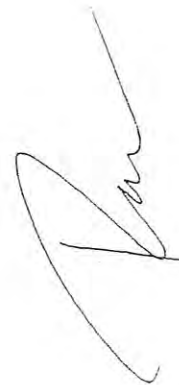


S/N	Statement of Impact	Mitigation Measures	Cost	Alignment Measures	
				Responsible Executing Agency	Relevant Monitoring Agency
	(route clearance) of community and national forest				
	Cutting of trees and clearing of shrubs and herbs of the forest area which eventually causes loss of habitat/biodiversity of the project area		M55	compensated by plantation at the ratio of 1:25 and take responsibility to protect for 5 years	consultant
	Issues on the rare species of fauna	Migration of rare species	LS30	As the site does not have any rare species, the impact of the project will be minimal	Proponent/ Consultant
	Disturbances in Wildlife activities and corridor of wildlife movements	Possible disturbances on Wild life	MS60	Awareness rising to both laborer and local people Hunting and poaching by the construction workforce and Project staff will be strictly prohibited	Proponent/ consultant
	Fragmentation on existing ecosystems	Decline of species from the project site	MS60	The alignment passes through the small forest area, it will have less impact to ecosystem of the forest area	Proponent/ consultant
	Disturbances on specific ecological niche of rare	No effect	Not significant	Evaluated by the Biologist	-

Species of fauna	Impacts	Impact Rating Status	Mitigation Measure	Mitigation Cost	Penalty/ Augmentation Measures	Relevant Monitoring Agency		
species of fauna	ecological niche							
Operation Phase								
Impact of forest resources	Deforestation		Illegal cutting of trees and other natural resources	MS60	Fencing of forest boundary along the road side	20000.00	Project	Proponent/ Consultant
Habitat Fragmentation and disturbances to wildlife	Collision of wildlife vehicles, disturbance in their normal activities, hunting and poaching activities increases		Habitat fragmentation and disturbance to wild life	MS55	Control the activities like illegal hunting and poaching of wild fauna. Awareness training to driver to limit speed and horn use	As per need	Contractor/ DFOs/CFUGs	Proponent/ consultant
Possible illegal hunting and poaching of wildlife	Loss of wildlife species		Extinction of species	M55	Awareness to the local people.	As per need	Contractor/ DFOs/CFUGs	Proponent/ consultant
Disturbances on specific ecological niche of rare species of fauna	Collision of wildlife vehicles, disturbance in their normal activities, hunting and poaching activities increases		Habitat fragmentation and disturbance to wild life	M55	Control the activities like illegal hunting and poaching of wild fauna. Awareness training to driver to limit speed and horn use	As per need	Contractor/ DFOs/CFUGs	Proponent/ consultant



CHAPTER 8: REVIEW OF ACTS/RULES, PLANS/POLICIES

Review of Acts/Rules, Plans/Policies, Guidelines, Standards and Conventions

1 Constitution

Interim Constitution of Nepal, 2063 BS (2007 AD) (with amendment)

The Interim Constitution of Nepal clearly set the provision on the right for every person to live in a clean environment. Article 35(5) also provisions that the State shall make necessary arrangements to maintain the natural environment. The State shall give priority to special protection of the environment, rare wildlife and prevent further damage due to physical development activities, by increasing awareness of the general public about environmental cleanliness.

2 Acts and Rules

Environment Protection Act, 2053 BS (1996 AD)

The Environment Protection Act, 1996 has stated several provisions to institutionalize the integration of environmental aspects in development sub-projects including road sector and empowers Ministry of Science, Technology and Environment (MoSTE) approve EIA report. Similarly, in case of IEE study, line Ministry, which is Ministry of Physical Planning and Works is authorized to approve Final IEE Report. The following are the highlights of the EPA, 1996;

The Act recognizes the interdependence between development and the environment and shows the means for minimizing the impacts of environmental degradation on people, animal, and plant species and their physical surroundings. The act obliges the proponent to undertake IEE and EIA of proposal, plans or sub-projects which may cause changes in existing environmental condition and authorizes Ministry of Environment to clear all EIA and line Ministry for IEE study.

Forest Act, 2050 BS (1993 AD)

Forest Act, 1993 recognizes the importance of forests in maintaining a healthy environment. The Act requires decision makers to take account of all forest values, including environment services and biodiversity, not just production of timber and other commodities. The basis of Act is resource oriented rather than use oriented. The Forest Act, 1993, (with amendment) contains several provisions to ensure the development, conservation, management and sustainable use of forest resources based on approved work plan. Section 23 of the Act empowers the government to declare any part of the national forest, which has 'special environmental, scientific or cultural value', as a protected forest. Section 49 of the Act prohibits reclaiming lands, setting fires, grazing cattle, removing and damaging forest products, felling trees of plants, wildlife hunting and mining boulders sand and soil from the National forest without the prior approval. However, the government may enforce Section 68 of the Forest Act to provide parts of any type of forest for the implementation of a national priority plan with the assurance that it does not adversely affect the environment significantly.

Forest Rules (1995 AD)

Forest Rules 1995 (with amendment) further elaborate legal measures for the conservation of forest and wildlife. Based on forest legislation, thirteen plant species are included in the level I ban list. Of them, GoN has banned the felling, transportation and export of Champ (*Michelia*), Khayer (*Acacia catechu*) and Sal (*Shorea robusta*). The Rule also stipulates that the expenses for cutting and transporting the forest products in a forest area to be used by the project shall be borne by the proponents of the project.

[Signature]

Solid Waste Management Act, 2068 BS (2011 AD)

The Act strongly prohibited for haphazard disposal of solid waste. It tells, the solid waste should be managed at source with consideration of safe environmental condition.

Solid Waste Management Regulation 2070 BS (2013 AD)

As per the SWM Regulation 2070, at least segregation shall be done of organic and non-organic solid waste on its source. The responsibility of managing chemical and harmful solid waste shall be rest on the generator himself. While managing the harmful waste such waste shall fully abide the standard set by the GON. At the time of waste transportation, the solid waste should not be visible, should not fall out and no seepage of liquid materials should be made.

Explosive Act, 2018 BS (1961AD)

The act defines the explosive matters and reserves the right to the government to define the explosive as to the requirement by publication of notice. Without holding the license from the government authorized person, individuals/institutions are prohibited to manufacture, use, sell, transport or import/export explosives defined by the government. The licensee has the obligation to report in case of accidents while manufacturing, using, selling, storing, and transporting of the explosive. Those not comply with the provisions are treated as offenders of the law and are punishable as per the law provisions.

Public Road Act 2031 BS (1977AD)

According to the Act (Article 14 &15), The Department of Roads may temporarily acquire the land and other property adopting compensatory measures during the construction, rehabilitation and maintenance of the public roads. The Act also empowers the DoR to operate quarries, borrow pits and other facilities during the road construction (Article 17). In sum, the Act facilitates the acquisition of land and property for the extraction of construction materials and development of other facilities as well as to maintain greenery along the roadside with adoption of compensatory measures.

Motor Vehicles and Transport Management Act, 2049 BS (1993 AD)

This act sets standard for vehicles emission and mechanical condition for vehicle registration by the transport management office (TMO) and the TMO can deny a permit based on environmental factor. Standards are set for petrol and diesel engines under the Nepal vehicle mass emission standard 1999.

Road Board Act 2059 BS (2002 AD)

The Road Board Act, Section 14 has provisioning mandate to the road-related body to submit to the board an annual programme regarding repair and maintenance of the roads each year within the prescribed time-limit, setting out the roads which it intends to repair and maintain. It has to give information of such programme to the Ministry.

Ancient Monument Act, 2013 BS (1956) *

This act has the objective of protection and conservation of the ancient monuments, temples, arts, writings etc of age older than 100 years. The Act empowers the government to declare any such objects, temples etc. under protection category by giving public notification. The act stipulates that such artefacts, temples etc. declared under protection lists should not be disturbed or removed from their places without the consent of the government.

Forest and Minerals Act 2042 BS (1985 AD)

Forest and Minerals Act, Section 11 address is no significant adverse effect shall be caused on environment while undertaking mining operations: the person undertaking mining operations shall undertake it without causing significant adverse effect on environment. Likewise, a person

[Handwritten signature]

Final Environmental Examination Study Report of
Kapul-Pawati-Dadakharka Road Sub Project

materials and spoil disposal, operation of the work camps, earthworks and slope stabilization, location of stone crushing plants etc.

Roadside Bio-engineering, DoR, GoN, 2056 BS (1999 AD)

This Reference Manual provides a theoretical background for the use of vegetation in engineering.

Guideline to Permit Forest Land for Other purpose 2063 BS (2006 AD)

Guideline for the use of the forest area for development projects reiterates the use of the forest area only if other options are not available. The projects requiring the forest land area have to make alternative studies to minimise the forest land use areas. Development project national priority will be located such lands on the discretion of the Ministry of Forest. To compensate the forest area and resource lost the project proponent should plant 25 trees for every lost tree of above 30cm DBH in areas designated by the district forest office and look after the plantation for 5 years to ensure their protection and growth of every planted tree.

Forest Products Collection and Sales Distribution Guidelines, 2057 BS (2000 AD)

Clause 3 to 10 of the Guideline have specified various procedure and formats for getting approvals for vegetation clearance, delineation of lands for vegetation clearance, evaluation of the wood volume etc. and government offices and officials responsible for the approval, delineation and valuation.

APPROACH for development of Agricultural and Rural roads 2055 (1999)

Emphasizes the labor based technology and environmental friendly local resource oriented construction methods to be adopted actively in rural infrastructure process. The following policies and Standards were reviewed and applied during the preparation of the report.

- IEE Rural Access Programme (RAP) Guidelines, 2060 BS (2003 AD)
- Environmental and Social Management Framework, (A guide to Environmental and Social issues Associated with New Road Construction and Upgrading) MoPPW/GoN 2064 BS (2007 AD)
- Guide to Road Slope Protection Works, 2003
- Nepal Ambient Air Quality Standard 2069 BS (2012 AD)
- National Standard About Noise Level 2069 BS (2012 AD)
- Nepal Vehicle Mass Emission Standard, 2069 BS (2012 AD)
- National Indoor Air Quality Standard Implementation Guideline, 2066 BS (2009 AD)

Reference Manual for Environmental and Social Aspect of Integrated Road Development, 2064 BS (2007 AD)

This manual has been prepared by DoR under Road Maintenance and Development Project (RMDP). The Manual is designed to help integrate social and environmental considerations, including public involvement strategies, with technical road construction practices. It suggests a systematic process of addressing E&S issues alongside the technical, financial and others. The manual is based on the experiences of Nepal, as well as incorporates the national (EPA, 1997; EPR, 1997) and international 'best practices'. It suggests process of environmental and social assessment, roles and responsibilities of stakeholders at various stages of the Project, advice on impact mitigation action plans, and process for involving the public.

