च.न. ६२

मिति: २०६६/९/२६

विषय: प्रतिक्रिया पठाइएको बारे ।

श्री ग्रामीण पुननिर्माण तथा पुनर्स्थापना आयोजना
जिल्ला आयोजना कार्यालय
भद्रपुर, भूपा

प्रस्तुत विषयमा तहाँ कार्यालय बाट तयार भएको दुधे-शिवगञ्ज-माहाभार-कोरोवारी-विरपुर-वगाहाचौधरी सडकको प्रारम्भिक वातावरणीय परिक्षण प्रतिवेदन गा.वि.स.को संयन्त्र सदस्य लगायत नागरिक समाजको बैठकमा छलफल गराई उक्त आयोजना कार्यान्वयन बाट कुनै पनि वातावरणीय प्रतिकूल प्रभाव नपर्ने देखिएको पाइएको तथा यस कार्यालयमा टँसीएको वातावरणीय प्रभाव सम्बन्धी सूचना अनुसार पनि कुनै पनि व्यक्ति र संस्थाको प्रतिकूल प्रभाव सम्बन्धी उजुरी नपर्ने देखिएकाले उक्त अयोजना कार्यान्वयनका लागि सिफारीस साथ अनुरोध गर्दछु ।


२०६६/९/२६
गा.वि.स.को सचिव
दीपक ओझा
अध्यक्ष
गा.वि.स. संचालन समिति



नेपाल सरकार
स्थानीय विकास मन्त्रालय

प्राप्त पत्रको पत्र संख्या र
मिति उल्लेख गर्नुहोस्

गाउँ विकास समितिको कार्यालय



पत्र सं.

च.न.

Lot

मिति: २०६६/९/२६

विषय: प्रतिक्रिया पठाइएको बारे ।

श्री ग्रामीण पुनर्निर्माण तथा पुनर्स्थापना आयोजना
जिल्ला आयोजना कार्यालय
भद्रपुर, झापा

प्रस्तुत विषयमा तहाँ कार्यालय बाट तयार भएको दुधे-शिवगञ्ज-माहाभार-कोरोवारी-विरपुर-
वगाहाचौधरी सडकको प्रारम्भिक वातावरणीय परिक्षण प्रतिवेदन गा.वि.स.को संयन्त्र सदस्य लगायत नागरिक
समाजको बैठकमा छलफल गराई उक्त आयोजना कार्यान्वयन बाट कुनै पनि वातावरणीय प्रतिकूल प्रभाव
नपर्ने देखिएको पाइएको तथा यस कार्यालयमा टँसीएको वातावरणीय प्रभाव सम्बन्धी सूचना अनुसार पनि
कुनै पनि ब्यक्ति र संस्थाको प्रतिकूल प्रभाव सम्बन्धी उजुरी नपर्ने देखिएकाले उक्त आयोजना कार्यान्वयनका
लागि सिफारीस साथ अनुरोध गर्दछु ।


गा.वि.स. सचिव
पूर्ण रामशेर कुँवर
३१.१२.२०६६
गा. वि. स. संचालन समिति



नेपाल सरकार
स्थानीय विकास मन्त्रालय

प्राप्त पत्रको पत्र संख्या र
मिति उल्लेख गर्नुहोला ।

गाउँ विकास समितिको कार्यालय

सहायक सचिव
समावेशी विकास
संस्था: २०४७

प स ४६९
च न

मिति २०६६/८/१६

विषय:

श्री

विषय: प्रतिक्रिया पठाइएको बारे ।

२६- ग्रामीण पुनर्निर्माण तथा पुनर्स्थापना आयोजना
जिल्ला आयोजना कार्यालय
भद्रपुर, काभ्रे