Guide to Road Slope Protection Works, 2003

This guide is developed by the DOR to prevent the road slope disaster. Generally, road are blockade due to slope disasters caused by harsh natural conditions such as steep slopes, fragile geology, heavy rainfall, river floods and earthquakes. If there disaster can be managed, it can play vital role in providing efficient and effective transport service to travellers. The main objective of this guide is to

[Signature]

Initial Environmental Examination Study Report of
Nayapul-Pawati-Dadakharka Road Sub Project

maintain the traffic operation, improve road safety, minimize environmental degradation and reduce traffic operation cost.

Statistics of Strategic Road Network (SSRN) 2011/2012

The Department of Roads (DoR), Ministry of Physical Planning and Works have been publishing Nepal Road Statistics (NRS) since 1998 in two years interval. The SRN having road references are based on the recent cabinet decisions. The road categorised included are existing SRN, under construction SRN, Planned SRN, Postal roads and mid hill roads. Existing national Highways and Feeder Roads falling under Bituminous/Blacktop (BT), gravelled (GR) and Earthen (ER) road categorised have been thoroughly checked and incorporated in this document with their road reference number and link codes.

Guidelines for Environmental Management in Road Sector, 1999

Guidelines for Road Sector, 1996, facilitate the proponents to prepare environmental assessment reports. These guidelines have been thoroughly reviewed and all pertinent issues have been incorporated during the preparation of this Report. The DOR Environmental Management Guidelines (EMG), 1999 provides guidance to the Proponent to integrate environmental mitigation measures, particularly on the management of quarries, borrow pits, stockpiling of materials and spoil disposal, earthworks and slope stabilization, location of stone crushing plants, etc. The Environmental Guidelines for Local Development also encourages the Proponent to incorporate environmental issues during Sub-project design and implementation.

Environment Directives, 2057 (2001)

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.

Environment and Social Management Framework, DOR, 2008

The Environmental and Social Management Framework (ESMF) is prepared to compile in an overview and guidance manner, various safeguard and compliance aspects of environmental and social issues related with the road construction and development. The ESMF intends to provide technical and managerial inputs and guidance into the design of the strategic roads (both designated for rehabilitation and, to lesser extent, to new construction), through identification of key environmental and social issues related to the foreseen projects, mitigate potential impacts and concerns and, devise opportunities to enhance the benefits. The framework integrates in a step-wise approach the most important environmental and social considerations into all stages of project preparation, implementation, monitoring and operation.

IEE Rural Access Programme (RAP) Guidelines, 2060 BS (2003 AD)

The RAP guidelines for IEE, 2001 have clearly mentioned process of IEE shall be done through screening, preparation of Term, desk review, field work, data analysis and interpretation (identification, prediction and analysis of impact), mitigation measures, monitoring plan and reporting.

Environment Examination, Resource Book 2013 AD), MoFALD

Environment resource book has published on 2070 BS by Ministry of Federal Affairs and Local Development. It provides guidelines to prepare an Initial Environment Examination (IEE) report to the proponent for the consideration of environmental issues. It has provided methods to minimize the environmental impact from any kind of development activities. It also provides methods for how to participate a public and their interest to any kind of development activities.

Initial Environmental Examination Study Report of Nayapul-Pawati-Dadakharka Road Sub Project

Environment Friendly Local Governance Framework, 2013 AD

It is framework in which the policies for local bodies are integrated to strengthen the environment protection and improvement in sanitation. It includes waste management, environment protection, climate change, disaster risk management and local governance issues. The guideline has also provisioned basic, improved and special indicators along with local investment on the environment.

8.6 Standards

Nepal Ambient Air Standards 2069 BS (2012 AD)

NAAS 2012 have kept the following ambient air concentration standard to be maintained for 95% of days in a year. The standards are as follows:

Parameters	Units	Averaging Time	Concentration Max	Test Methods
TSP	$\mu\text{g}/\text{m}^3$	Annual	-	High Volume Sampling and gravimetric analysis
		24 hour	230	
PM10	$\mu\text{g}/\text{m}^3$	Annual	-	High Volume Sampling and gravimetric analysis
		24 hour	120	
Sulfur Dioxide	$\mu\text{g}/\text{m}^3$	Annual	50	Ultraviolet Fluorescence, West and Gaeko Method
		24 hour	70	
Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	Annual	40	Chemiluminescence
		24 hour	80	
Carbon monoxide	$\mu\text{g}/\text{m}^3$	8hour	10000	Non Dispersive Infra Red spectrophotometer (NDIR)
Lead	$\mu\text{g}/\text{m}^3$	Annual	0.5	High Volume Sampling followed by atomic absorption spectrometry
Benzene	$\mu\text{g}/\text{m}^3$	Annual	5	Gas Chromatographic
PM2.5	$\mu\text{g}/\text{m}^3$	24 hours	40	PM2.5 sampling gravimetric analysis
Ozone	$\mu\text{g}/\text{m}^3$	8 hours	157	UV spectrophotometer

National Standard about Noise Level 2069 BS (2012 AD)

According to EPR 2069 the noise level standard shall be maintained to the following limits in different area. In case of rural area the noise level have to be in between 45-40 dB.

Area	Leq (dB)	
	Day	Night
Industrial Area	75	70
Business Area	65	55
Rural Area	45	40
Urban Area	55	50
Mixed Area	63	55
Precious Area	50	40

Nepal Vehicle Mass Emission Standard, 2069 BS(2012 AD)

With respect to the EPR 2069, standards are set for the vehicular mass emission. The set standards are the emission factor for different fuel type vehicles. During the vehicular flow in the road, these standards have to be maintained by each vehicles.

Nepal Rural Road Standard 2055 BS (revised 2012AD)

The Nepal rural road standard is introduced with the objective to set the classification and geometric design standards of the local road network which shall be followed in all types of road construction. All existing district road are classified as District road A and village road as District road B. It has set the equivalency factor different vehicle types that are meant for open sections only. It has

described the design capacity and speed for district and village road. It has detail presentation of ROW, carriage way width, shoulder width road way with and other road cross sections. Similarly, has provided the formula for the stopping sight distance and standards for lateral and vertical clearance. It has detail explanation of horizontal and vertical alignment of road with prescribe standards. These all shall be taken into consideration during determining the road alignment of the project.

International Conventions and Treaties

Convention on Biological Diversity, 2049 BS (1992 AD)

projects that may be planned for lands that are designated as UN Biosphere Reserves, national parks, nature reserves or conservation areas will be affected by this UN Charter. Besides, the convention emphasizes on the conservation of biodiversity in any other sites.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 2059 BS, amended, 2059 BS (1973 AD, amended 1979 AD)

convention prohibited the trade of endangered species as well as their organs and many more. Endangered species are classified based on the IUCN red data list. The convention also tells that the national and international movement is also prohibited.

Plant Protection Convention, 1951

convention is held with the aim to prevent spread of pest and diseases of plants and to plant products. This promotes different measures to control such disease and pests. The convention talks about the different ways to reduce such cases to bring improvement in plant protection.

pdfelement

CHAPTER 9: ENVIRONMENT MANAGEMENT PLAN

9.1 Environment Management Plan

The Environmental Management Plan (EMP) is a management tool that helps to set role of different Institution and their responsibilities. This EMP includes those activities that apply to pre-construction, construction and operation. Hence, it identifies key issues likely to arise from Project Implementation, and proposes mitigation measures, including monitoring schedule and responsibility. Taking into account these considerations, the EMP guides the Project management in such a way that the environment protection measures are adequately implemented.

9.1.1 Institutions and their roles

Different organizations involved in IEE and EMP implementation and roles of these institutions are given in Table 9.1. That is based on environmental management organizational structure is given below in figure 9.1

Table 9.1: Institutions and their Role

Institution	Role	Responsibility in The Project
Ministry of Science, Technology and Environment (MoSTE)	Duty to formulate and implement environmental policies, plans and programs at national level	Representation in IEE review team constituted by the Environmental Management Section MFALD
Ministry of Federal Affairs and Local Development	Executive agency and concerned IEE approval authority as per EPA/EPR.	To review and approve TOR for IEE and IEE report, Conduct environmental monitoring from central level.
Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR)	Responsible to execute infrastructure projects under MFALD. Provides backup support to DDCs in technical matters through DTO.	Overall coordination and supervision of the RRRSDP-2 in central level. It also supports DDCs through DTOs to implement the project activities. Review, comment and forward TOR for IEE and IEE Report to MFALD for approval.
Rural Reconstruction and Rehabilitation Sector Development Program-Phase 2 (RRRSDP-2)	Management of the Programme	EMP Implementation, Environmental Monitoring and Audit
District Development Committee (DDC)	Supervision, coordination, inspection and maintenance of Road	Support DoLIDAR for Supervision, coordination, inspection and maintenance of Road
District Technical Assistance (DTA) – RRRSDP Local Supervision Consultant	Technical Assistance and Management of RRRSDP at district level	Technical and management support to DDC/DTO for the implementation of project activities in the districts. Responsible for supervision and monitoring at field level.
Road Transport Infrastructure Coordination Committee	District level coordination committee	Sub-committee of the DDC to assist in planning, construction and maintenance of district level road network.
Roads Coordination Committee	Management operation committee for specific road at local level.	It is the link between the road users, community, interest group based within the road corridor and the DDC.
Road Users Committee	Management of road	It assists in hiring of workforce.

Environmental Examination Study Report of Pawati-Dadakharka Road Sub Project

Institution	Role	Responsibility in The Project
	construction groups during the construction work.	supervision of works, takes part in the measurement of works done and takes care of distributing payments to workers.
Roads Building Group	Working groups for rural road construction works	Implementation of road construction works in field

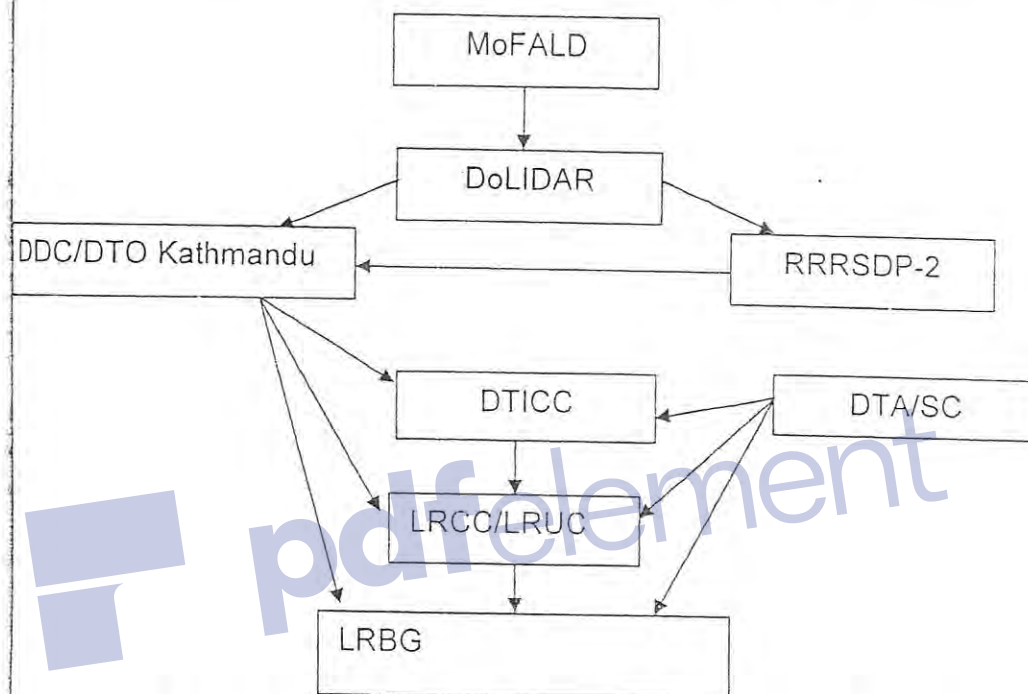


Figure 9.1:Environment Management Organization Structure

2 Reporting and Documentation

The report should be based on EMP and needed to be produced at regular time intervals by the compliance monitoring team. The trimester EMP compliance report will be prepared and submitted by the consultant to the client.

Agreements/Contract documents will categorically include provision of environmental protection, health and safety, waste management and other environment mitigation measures identified during EIE study. It will spell out clearly the measures that will be taken in case of non-compliance. It will make them comply with the provisions. Supervision consultant will regularly monitor the construction activities and RRRSDP will conduct Environmental Audit of the sub-project.

EMP makes also provision for a set of monitoring activities that are designed to ensure the effectiveness of the proposed management. The monitoring activities will also help to improve/maintain an environmentally and socially sound and acceptable level once the project has been constructed and becomes fully operational.

3 Implementation of Mitigation Measures

Mitigation measures should be integrated into project design and UC Agreements/contract documents. Using this approach, the mitigation measures will automatically become part of the project construction and operation phase. By including mitigation measures in the contract or in

specific items in the Bill of Quantities, monitoring and supervision of mitigation implementation could be covered under the normal engineering supervision provisions of the contract.

3.1.4 Costs for Executing the Environmental Management Plan

The cost estimate for the suggested mitigation measures such slope stabilization, awareness, waste management, bioengineering measures and tree plantation etc. shall be incorporated. Most of the mitigation measures suggested would be a part of road design and construction without additional cost. Most of the 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.

3.1.5 Specific Cost Details

Cost for Mitigation measures

The cost includes for slope stabilization, awareness, waste management, bioengineering measures and tree plantation etc under a mitigation measures of the project.

Table 9.2: Costs for Mitigation Measures

S No	Measures/activities	Qty.	Unit	Rate in Rs.	Cost in Rs.	Remarks
1.	Clearance of 131 trees (i.e. 2014 cft) including collection of fire wood all complete		LS		271680.00	Cost=(2014*120+4*7500) =Rs.271680 where Rs.120/cft (गोलिया काठ) is Rate of Cutting down tree all complete and Rs 7500 (प्रति चट्टा) is Rate of collection of the firewood produced during cutting down of trees. Also it is computed that 2014cft tree will produce 4 चट्टा of firewood.
2.	Growing of 3275 seedlings.	3275	no	12	39300	131 trees to be cleared, replacement ratio 1:25 trees including 5 years protection cost.(i.e.131*25=3275 trees.
3.	Transportation of seeding to site using tripper/truck	3	trip	15000	45000	
4.	Plantation of 3275 saplings including site preparation, pitting, mulching etc.		LS		36,000	3275 saplings require around 2 hector of land. Plantation in 2 hector of land =Rs18000*2=36000, where Rs 18000 is rate of Plantation per hector.
5.	2 parsons as caretaker of saplings for 5 years.	2	parsons	784750	15,69,500.	Rate=(405+405+405+445+490)/5=Rs.430 per parson per day. Thus, 430*365*5=784750 per persons for 5 years.

Initial Environmental Examination Study Report of
Nayapul-Pawati-Dadakharka Road Sub Project

6.	Fencing around sampling barbed wire fencing (7 horizontal and 2 diagonal barbed wire with concrete post @ center/centerdist .1.5m)	800	Rm	850	6,80,000	Assumed that fencing is done in the length of 800 RM and rate of fencing is taken rs.850.
7.	Monitoring and evaluation		LS		50,000	
8.	Bio engineering		LS		5,00,000	To developed bio engineering structure as per need.
9.	Slope stabilization		LS		5,00,000	Cut slope and natural slope protections per need.
10.	Drainage management		LS		1,00,000	To prevent from water logging as per need.
11.	Awareness activities.		LS		2,00,000	Awareness will be given for proper settlement, solid west management, road safety measures, pollution prevention etc.
Total					3991480.0	

3.2 Environmental Monitoring Activities

Monitoring is an integral part of the project so as to know the unlikely impacts and implement corrective measures. The proponent will develop in-built monitoring mechanism to show its additional commitment for environmental improvement and mitigate undesirable environmental changes, if any during construction and operational stage. DDC/DTO will be supported by DTA in the District and Environmental Specialist from the RRRSDP for environmental monitoring.

According to EPR, 1997, the MFALD/DoLIDAR is responsible for monitoring and evaluation of the impact of the implementation of the project. The DoLIDAR checks whether the DDC/DTO is carrying out monitoring activities as per the IEE or not. Total cost estimated for central level environmental monitoring is NRs 150,000.

DDC/DTO with RRRSDP support will make necessary arrangements for project level monitoring. Thus, it is recommended that an external team hired by DDC/DTO take responsibility for monitoring the environmental performance, in addition to the regular supervision and guidance provided by the DTA at the site. At least one monitoring in each construction season is necessary.

The DTA will submit its report to RRRSDP and DoLIDAR. Total cost of environmental monitoring (field visits, observation, review of reports and report preparation as well as central level monitoring cost) is estimated NRs. 350,000.

Table 9.3: Environmental Monitoring Cost

Description	Duration (month)	Rate (NRs)	Amount (NRs)	Remarks
District Level Monitoring				
Environmental Specialist	1	80,000	80,000	-

Initial Environmental Examination Study Report of
Nayapul-Pawati-Dadakharka Road Sub Project

Description	Duration (month)	Rate (NRs)	Amount (NRs)	Remarks
Support Staff	1	30,000	30,000	-
Transportation cost		LS	50,000	-
Report preparation		LS	20,000	-
Sampling and Lab test		LS	20,000	-
Central level monitoring (Monitoring by MoFALD)				
Monitoring cost		LS	150,000	-
Total			350000.0	

Summary costs for Environmental Safeguard Measures

The total environmental and social mitigation costs are summarized in Table 9.4.

Table 9.4: Environmental Management Cost

S.N.	Measures/ Activities	Costs Rs	Remarks
1	Cost for Mitigation Measures (Total of s.no.1 to 10 of table 9.2)	37,91,480	Mention items included
2	Cost for Awareness Training (s.no.11 of table 9.2)	2,00,000	List of awareness and training activities are mentioned
3	Environmental Monitoring including central level monitoring	3,50,000	District level and Central level monitoring cost
Total		43,41,480/-	

9.2.1 Matters to be monitored while implementing the Proposal

Environmental monitoring is important to crosscheck the project meets the compliance. It is about the organized collection of data and information to determine the actual environment effects of the project, compliance of the project with regulatory standards, and the degree of implementation and effectiveness of the environmental protection. Monitoring of the implementation of environmental protection measures provided a basis for logical comparison for the predicted and actual impacts of a proposal.

The national EIA guidelines (1993) and EPR, 1997 require monitoring plans and indicators, schedules and responsibility to be identified in the IEE report. The national EIA Guidelines of 1993, the EIA guidelines for the Forestry Sector of 1995 propose three stages for monitoring. They are baseline monitoring, compliance monitoring and impact monitoring.

9.2.1.1 Baseline Monitoring

The baseline monitoring is initial study that is to understand the pre-project baseline condition of the environmental parameters prior to the audit. It is the survey that documents detail information on the pre-project conditions of physical, biological, socio-economic and cultural resources. In general, it is done to know if there is a significant time lapse between the preparation of the IEE report and the construction stage or the change in environmental quality is noticeable. This project will proceed for construction immediately after the approval of this IEE report and hence, baseline monitoring is not required for the proposed project.

9.2.1.2 Compliance Monitoring

The monitoring is to crosscheck the status of project implement commensurate with the environment requirement set in the EA report, and they should be complied with the pre-construction, construction and operation stages of the project as mentioned in the document. It employs periodic sampling or continuous recording of certain parameters, and ensures implementation of any conditions set forth during EA report approval. Compliance with conditions may differ to the proponent or other organizations and individuals. This monitoring is not concerned with determining

Initial Environmental Examination Study Report of
Nayapul-Pawati-Dadakharka Road Sub Project

the actual effect of the project activities on the environment. This encourages the proponent and other stakeholders to implement what has been proposed for in EA report or the conditions issued during the approval process. Indicators of the compliance may differ from project to project and location to location.

Although, environmental monitoring is not the responsibility of the proponent, under the existing environmental laws, the project has included the monitoring for the compliance of the technical specification as an in-built practice. The agencies responsible for monitoring should ensure compliance of activities such as inclusion of mitigation measures in the design and tender documents, budget allocation for mitigation measures and monitoring and spoil disposal sites, storage procedure, arrangement of construction activities, sprinkling of water to arrest dust at regular or intermittent interval and so on.

2.1.3 Impact Monitoring

This monitoring is to check the level of environment consequences and estimates the difference made to the environment with the establishment of project and also compares with long term trends in the natural system and statutory standard or target. Impact monitoring is generally carried out to assess the effectiveness of the environmental mitigation measures and provides actual levels of impacts in the field. Hence, impact monitoring evaluation study is proposed by the end of the project construction phase or within two years of project implementation. Impact monitoring will focus on each predicted impact and effectiveness of environmental protection measures.

2.1.4 Monitoring Parameters

Pre-construction Phase

During this phase the consultant bear the main responsibility in ensuring that the environmental and social safeguard considerations are adequately incorporated in the project design and that the respective clauses to address the identified impacts are sufficiently included in the specifications and contracts. The consultants' environmental specialists shall conduct, during the initial survey, a baseline monitoring with respect to the prevailing physically and biological parameters. The consultants' social specialists shall conduct a baseline monitoring on the prevailing social setting.

Construction Phase

In this phase the monitoring focuses on the impacts on the environmental and social setting caused by the ongoing project. This monitoring checks compliance with the practices, norms, standards and technical solutions prescribed in the design and in the EMP. It specifically controls whether the environmental code of practice is adequately applied in all works, and if the management practices are satisfactory with respect to the prescribed requirements. Besides, the monitoring tasks will be to carry out a set of activities that will monitor the direct and indirect effects on the bio-physical and social environment as caused by the project. The data obtained will be presented in the required reporting format and will be entered in the project's baseline data bank. The specific monitoring tasks will include

collecting of data that identify, qualify and quantify distinct impacts on certain receptors (soils, water, noise, habitats, species, local communities, services and utilities) and conduct a cause-effect analysis.