प्रस्तुत विषयमा तपाईंको कार्यालय बाट तयार
भएको दुवै- विपणन- मोटोमारा- कोरौवासी- बिद्रपुर- वगाह-
कोटारी- शडकको प्रारम्भिक वातावरणीय पहिचान प्रतिवेदन
गो.वि.स.को संयन्त्र सफल लगायत नागरिक
समाजको बैठकमा देलाइल गरि उक्त आयोजनाको
नवचन बाट कुनै पनि वातावरणीय प्रतिकूल प्रभाव
नपर्ने देखिएको पाइएको तथा यत् कार्यालयमा टापीएको
वातावरणीय प्रभाव सम्वन्धी भुचन गरिसा पनि कुनै
पनि व्याप्ति र संस्थाको प्रतिकूल प्रभाव सम्वन्धी
उजुरी नपर्ने देखिएकाले उक्त आयोजना कार्यालयको लागि
सिफारीस को साथ अग्रोथ गर्दछु ।

सहायक सचिव
गा.वि.स. संचालन समिति
सतासीधाम गा.वि.स.



नेपाल सरकार

स्थानीय विकास मन्त्रालय

गाँऊ विकास समितिको कार्यालय
(Office of Village Development Committee)

महाभारत, झापा
Mahabharat, Jhapa (Nepal)

प्राप्त पत्रको पत्र संख्या र
मिति उल्लेख गर्नुहोस्

पत्र सं.

च.न. ११५

मिति: २०६६/९/२६

विषय: प्रतिक्रिया पठाइएको बारे ।

श्री ग्रामीण पुननिर्माण तथा पुनर्स्थापना आयोजना
जिल्ला आयोजना कार्यालय
भद्रपुर, झापा

प्रस्तुत विषयमा तहँ कार्यालय बाट तयार भएको दुधे-शिवगञ्ज-महाभार-कोरोवारी-विरपुर-
वगाहाचौधरी सडकको प्रारम्भिक वातावरणीय परिक्षण प्रतिवेदन गा.वि.स.को संयन्त्र सदस्य लगायत नागरिक
समाजको बैठकमा छलफल गराई उक्त आयोजना कार्यान्वयन बाट कुनै पनि वातावरणीय प्रतिकूल प्रभाव
नपर्ने देखिएको पाइएको तथा यस कार्यालयमा टँसीएको वातावरणीय प्रभाव सम्बन्धी सूचना अनुसार पनि
कुनै पनि व्यक्ति र संस्थाको प्रतिकूल प्रभाव सम्बन्धी उजुरी नपर्ने देखिएकाले उक्त आयोजना कार्यान्वयनका
लागि सिफारीस साथ अनुरोध गर्दछु ।

गा.वि.स सचिव

Annex XI

XI.a: Summary of public services & infrastructures

XI b: Land holding pattern of settlements within Zol

XI c. Number of households belonging to different food security category

XI d. Distribution of households by major occupation

Annex XI.a: Summary of public services & infrastructures

VDC Name	SCHOOL				HEALTH POST	AGRICULTURE /VETENARY OFFICE	POST OFFICE	BIOGAS	TELEPHONE FACILITY	FOREST OFFICE	SECURITY OFFICE	SHOPS	COOPERATIVES	FURNITURE	RICE MILL
	PRIMARY	LOWER SECONDARY	SECONDARY	HIGHER SECONDARY											
Satasidham	2	0	0	0	HP	1	1	356	1	1	1	63	1	5	4
Sivaganj	0	0	0	1	PHP	0	1	243	1	0	1	143	6	2	7
Panchgachhi	0	1	0	0	0	0	1	121	1	0	1	43	5	1	5
Mahavara	0	0	1	0	0	0	1	34	1	0	1	54	0	1	1
Korobari	1	0	0	0	0	0	1	23	1	0	1	24	0	2	1

PHP: Public Health Centre

SHP: Sub Health Post

HP: Health Post

Annec XI b: Land holding pattern of settlements within Zol

S.N	Influenced VDCs	Ownership /land holdings Distribution of HHs						Total
		Less than one ropani	1-5 ropani	5-10 ropani	10-20 ropani	20-50 ropani	More than 50 ropani	
1	Satasidham	194	183	102	127	80	6	692
2	Sivaganj	239	149	105	138	123	32	786
3	Panchgachhi	182	93	79	105	94	15	568
4	Mahavara	246	90	64	115	123	45	680
5	Korobari	149	79	38	82	165	57	570
Total		1007	594	388	567	585	155	3296
Percentage		30.55	18.02	11.77	17.20	17.74	4.7	100