- Verify and quantify the ongoing slope protection measures, and propose rectifying measures as needed;
- Verify and quantify the course of any environmental degradation caused by project activities, their likely consequences, and propose corrective measures, including the identification of responsibilities and costs;
- Verify and quantify the effects of disposal of spoil and construction wastes and their consequences;

[Signature]

Final Environmental Examination Study Report of Kerapul-Pawati-Dadakharka Road Sub Project

- Monitor, by utilizing structures checklists and questionnaire, the LRUG/RBGs' full compliance with the health and safety measures for the work staff;
- Verify and quantify the effects of losses in wildlife, degradation of forests, illegal extraction of forest products, hunting, destructive fishing, wildlife trade and disturbance to wildlife;
- Verify the occupational health facilities in construction camps;

Operation Phase

During this phase, the following parameters will be monitored over a period specified in the consultant's contract and ToR. The respective findings are, as applicable, to be stored in the Database, and that the prescribed reporting formats are observed. The specific monitoring tasks in this project phase will include

- Assess changes in land-use patterns, development of cottage industries, services and demographic composition that may be caused by the access development;
- Verify and quantify the occurrence of settlement within ROW of road, resulting in encroachment and hindrance of traffic on the road;
- Verify all activities for decommissioning work sites and rehabilitation to their former functional stage, as applicable. This refers also to quarry sites and borrow pits, and propose rectifying measures as needed.
- Verify and quantify the adequacy of the executed slope protection and erosion control;
- Verify and quantify the courses of any environmental degradation caused by project activities, their likely consequences, and propose corrective measures, including the identification of responsibilities and costs;
- Monitor, by utilizing structured checklists and questionnaires, accidents in the road, identifying causes and develop corrective measures;
- Verify and quantify the effects of losses in wildlife, degradation of forests, induced/accelerated logging, illegal extraction of forest products, hunting, wildlife trade and disturbance to wildlife and aquatic life.

12.1.5 Monitoring Indicators

Monitoring will be carried out by using established indicators. To ensure that the monitored parameters are replicable i.e. do not depend on person or specific methodology used; the selected indicators are easy to be verified and controlled by the agencies where the final monitoring and supervision responsibility remains.

It is also foreseen to use standard checklists and formats to be used by the monitoring staff both for the surveys and in the subsequent reports. Much of the monitoring is related to quantifying the observed impacts, and to verify the nature and extent of impacts, photos, parameter tests, collect oral accounts of stakeholders and technical/social experts. The monitoring will also include specific cause-effect analyses for the impacts observed. Following Table 9.5 specifies the set of verifiable indicators that will be used for monitoring.

Table 9.5: Selected Monitoring Indicators for this IEE Study

Monitoring Sector	Parameters selected
Land/Noise level	Assessment of noise level in site. Site assessment, Visual inspection and public opinion regarding dust pollution

Initial Environmental Examination Study Report of
Nayapul-Pawati-Dadakharka Road Sub Project

	Traffic Volume count
Water Pollution, Water resources and their use: Drinking water	Nos and extent of water related problems at operative and construction sites Water pollution incidents due to unsafe disposal of waste and spoil Analysing effects on adjoining agricultural land Use of field kit for drinking water quality, determining pH, particulates, turbidity, etc.
Soils, Landslides, Cut slope failures	Number, location and extent of slope failures. Cause analysis for such failure: natural/man-made Area (ha) of land, forest and properties affected Nos and extent of gully erosions and pavement failures
Bio-engineering/Slope protection	Nos and plant species selected for bio-engineering, disaggregated by protective function, Effectiveness of slope protection works
Wildlife/ Habitat Disturbance and Impacts on Forest Resources	Nos and extent of road accidents inflicting wildlife Records of illegal timber extraction and wildlife killing cases
Socio-economic development in road alignment and Zol	Number of employment opportunities created Number of workers received training on enhancement of technical skill Change in transportation cost and time Number and type of enterprises, cottage industries established Change in status of basic services and utilities in the Zol for e.g. education institutions, access to health infrastructures, water supply, energy status, trade and commerce ventures, shift in livelihood strategies among the populace from the Zol Condition of affected infrastructures Occupational health and safety measures provided to workers Increase in number of people receiving social service facilities (school, health post) Increase in land value No. of accidents related to road State of settlement condition (no. of houses, shops, sanitation condition) Number and status of porter's livelihood

9.2.1.6 Monitoring Activities and Methods

The following Table 9.6 identifies the specific compliance monitoring activities. Phase-wise/chronological details are provided for the methods, schedules, responsible implementing agency and the responsible monitoring agency. The compliance monitoring refers primarily to the pre-construction and construction stage of the project.

Table 9.7 details the impact and effect monitoring activities envisaged for this project. As in the previous table, details are provided for the applied methods, schedules, location, responsible implementing agency and the responsible monitoring agency.

Signature

Table 9.6: Compliance Monitoring for the proposed project

SN	Parameters	Responsible Implementing agency	Verifiable Indicators	Verification Methods	Schedule	Responsible Monitoring Agency
	Awareness and on-the-job training on road construction to technicians, and locally employed construction workers	Contractor/Project	Training programs for skill development, empowerment, occupational health and safety, and environmental protection associated with road construction works	Specifications: Training records, check program reports, assess feedback from participants	Beginning of construction and during construction	DDC/DoLIDAR
	Site selection and preparation of construction logistics	Proponent/Contractor or	Project's arrangement for materials storage, and construction activities	Site observation, geo-referencing and photographic documentation	Beginning of construction period	DDC/DTO/DoLIDAR
	Use of local peoples for construction activities	Contractor/project	Specifications which obligate the LRUC to observe certain quotas for employing local labor,	Records that facilitates and coordinates the process for local people's employment, interviews	During the entire period where labour work is employed	DDC/DTO/DoLIDAR
	Land acquisition and compensation of private properties (house)	DDC/ LRUC	Properties acquisition procedures	This is the responsibility of DDC and project	Well ahead of construction	DDC
	Compliance to occupational health and safety measures	Contractors/project/workers	Occupational health and safety regulations, first aid and medical arrangements, contingency plan, number and type of safety equipment such as mask, helmet, glove, safety belts, goggles	Spot checks at work sites, photos, accident records, interviews	Monthly throughout construction activities	DDC/DoLIDAR/RRRSDP
	Compliance to environmental protection measures, including pollution prevention, slope stabilization,	Project/Contractors/LRUC	Arrangement specified in the code of practice and in manuals relating to environmental protection; records and observations on pollution, waste	Site inspection, discussion with local people: Quantifying site-specific impacts, photos, laboratory tests where required.	Before and during construction period	DDC/DoLIDAR

SN	Parameters	Responsible Implementing agency	Verifiable Indicators	Verification Methods	Schedule	Responsible Monitoring Agency
	cut and fill, waste management, spoils, protection of fauna and flora		management, spoil disposal	Existing control enforcement mechanisms, enforcement records, air and noise quality measurement water quality test		
	Measures to avoid pressure on forest and wildlife	Contractor/LRUGs	Workers activity within forest area Construction scenario and process Events of hunting and killing of wildlife	Inspection, interview with local people	Once a month during construction phase	DDC/DFO
	Measures to protect environment from air and noise pollution	Contractor/LRUGs	Dust level and noise level at work sites, major settlements and sensitive spots like health centres and schools	Testing, observation of good construction practices and discussion with residents and workers	Once in a month during construction	DDC/DTO
11	Measures to protect water bodies from water pollution	Contractor/project/LRUGs	observation, observation of open defecation and waste disposal around water sources; chemical parameters test	Site inspection, test of site-selected samples of water at laboratory	Once in a six months during construction; Upon demand for testing with field kit	DDC/DDO
13	Adequate technical and environmental supervision	Project/DT0	Adequate number of technicians regularly at site	Check number and type of technicians available at site; Skill of work carried out; discussion	Twice a month during construction	DoLIDAR/MoFAL D

Table 9.7: Impacts/ Effects Monitoring for the Proposed Project

S.N	Parameters	Verifiable Indicators	Verification Methods	Monitoring locations	Schedule	Responsible monitoring agency
1	Change in Land Use	Changing Agricultural land, forest land, settlement area and barren land	Site observation, photos, discussion with communities	DIZ, IIZ and project affected VDCs	Continuously during construction and operation	Proponent/Consultant
2	Slope Instability, land erosion and induced landslide	Inclination, Slope failures, causes; Drainage facilities such as side drains and functionality of cross drainage structures; Fresh gullies and erosion; Success/failure of bio-engineering	Site observation and interviews, photos, geo-referencing sites	At specific locations where such sites occur	During construction	Proponent/Consultant
3	Stockpiling of Construction Materials	Affected aesthetic value, affected forest, standing crops and agriculture land, initiated land erosion by local blocked drainage, hazard to downstream slope residents and public and	Site observation, photos, geo-referencing sites	Stockpiling areas	During construction	Proponent/Consultant
4	Spoil Disposal	Initiated erosion, affected aesthetic value, affected forest and agriculture, initiated land erosion by local blocked drainage, hazard to downhill slope residents and agricultural lands	Site observation and interviews, photos, geo-referencing sites	At specific locations where such sites occur	During construction	Proponent/Consultant
5	Quarrying of Construction Materials	Initiated erosion, changes in river regime, erosion by river systems, landslide due to quarrying, degradation of vegetation, water logging, waterborne diseases	Site observation, photos, Records from local health centers	Quarry areas(Quarry site is located at Dholikhola, located 9 km from Nayapul along Tamakoshi-Manthali road)	During construction	Proponent/Consultant
6	Noise and dust pollution	Total Suspended Particulates, Noise level	Visual inspection, measurement, and comparison with baseline data, tests	At construction sites and at sensitive spots	During construction and operation	Proponent/Consultant

S.N	Parameters	Verifiable Indicators	Verification methods	Monitoring locations	Schedule	Responsible monitoring agency
7	Use of bitumen and their storage, heating, spreading	Contamination of bitumen near water sources, land contamination and affected peoples	Visual inspection, measurement, and comparison with baseline data, tests	In and around the construction sites	During construction	Proponent/Consultant
8	Use of fuel, lubricants, oil, acids and other chemicals	container and disposed pit, vehicles and equipment	Visual inspection, Interview with local people,	In and around the construction sites	During construction	Proponent/Consultant
10	Road safety measures	Speed controls, traffic signboards, ROW encroachment, Pedestrian/cyclist and cattle passageways and speed bumps	Observation, photos and interaction with local peoples	In and around the RoW	Throughout project, once in a year	Proponent/Consultant
11	Road accidents	Type and number of accident occurred Adequacy of occupational safety measures provided	Observations, spot photos, interview checks, interview with local peoples	Road alignment	Throughout project, once in a year	Proponent/Consultant
12	Loss of forest	Numbers of trees, presence of ground vegetation, signs of illicit logging and extraction of NTFPs	Observations, DFO records, stakeholder interviews	In and around the project sites	During construction and operation	Proponent/Contractor CFUG, DFO
13	Wild life	Wildlife hunting trapping and poaching by work force, Trade of wildlife, Biological survey on selected biota	Interview with local people / DFO, photos Observations	Forest areas at roadside	Throughout project	Contractor, DFO
17	Health and sanitation Issues	Visible disease and health problems, sanitation status, dust, solid waste,	Records, interaction and record from local health centre	Project area	During operation	DDC/VDC/DHO/LRUC
18	Cultural, religious and historical sites	Cultural and religious infrastructure, people perception, practices	Records, Observation, Interview with local people,	Project area	During operation	DDC/VDC/LRUC

Parameters		Verifiable Indicators	Verification methods	Monitoring locations	Schedule	Responsible monitoring agency
19	Occupational and safety hazard	Safety equipment like helmets, globes, boots etc., insurance, Potable water, basic first aid kit	Observation, records and interview with workers	Construction camp and working area	During construction	DDC/VDC/LRUC
20	Possible township/ribbon development along the road	Congestions to road users Nos. of accidents, RoW encroachment	Records, observations	Project Area	During operation	DDC/DRO

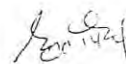
pdfelement

CHAPTER 10: CONCLUSION AND RECOMMENDATION

With construction of proposed Nayapul-Pawati-Dadakharka Road Sub Project, it will bring beneficial impacts to the local people. This will improved transportation access of rural people of Charikot to the other district and region. Further, the project will also provide other benefits both during the construction and the operational stages. Major beneficial impacts during the construction stage are employment opportunities, increase in local economy, and enhancement of technical skills and know-how among local communities. During operation stage, the transportation and access standard will be improved. Access to social services will be easier for the people of the project VDCs areas of the district. It will contribute long term positive impact for the development of the local and regional areas and people.

The proposed project area is away from environmentally sensitive site such as national parks or wildlife reserves. The study shows that the projects do not possess severe impacts on physical, biological, socio-economic and cultural environment of the project area. Most of the adverse impacts identified and predicted are of less significant and short to medium terms as well as reversible in nature. However, cut slope failures have been observed on road alignment, which need necessary measures to be employed during and after the construction work. Most of the identified environmental adverse impacts are locally confined, and limited mainly to the period of construction. It is concluded that with the set of proposed mitigation measures, most of the impacts can be minimized or mitigated during construction and operation phases.

Hence, the proposed road construction work do not exceed any of the prescribed thresholds by EPA, 1996 and EPR, 1997 (with amendments,) and other relevant Acts and Rules.



REFERENCE

- CBS 2011, National Census Report, Central Bureau of Statistics
- DDC Profile of Dolakha District, 2013
- Department of Roads, 2000. Policy Document, Environmental Assessment in the Road Sector of Nepal. Geo-Environment Unit, Ministry of Physical Planning and Works, Nepal.
- Department of Roads, 2002, Reference Manual for Roadside Bioengineering
- DoLIDAR 1999, APPROACH for the Development of Agricultural and Rural Roads. Department of Local Infrastructure Development and Agricultural Roads, 1999
- DoR, 2003. Reference Manual for Environmental and Social Aspects of Integrated Road Development, Ministry of Physical Planning and Works, Department of Road, Kathmandu.
- Environment Examination Resource Book, 2013, Ministry of Federal Affairs and Local Development, Singha Durbar, Kathmandu
- Environmental and Social Management Framework, 2009 (Revised), DoLIDAR, Lalitpur, MoFALD 2013,
- GoN 1993, National EIA guidelines
- GoN 1998, Environmental Guide for Small Rural Infrastructure Projects, Government of Nepal, Ministry of Local Development in collaboration with IUCN, July 1998
- GoN 1999, Approach for development of Agricultural and Rural roads
- GoN 1999, Local Self Governance Act, 1999 and Land Acquisition Act, 1977
- GoN 2000. Environment Protection Act, 1997 and Environment Protection Rules, 1997 (amended in 1999). Ministry of Law, Justice and Parliamentary Affairs, Law Books Management Board for MoSTE, Kathmandu.
- Nepal Rural Road Standard, 2055, 1st revision, Department of Local Infrastructure Development and Agricultural Roads (DOLIDAR), Ministry of Federal Affairs and Local Development
- Upreti, B.K, 2003. Safeguarding the resources, Environmental Impact Assessment: Process and Practice.
- VDC Profile Sindupalchowk, 2011

Signature

Name of firm and experts involved in IEE study and Declaration forms

Project name: Rural Reconstruction and Rehabilitation sector development program-2
Nayapul-Pawati-Dadakharka Road, Dolakha

Name of the firm:

Contact address:

Phone:

Email:

Declaration from Experts

We declare that we have conducted the study professionally using acceptable and standard methodologies. To the best of our knowledge, study findings are correct and have not been altered in any manner. The mitigation measures proposed to the best of our knowledge are reliable, practical and adequate to comply with legal requirements. We shall be accountable for any misleading information in any part of this report in respective areas of study.

Experts

Environmental expert: Binod Baniya

Signature:

Binod Baniya

On behalf of: *ERM* Pvt. Ltd.

(Mr. *S. S. Dey*, Team leader)

Official stamp

Biologist:

Ram Maharjan

Signature:

Ram Maharjan

Signature:

S. S. Dey

Official stamp:

Socio-economist:

Gopal Pokharel

Signature:

Gopal Pokharel

Signature:

Geologist:

Tara Bhattarai

Signature:

Tara Bhattarai

Official stamp:

Signature:

Declaration from Team leader

I declare that I have read and checked the content of IEE report. My study team has conducted the study professionally using acceptable methodologies. The study findings are correct to the best of my knowledge. The mitigation measures proposed are reliable, practical and adequate to comply with legal requirements. I also declare that myself and my team shall be accountable for any misleading information in any part of this report.

Signature:

Name:

Cell no:

Date:

11/05/2024

On behalf of consultancy:

Name: *Uddab Raj Chaulagein*
(Managing director)

Email: *ermc.ermcnepal.com*

Signature:

Official stamp:



 pdfelement

ANNEXES

1. *[Signature]*
5/1/17

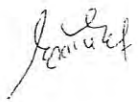
[Signature]



pdfelement

ANNEX A: APPROVED TOR

1.  जनियर



TERMS OF REFERENCE
For
INITIAL ENVIRONMENTAL EXAMINATION STUDY
Nayapul-Pawati- Dadakharka Road
(Upgrading)

Proponent

District Development Committee (DDC)
Charikot, Dolakha

Through

Rural Reconstruction and Rehabilitation Sector Development Program
(RRKSDP-2)

Department of Local Infrastructure Development and Agricultural Roads
(DoLIDAR), Shreemahal, Pulchowk, Lalitpur

Submitted To



Ministry of Federal Affairs and Local Development
Government of Nepal
Singhdurbar, Kathamandu

Ministry of Federal Affairs and Local Development
Office of the Secretary
Local Development Unit

May, 2014

ACRONYMS AND ABBREVIATIONS

CBOs	Community Based Organization
CBS	Central Bureau of Statistics
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
Col	Corridor of Impact
DDC	District Development Committee
DoLIDAR	Department of Local Infrastructure Department and Agricultural Roads
DoR	Department of Road
DTO	District Technical Office
EMP	Environmental Management Plan
EPA	Environmental Protection Act
EPR	Environmental Protection Rule
ERMC	Environment & Resource Management Center
FGDs	Focal Group Discussions
GoN	Government of Nepal
IEE	Initial Environmental Examination
IUCN	International Union for a conservation of Nature and Natural Resource
Km	Kilometers
MoFALD	Ministry of Federal Affairs and Local Development
NGOs	National Governmental Organization
NTFPs	Non Timber Forest Products
PCU	Project Coordination Unit
PRA	Participatory Rural Appraisal
RoW	Right of Way
RRRSDP	Rural Reconstruction and Rehabilitation Sector Development Program
RRA	Rapid Rural Appraisal
SSRN	Statistics of Strategic Road Network
ToR	Term of Reference
VDC	Village Development Committee
Zoi	Zone of Influence

Table of Contents

1. NAME AND ADDRESS OF THE INDIVIDUALS OR INSTITUTION PREPARING THE REPORT (PROPONENT)	1
1.1.Name of Proposal	1
1.2.Name and Address of the Proponent	1
1.3.The Consultant	1
2. PROPOSALS	1
A. GENERAL INTRODUCTION	1
2.1.Background	1
2.2.Salient Features of the Project	1
2.3.Impact Area Delineation	2
2.3.1.Direct Impact Area	5
2.3.2.Indirect Impact Area	5
2.3.3.Zone of Influence	5
2.4.Objectives of the TOR	5
2.5.Relevance of the Proposal	5
3. PROCEDURE TO BE ADOPTED WHILE PREPARING THE REPORT	6
3.1.Desk Study	6
3.2.Terms of Reference	6
3.3.Public Consultation and Information Dissemination	6
3.4.Field study	7
3.4.1.Data Collection on Social, Economic and Cultural Environment	7
3.4.2.Data Collection on Physical and Chemical Environment	8
3.4.3.Data Collection on Biological Environment	8
3.5.Data Analysis	9
3.6.Impact Identification, Prediction & Evaluation	9
3.7.Report Preparation	9
4. POLICIES; LAWS, RULES AND MANUALS TO BE TAKEN INTO ACCOUNT WHILE PREPARING THE REPORT	10
4.1.Constitution	10
4.2.Acts and Rules	10
4.3.Policies and Plan	10
4.4.Manuals/Guidelines	10
4.5.Standards	11
4.6.International Conventions and Treaties	11
5. PREPARING OF THE REPORTS	11
5.1.Time Schedule	11

IEE Study of Nayapul-Pawati-Dadakharka Road Project

5.2. Estimated Budget	11
5.3. Necessary Experts	11
6. SPECIFIC IMPACT OF THE IMPLEMENTATION OF THE PROPOSAL ON THE ENVIRONMENT	12
6.1. Beneficial Issues/Impacts	12
6.1.1 Socio-economic and Cultural Issues	12
6.2. Adverse Issues/Impacts	13
6.2.1 Socio-economic and Cultural Issues	13
6.2.2 Physical and Chemical Issues	13
6.2.3 Biological Issues	14
6.3. Any Other Seen/Arisen Issues during Study	14
6.4. Management Issues	14
6.5. Enhancement Activities	14
6.6. Other like Issues Raised by Public	14
7. ALTERNATIVES FOR THE IMPLEMENTATION OF THE PROPOSAL	15
7.1. Design	15
7.2. Project Site	15
7.3. Technology, Procedures of Operation, Time - Schedule and Raw Materials to be Used	15
7.4. Environment Management System	15
8. MATTERS CONCERNING THE PREVENTION OF THE IMPACTS OF THE IMPLEMENTATION OF THE PROPOSAL ON THE ENVIRONMENT	15
9. MATTERS TO BE MONITORED DURING THE IMPLEMENTATION OF THE PROJECT	16
10. OTHER NECESSARY MATTERS	16
10.1. Particulars of the Cost and Benefits of the Proposal	16
10.2. Environmental Management Plan	17
10.3. IEE Report Format	17
10.4. Other Deliverables	17
REFERENCES	18

Annexes

- Annex 1: Checklist for Physical and Chemical Environment
- Annex 2: Checklist for Biological Environment
- Annex 3: Checklist for Wildlife
- Annex 4: Checklist for Socio-economic Environment
- Annex 5: Format of IEE Report

List of Tables

- Table 2.1: Salient Features of the Project

ERMIC, Pvt. Ltd.