Annex XI c: Number of households belonging to different food security category

S.N	Influenced VDCs	Distribution of HHs by food sufficiency level				Total HHs
		0-3 months	3-6 months	6-9 months	9-12 months	
1	Satasidham	234	179	92	187	692
2	Sivaganj	371	76	57	282	786
3	Panchgachhi	255	74	39	200	568
4	Mahavara	323	68	47	242	680
5	Korobari	182	49	105	234	570
Total		1365	446	340	1145	3296
Percentage		41.41	13.53	10.31	34.73	100

Annex XI d: Distribution of households by major occupation

S.N	VDCs	Agriculture labor	Employee	Business	Agriculture and Livestock raising	Abroad Labor	Total HH
1	Satasidham	113	81	112	151	232	689
2	Sivaganj	242	57	146	145	196	786
3	Panchgachhi	232	25	78	141	92	568
4	Mahavara	294	34	70	174	108	680
5	Korobari	202	29	32	267	40	573
Total		1083	226	441	878	668	3296
Percentage		32.85	6.85	13.38	26.64	20.28	100

Annex XII: Detail Structure

Chainage	Structure Type	Remarks
7+700	Pipe Culvert@90cm dia	Proposed Pipe Culvert
8+800	Pipe Culvert@60cm dia	Proposed Pipe Culvert
8+950	Pipe Culvert@60cm dia	Proposed Pipe Culvert
11+837.17	Causeway	Existing Causeway
8+340.16	Pipe Culvert@60cm dia	Existing Pipe Culvert
10+165.23	Pipe Culvert@90cm dia	Existing Pipe Culvert
23+568	Pipe Culvert@60cm dia	Proposed Pipe Culvert
23+956.94	Pipe Culvert(double cell@60cm dia)	Proposed Pipe Culvert
24+259.34	Pipe Culvert@60cm dia	Proposed Pipe Culvert
24+675	Pipe Culvert@90cm dia	Proposed Pipe Culvert
26+609.45	Pipe Culvert@45cm dia	Existing Pipe Culvert
26+930.06	Pipe Culvert@45cm dia	Existing Pipe Culvert
27+304.78	Pipe Culvert@60cm dia	Existing Pipe Culvert
27+390.54	Pipe Culvert@60cm dia	Existing Pipe Culvert
28+317.88	Pipe Culvert@60cm dia	Existing Pipe Culvert
28+364	Pipe Culvert@60cm dia	Proposed Pipe Culvert
29+050	Pipe Culvert@60cm dia	Proposed Pipe Culvert
29+500	Pipe Culvert@60cm dia	Proposed Pipe Culvert
29+942.88	Pipe Culvert@90cm dia	Existing Pipe Culvert
30+276.72	Pipe Culvert@90cm dia	Proposed Pipe Culvert
30+481	Pipe Culvert@60cm dia	Proposed Pipe Culvert
30+509	Pipe Culvert@60cm dia	Proposed Pipe Culvert
30+600	Pipe Culvert@60cm dia	Proposed Pipe Culvert
2+848.37	Culvert	Existing Culvert
13+344.76	Culvert	Existing Culvert
14+483.7	Culvert	Existing Culvert
14+840.32	Culvert	Existing Culvert
7+150	Bridge	Existing Satasi Khola Bridge, River training and Bio-engineering
8+150	Bridge	Existing Makal Dubba Bridge, River training and Bio-engineering
14+740	Bridge	Existing Banyani Bridge, River training and Bio-engineering
22+225	Bridge	Proposed Kamal Bridge, River training and Bio-engineering

Annex XIII: Photograph



Damaged Blacktop at Ch 3+200



Damaged Satashi khola Bridge requires renovate at Ch 7+480



Road alignment with more than 6m width



**Irrigation Canal outside formation width
Ch. 6+500-7+500 8+000**



Kamal Khola at Ch 22+400



Existing Earthen Road at Ch 25+670



Embankment protection required at ch 7+700