[Signature]

[Signature]

Term of Reference
IEE Study of Nayapuri-Pawati-Dadakharka Road Project

Table 2.2: Project Area Delineation

Table 3.2: Impact Evaluation Matrix

Table 5.1: Time Schedule for the Completion of IEE Report

List of Figures

Fig 2.1: Location Map of Project Site

Fig 2.2: Alignment in Topographic Map of Project Site

pdfelement

1. NAME AND ADDRESS OF THE INDIVIDUALS OR INSTITUTION PREPARING THE REPORT (PROPONENT)

1.1. Name of Proposal

The name of the proposal is 'Initial Environmental Examination (IEE) study of Nayapul-Pawati-Dadakharka Road (19 km) in Dolakha District of Zanakpur Zone, Central Development Region of Nepal.

1.2. Name and Address of the Proponent

The District Development Committee (DDC) is the implementing agency in its respective district of the upcoming Rural Reconstruction and Rehabilitation Sector Development Program, Phase-2 (RRRSDP-2), which is the follow-on of RRRSDP-1. Evidently as the owners or proponents of the subprojects, DDC is responsible for the Initial Environmental Examination (IEE) studies. Hence, the DDC of Dolakha is the proponent being the implementing agency of the Nayapul-Pawati-Dadakharka Road. The detailed address of the proponent is as follows:

District Development Committee, Dolakha

Phone: 049-421724, 421049

Fax: 049-421829

Website: www.ddcdolakha.gov.np

Email: dolakhadto@gmail.com, shiwakotinp12@gmail.com, neupanemc@gmail.com

The Rural Reconstruction and Rehabilitation Sector Development Program, Phase -2 is coordinated by Project-Coordination Unit (PCU) of DoLIDAR, the address of which is as follows

Project Coordination Unit (PCU)

Rural Reconstruction and Rehabilitation Sector Development Program -2 (RRRSDP-2)

Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR)

Shreemahal, Pulchowk, Lalitpur.

Phone No. 977-1-5532172; Fax No. 977-1-5550482,

Web: www.rrr.gov.np

1.3. The Consultant

The consultant for Initial Environmental Examination (IEE) study of this project is Environment and Resource Management Center (ERMC) Pvt. Ltd. The address of consulting firm is as following

Environment & Resource Management Center (ERMC) (P.) Ltd.

New Baneshwor, Kathmandu, Nepal

P. O. Box: 12419, Kathmandu

Tel.: 977-01-4483064, 4465863, Fax: 977-01-4479361

Email: safe@ermc.wlink.com.np, Web: www.ermcnepal.com

2. PROPOSALS

A. GENERAL INTRODUCTION

2.1. Background

The Rural Reconstruction and Rehabilitation Sector Development Program, Phase 2 (RRRSDP-2) is a proposed follow-on program of previous RRRSDP, Phase 1 which was successfully completed in June 2013 having implemented more than 97% of the total program with many valuable significance and

ERMC, Pvt. Ltd.

rewarding achievements due to full compliance of environmental friendly as well as negative impact mitigation methods, social safeguards, resettlement plans and many other spectacular economic and employment generating works in line with the program's underlined objectives, defined targets and envisioned outputs. As a result the Government of Nepal approved to carry over this Program into its another Phase. It is noteworthy that all RRRSDP-2 works of preparatory stage is considered a unique program of DoLIDAR without any external PPTA support.

Subsequently it has been decided by DoLIDAR that it will embark on the RRRSDP-2 to design and upgrade/construct the roads subprojects that will be in range of some 50 km per district. Similarly it will also conduct feasibility study of 35 motorable bridges in prospect of decision making on the feasible bridges about detailed survey/design.

The Rural Reconstruction and Rehabilitation Sector Development Programme, Phase-2 (RRRSDP-2) covers 20 districts same as that of RRRSDP-1 namely Panchthar, Ilam, Jhapa, Morang, Sunsari, and Dhankuta from the Eastern Development Region; Sindhuli, Dolakha, Sindhupalchowk, Kabhrepalanchok, Lalitpur, Bhaktapur, Kathmandu, and Chitwan from the Central Development Region; Manang, Mustang, and Parbat from the Western Development Region; Rolpa and Rukum from the Mid-Western Development Region; and Dadeldhura from the Far-Western Development Region.

The Dolakha district is located in Janakpur with a total area of 2191 sq.km and total population is 186557 (CBS, 2011). The district has 45,688 households with 51 numbers of VDC and 1 Municipality. The total area of the project affected area such as Bhimeshwor Municipality and Fasku VDC, Pawati VDC, Ghyang Sukathokar VDC and Bhedapu VDC is 65.05 km, 24.29 km, 16.96 km, 20.48km and 18.39km respectively and total population according to CBS 2011 is 22537, 4338, 4573, 4230 and 3705 respectively. The average household size of the district is 4.08. Beside it, the total road length of Dolakha district is 136.68 km (106.68 BT, 10.04GR and 20.20ER). Out of this 136.68 km is Feeder Road Major (FRN). The number of population influenced per km road is 1377. The road density of district is 6 km per 100km² area ((SSRN, 2011/2012).

2.2. Salient Features of the Project

The propose project is Nayapul-Pawati-Dadakharka Road in Dolakha District. It starts from Nayapul (Tamakoshi), Ward no- 6 of Bhimeshwor Municipality and ends to Pokhari, Ward no-4 of Vetpu VDC. The alignment is passes through a settlement area and across a forest land in some extent. The track is already open. The total length of road is 19 km. The type of work is upgrading and propose of project is to make black top road. The salient features of the proposed project is followings

Table 2.1: Salient Features of the Project

Name of the Project	Rural Reconstruction and Rehabilitation Sector Development Program (RRRSDP-2)
Name of the Sub-project	Nayapul-Pawati-Dadakharka Road
LOCATION	
Development region	Central Development region
Zone	Janakpur
Project Districts	Dolakha
Start Point	Nayapul (Tamakoshi), Ward no- 6, Bhimeshwor Municipality
End Point	Pokhari, Ward no-4 of Vetpu VDC.
Affected VDCs	Bhimeshwor Municipality and Fasku, Pawati, Ghyang Sukathokar and Bhedapu VDCs

Major settlements		IEE Study of Nayapul-Pawati-Dadakharka Road Project		Term of Reference	
GEOGRAPHICAL FEATURES		Chaurange, Fasku, Saute, Adharikhola, Sautdobatepat i, Mirge, Sagthakur, Ghang, Bhetpu, Ghang pokhari			
Terrain		Hill			
Alignment		Hilly/Rolling			
Altitude		1367m at Nayapul Tamakoshi (Starting point) and 1275 at Pokhari (end point), Vetpu VDC of Dolakha.			
Climate		Sub-tropical, Humid and Mesothermal			
Road Type					
Classification of Road					
Existing Class of road					
Propose class of road		Earthen Road			
Length of Road		Blacktop			
Slope Stability		19km			
Design Parameters		The road alignment comprises of 25% of forest, 40 % of settlement, and 25 % cultivation land and remaining 10% of barren/bush land. The steepness of land is generally up to 30 degree.			
Right of Way		10 m on either side from the center line of the road			
Carriageway Width		5 m			
Existing Width		3 m			
Design Road Width for District Road		5.25 m (3.75 m carriage way and 0.75 m shoulder on either side). To this drainage width to be added as per design for the total formation width.			
Nature of road		Intermediate lane			
Type of work		Upgrading			
Shoulder		1.5 m (0.75 m * 2)			
Cross section		15 m on either side of road centerline			
Benchmark / Control point		250 m interval on an average.			
Gradient					
Gradient Max		12%			
Ruling		7%			
Limiting gradient		10%			
Exceptional gradient (%) for up to 100 m length		12			
Minimum gradient on hill roads (for better drainage) (%)		0.5 (max 1%)			

Term of Reference
IEE Study of Mayapuri-Pawati-Dadakharka Road Project

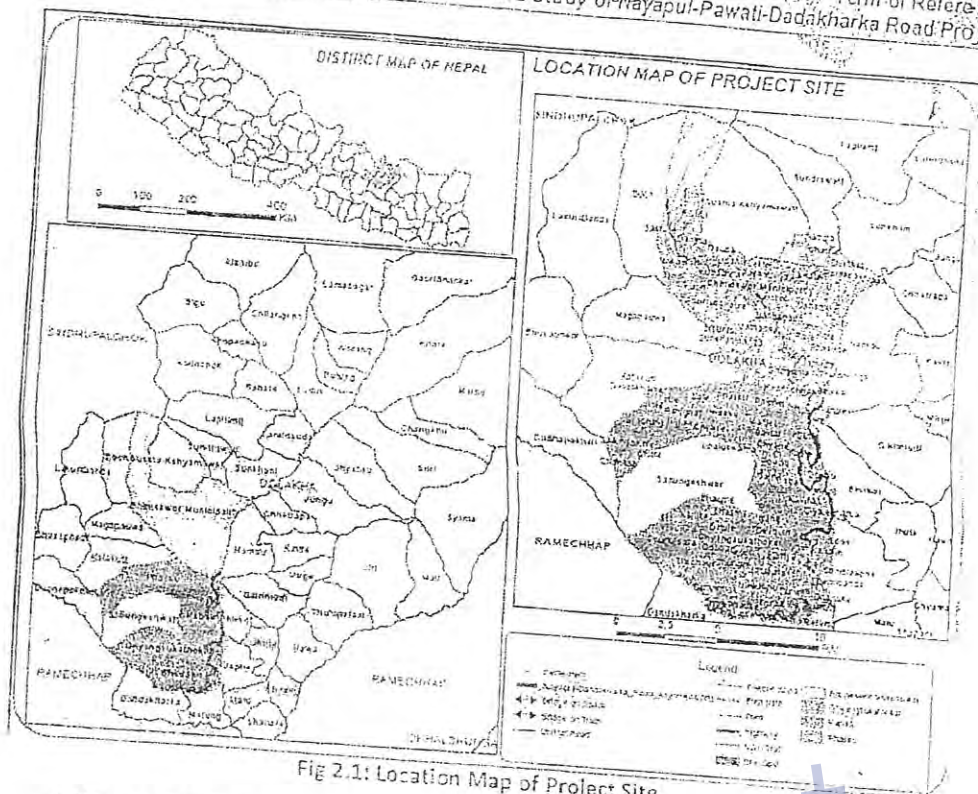


Fig 2.1: Location Map of Project Site

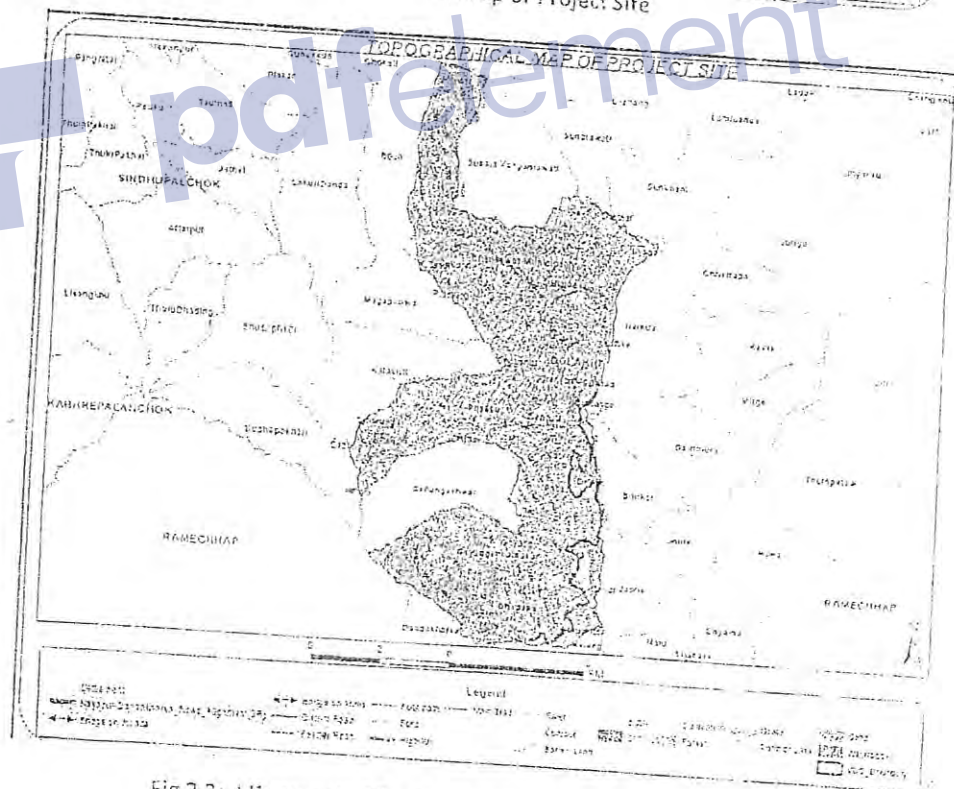


Fig 2.2: Alignment of Project Site in Topographic Map

ERMC. Pvt. Ltd.

इन्जिनियर

[Handwritten signature]

2.3. Impact Area Delineation

2.3.1. Direct Impact Area

The areas within the RoW of proposed road are referred as Corridor of Impact (CoI) and the area within which construction work is carried out, is referred as formation width. It is considered as direct impact area. This area shall be studied in greater detail regarding the impacts on physical, biological, socio-economic as well as cultural environment.

2.3.2. Indirect Impact Area

Nearest area within 100m distance on either side from a center line of the road are referred as Indirect Impact area in this study. In this area, physical and biological environment will probably experience minimal impacts. However, influx of labor from these areas may affect the socio-economic and cultural environment of the project area.

2.3.3. Zone of Influence

The project affected area such as Bhimeshwor Municipality and Fasku, Pawati, Ghyang Sukathokar and Bhedapu VDCs are consider as of zone of influence of this proposed project road. The affected area were delineated from field visit based on the environmental impacts of the project, the project-affected areas are classified in Table 2.2.

Table 2.1: Project Area Delineation

Category	Area Delineation	Affected Areas
Directly Impact Area	The area within the RoW of proposed road (and formation width) is considered as direct impact area.	The area within RoW from Nayapul (Tamakoshi), Ward no- 6, Bhimeshwor Municipality to Pokhari, Ward no-4 of Velpu VDC.
Indirectly Impact Area	Nearest arc within 100m distance from the road	Chaurange, Fasku, Saute, Adharikhola, Satdobatepati, Mirge, Sagthakur, Ghang, Bhethpu, Ghang pokhari
Zone of Influence	Project affected VDCs	Bhimeshwor Municipality and Fasku, Pawati, Ghyang Sukathokar and Bhedapu VDCs

Source: Field Survey, 2014

2.4. Objectives of the TOR

The main objective of the TOR is to guide the preparation of the subsequent Initial Environmental Examination (IEE) study as per the Environment Protection Act 1996 (EPA '96) and Environment Protection Rules 1997 (EPR '97) and amendments. The specific objectives of the study are to collect baseline data and information on physical, biological, chemical, and socio-economic and cultural resources; and to identify the positive and negative impacts on social and environmental aspects of the project area.

More specifically the objectives include 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

Term of Reference

IEE Study of Nayapul-Pawati-Dadakharka Road Project

- Delineation of scope of works for IEE study, the potential environmental issues that need further evaluation in terms of impact significance, mitigation actions, monitoring plan and overall environmental management during project development and operation;
- Systematize the IEE working procedures in compliance with the EPA '96, EPR '97 (as amended) and other sectoral policies and legislations,
- Accomplishing the IEE study in the stipulated timeframe with professional skill

2.5. Relevance of the Proposal

Nayapul-Pawati-Dadakharka Road has been proposed to upgrade as blacktop road. Thus, the existing condition of the road is an earthen road. An IEE is a legal requirement as per the provision of Schedule 1, Road sector, related to Rule 3 Environmental Protection Rules (EPR) and pertaining to article 3 of EPA and its further requires to get approval from the concern ministry. Similarly, the project area does not lie within any national parks, protected areas, cultural/archeological importance areas or any other sensitive areas or others. Hence, it's obligatory and relevant to carry out the IEE study of the proposed project and get it approval from Ministry of federal Affairs and Local Development (MoFALD).

3. PROCEDURE TO BE ADOPTED WHILE PREPARING THE REPORT

The procedure for preparing the IEE report will be as per the EPA and EPR. The IEE study adopts the methods as presented in the following sub-sections:

3.1. Desk Study

The report, documents and all the relevant published and unpublished literature to the sub projects will be reviewed to the extent possible and available. The questionnaires and checklist for focus group discussion (FGDs) and data collection on physical, biological, socio-economic and cultural baseline environment of the project area will be prepared.

The feasibility and detail design of the road section will be reviewed and important data and information will be noted from field survey engineer, District Technical Office (DTO), Dolakha, DTO engineers, local stakeholders among others were consulted. Furthermore, the road alignment map, superimposed on topographical maps published of department of survey, GoN, will be studied in detail, the project area (i.e. direct, indirect and zones of influences (ZoI) will be delineated by using topographic map and field visit. The impact area will be verified during site visit through consultation with local people.

3.2. Terms of Reference

According to Rule 5 of the EPR, the proponent, District Development Committee (DDC), Dolakha has prepared Terms of References (ToR) for undertaking the IEE study and submits it to the MoFALD for review and approval through Department of Local Infrastructure Department and Agricultural Roads (DoLIDAR) for this sub-project.

3.3. Public Consultation and Information Dissemination

The objective of public consultation and participation is to ensure the quality comprehensiveness and effectiveness of the IEE, as well as ensuring that meaningful public concerns and suggestions are adequately taken into consideration in the decision-making process. It will be carried out during the IEE study. In order to ensure public involvement, the following procedures will be followed during IEE report preparation.

ERMC, Pvt. Ltd.

जानियर

Local Development Officer

6

3.4.2. Data Collection on Physical and Chemical Environment

Baseline information on physical environment will be collected from field investigation by using predefined checklist (Annex 1). Topographic features and drainage characteristics will be observed and documented. Physical features comprising land use, soil, land stability, drainage, land use and utilization patterns and other natural features of the ZoI will be collected.

Physical environment survey will be carried out by delineating the impact area, which will be affected by the proposal activities during construction and operation of the road construction main components and support facilities.

Field survey will be carried out for the topography, geomorphology, geology, soil, land stability, drainage characteristics, rainfall, meteorological conditions, etc. Site specific information on the above sectors will be collected by:

- Direct observations and
- Consultations with the local communities
- Identification of physically critical areas particularly flood prone areas/ landslide/erosion prone areas etc.

Physical environmental survey will be carried out along the RoW of both sides from the central axis of the road. The collected information will be analyzed to identify the impacts on project and vice-versa. Beside it, use of bitumen and their storage, heating, spreading, fuel lubricants, oil, acids use of other chemicals for construction will be taken into consideration.

3.4.3. Data Collection on Biological Environment

A walkover survey along proposed alignment will be carried out in the proposed construction sites for collecting information on the effect of project activities on biological environment. Total loss of trees, their types and distribution will be counted and analyzed (Annex 2).

Forest and vegetation types of the project area, especially quantitative information such as density, frequency, abundance, basal area, tree height and volume within RoW and formation width along the alignment will be estimated by using standard methods proposed by Raunkiaer (1934) and Zoebel et al. (1987). 25×25 m² quadrat size will be used to count the total loss of forest and enumerated. Similarly, 5×5 m² and 1×1 m² quadrat will be used for shrubs and herbs respectively (DoF, 2004).

The vegetation survey will be carried out by walkover survey throughout the project direct impact areas. Type of vegetation and forest will be identified based on the species composition.

Plants of medicinal and cultural value will be recorded. The plant species likely to be felled or removed will also be recorded by estimation of volume.

Likewise, prevalence and occurrence of different wildlife, birds and herpeto-fauna near project area will be recorded/listed and subjected for impact analysis (Annex 3). The species of vegetation and animals will be checked with protected species status of GoN legislation, IUCN categories and CITES Appendices.

Ethno-botanical information will be obtained by conducting Rapid Rural Appraisal method. The protected vegetation (Rare, Endangered, Indigenous etc.) of the influence area as per IUCN Red Book, CITES Appendices, and GoN list species will be enumerated based on consultation with the local people in the indirect impact areas of the project.

Wildlife bio-diversity in the indirect impact areas will be studied in the field using PRA methods as required to unravel the linkages between wildlife habitats and proposal activities. Direct observation method, pellets, pugmarks, typical sound, scours, digging shall be used to collect primary information of wildlife. The indicator wildlife and threatened or endangered species (as per IUCN Red Book, CITES



Term of Reference
IEE Study of Nayapul-Pawati-Dadakharka Road Project

- A public notice of 15 days will be published in a national daily news paper seeking written opinion from the project VDCs and a deed of enquiry (muchulka) will be collected.
- Recommendation letters from the VDCs and community forests concerned will be receive and documented.
- The IEE team will closely interact with local communities and stakeholders and will also collect 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 and websites of DDC and DoLIDAR/RRRSDP.

3.4. Field study

The IEE team will conduct a detailed walkover survey along the proposed road alignment. The significant environment features of the direct, indirect and the area of probable ZoI will be collected by making necessary measurement, inspection and observations, and by holding discussions with local people. FGDs will be conduct in the major settlement areas to generate the socio-economic characteristics of the project affected area.

Formal and informal consultations will be held with stakeholders and other relevant persons to collect and validate local information. The outcomes of key meeting will be formally recorded and included in the final report.

The information collection will cover the socio-economic and cultural, physical and biological aspects of the environment, the baseline data will include, but will not be limited, the following

3.4.1 Data Collection on Social, Economic and Cultural Environment

Information on human, social, economic and cultural aspects within the ZoI such as demographic features, ethnicity, economic activities, employment facilities and social services like education, health and sanitation, settlement pattern, migration, religion, cultural and religious site, agriculture, energy consumption pattern, landholding size along with description of cultural and traditional practices will also be recorded. While regarding to socio-economic baseline data collection, semi structured questionnaire survey (Annex 4) and focus group discussion will be conducted. The following methods will be used to collect information on socio-economic status of the area.

- Each of the directly affected households will be surveyed for their socio-economic conditions using structured questionnaires.
- Focus Group Discussion (FGD): The FGDs will be conducted in major settlements of indirect impact area within 100m distance from a road of project affected VDCs. Local people; politicians, social workers, teachers, businessman, housewives etc. will be included as far as possible in the discussion. The lists of people present in the FGD meeting and the outcomes of their responses will be recorded and included in IEE Report.
- Household Survey: Semi-structured questionnaires (Annex 4) will be used to evaluate the socio-economic status of the households located in the projected road alignment within the RoW. Appropriate sample size will be design during questionnaire survey. Detail loss of land and property will be estimated.
- Socio-economic status of the people of the indirectly impact area will be identified from Key Informant Survey, PRA, and FGD if required.
- Participatory Rural Appraisal: Besides PRA will be also carried out at direct impact area to know more about the socioeconomic status of the local people and further cultural environment of the project area, relating to cultural sites, archeological/historical and religious sites.

इन्जिनियर

7

3.4.2. Data Collection on Physical and Chemical Environment

Baseline information on physical environment will be collected from field investigation by using predefined checklist (Annex 1). Topographic features and drainage characteristics will be observed and documented. Physical features comprising land use, soil, land stability, drainage, land use and utilization patterns and other natural features of the ZoI will be collected.

Physical environment survey will be carried out by delineating the impact area, which will be affected by the proposal activities during construction and operation of the road construction main components and support facilities.

Field survey will be carried out for the topography, geomorphology, geology, soil, land stability, drainage characteristics, rainfall, meteorological conditions, etc. Site specific information on the above sectors will be collected by:

- Direct observations and
- Consultations with the local communities
- Identification of physically critical areas particularly flood prone areas/ landslide/erosion prone areas etc.

Physical environmental survey will be carried out along the RoW of both sides from the central axis of the road. The collected information will be analyzed to identify the impacts on project and vice-versa. Besides it, use of bitumen and their storage, heating, spreading, fuel lubricants, oil, acids use of other chemicals for construction will be taken into consideration.

3.4.3. Data Collection on Biological Environment

A walkover survey along proposed alignment will be carried out in the proposed construction sites for collecting information on the effect of project activities on biological environment. Total loss of trees, their types and distribution will be counted and analyzed (Annex 2).

Forest and vegetation types of the project area, especially quantitative information such as density, frequency, abundance, basal area, tree height and volume within RoW and formation width along the alignment will be estimated by using standard methods proposed by Raunkiaer (1934) and Zobel et al. (1987). 25×25 m² quadrat size will be used to count the total loss of forest and enumerated. Similarly, 5×5 m² and 1×1 m² quadrat will be used for shrubs and herbs respectively (DoF, 2004).

The vegetation survey will be carried out by walkover survey throughout the project direct impact areas. Type of vegetation and forest will be identified based on the species composition.

Plants of medicinal and cultural value will be recorded. The plant species likely to be felled or removed will also be recorded by estimation of volume.

Likewise, prevalence and occurrence of different wildlife, birds and herpeto-fauna near project area will be recorded/listed and subjected for impact analysis (Annex 3). The species of vegetation and animals will be checked with protected species status of GoN legislation, IUCN categories and CITES Appendices.

Ethno-botanical information will be obtained by conducting Rapid Rural Appraisal method. The protected vegetation (Rare, Endangered, Indigenous etc.) of the influence area as per IUCN Red Book, CITES Appendices, and GoN list species will be enumerated based on consultation with the local people in the indirect impact areas of the project.

Wildlife bio-diversity in the indirect impact areas will be studied in the field using PRA methods as required to unravel the linkages between wildlife habitats and proposal activities. Direct observation method, pellets, pugmarks, typical sound, scours, digging shall be used to collect primary information of wildlife. The indicator wildlife and threatened or endangered species (as per IUCN Red Book, CITES

3.5. Data Analysis

The data collected from the field investigation will be processed with the application of standard scientific and social science methods. Information on physical environment was processed based on secondary information and ground observation. Wherever possible, chart, diagrams, photographs, maps, matrices, Bar Chart and other methods of presentation will be used in order to make the final report more informative and illustrative.

3.6. Impact Identification, Prediction & Evaluation

The environmental impacts will be evaluated on the basis of guidelines given in the National EIA Guidelines (1993), based on the magnitude, extent and duration of the impact. Experts' judgments and experiences from the similar projects will be adopted for the quantification of the impacts. The impact will be termed as Short Term (ST), Medium Term (MT) and Long Term (LT). The impact which will occur inside the project will be termed as Site Specific (SS) and which goes up to VDC level will be termed as Local (L) and which goes up to more than two VDCs will be termed as Regional (R). Similarly the impact which is irreversible will be termed as High (H), which is in partly recoverable in long run will be termed as Moderate (M) and which is reversible will be termed as Low (L). For the impact evaluation the matrix method with numerical ranking will be used for the quantitative ranking of the predicted impacts.

The numerical scale mentioned in the National EIA Guidelines (1993) shall be adopted for this study. The numerical scale is presented in table below.

Table 3.2: Impact Evaluation Matrix

Magnitude		Extend		Duration	
High(H)	60	Regional(R)	60	Long Term(LT)	20
Moderate(M)	20	Local(L)	20	Medium Term(MT)	10
Low(L)	10	Site Specific(SS)	10	Short Term(ST)	5

Note: Criteria: Total score 40 and above, significant; 20 and below, not significant.

Note: Criteria: Total score 40 and above - significant, 80 and above - very significant, 100 and above - highly significant, Magnitude: High (60), Medium (20) and Low (10), Extent: Regional (60), Local (20) and SS (10), Duration: Long term (20), Medium (10) and Short Term (5)

3.7. Report Preparation

An IEE report will be prepared in accordance with the content given in schedule 5 of the EPR '97, the final report will be prepared after incorporating the comments on the draft report.

4. POLICIES, LAWS, RULES AND MANUALS TO BE TAKEN INTO ACCOUNT WHILE PREPARING THE REPORT

The GoN has formulated various Acts, Regulations and Guidelines to ensure the development and conservation of the environment. The IEE study will be reviewed in relation to the following Acts, Rules and Guidelines, as applicable.

4.1. Constitution

- Interim Constitution of Nepal, 2063 BS (2007 AD) (with amendment)

4.2. Acts and Rules

- Environment Protection Act, 2053 BS (1996 AD) and Environment Protection Rules, 2054 BS (1997 AD) with respective amendments
- Forest Act, 2050 BS (1993 AD), its amendments (1995 AD) and Forest Rules (1995 AD)
- Local Self-Governance Act, 2055 BS (1998 AD) and its Rules 2000 AD
- Soil and Watershed Conservation Act, 2039 BS (1982 AD)
- Plant Protection Act, 2029 BS (1972 AD)
- Land Acquisition Act, 2034 BS (1977 AD)
- Labor Act, 2048 BS (1991 AD)
- Child Labour (Prohibition and Regulation) Act, 2057 BS (2000 AD)
- Solid Waste Management Act, 2068 BS (2011 AD)
- Solid Waste Management Regulation, 2070 BS (2013 AD)
- Explosive Act, 2018 BS (1961 AD)
- Public Road Act 2031 BS (1977 AD)
- Motor Vehicles and Transport Management Act, 2049 BS (1993 AD)
- Road Board Act 2059 BS (2002 AD)
- Ancient Monument Act, 2013 BS (1956)
- Mines and Minerals Act 2042 BS (1985 AD)

4.3. Policies and Plan

- National Transport Policy 2058 BS (2001 AD)
- Policy Document of DoR on Environmental Assessment of the Road Sector, 2000 AD
- 20 Year Road Plan, 2059 - 2079 BS (2002-2022 AD)
- Nepal Environmental Policy and Action Plan, 2049 BS (1993 AD)
- Forest Sector Policy, 2057 BS (2000 AD)

4.4. Manuals/Guidelines

- Environmental Management Guidelines, GESU/DoR, 2056 BS (1999 AD)
- National Environmental Impact Assessment Guidelines, 2050 BS (1993 AD)
- Roadside Bio-engineering, DoR, GoN, 2056 BS (1999 AD)
- Guideline to Permit Forest Land for Other purpose 2063 BS (2006 AD)
- Forest Products Collection and Sales Distribution Guidelines, 2057 BS (2000 AD)
- APPROACH for development of Agricultural and Rural roads 2055 (1999)
- Manual for Environmental and Social Aspect of Integrated Road Development, 2003 AD
- Guide to Road Slope Protection Works, 2003

- Statistics of Strategic Road Network (SSRN, 2011/2012)
- Guidelines for Environmental Management in Road Sector, 1999
- Environment Directives, 2057 BS (2001 AD)
- Environmental and Social Management Framework, (A guide to Environmental and Social issues Associated with New Road Construction and Upgrading) MoPPW/GoN 2064 BS (2007 AD)
- IEE Rural Access Programme (RAP) Guidelines, 2060 BS (2003 AD)
- Environment Examination, Resource Book 2013 AD, MoFALD
- Environment Friendly Local Governance Framework, 2013 AD

4.5. Standards

- Nepal Ambient Air Quality Standard 2069 BS (2012 AD)
- National Standard About Noise Level 2069 BS (2012 AD)
- Nepal Vehicle Mass Emission Standard, 2069 BS (2012 AD)
- Nepal Rural Road Standard 2055 BS (revised 2012 AD)

4.6. International Conventions and Treaties

- Convention on Biological Diversity, 2049 BS (1992 AD)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 2053 BS, amended, 2059 BS (1973 AD, amended 1979 AD)
- Plant Protection Convention, 1951

5. Preparing of the Reports

This includes time schedule, estimated budget and appropriate human resources/personnel for conducting the IEE study.

5.1. Time Schedule

Table 5.1: Time Schedule for the Completion of IEE Report

SN	Activities	Weeks											
		1	2	3	4	5	6	7	8	9	10	11	12
1	Preparation and Approval of ToR												
3	Publication of Public Notice												
4	Site Visit for Data Collection												
5	Collection of Recommendation Letters and Suggestions From The Authorities and Stakeholders Concern												
6	Impacts Analysis and Preparation of Draft Report												
7	Finalization of Draft Report												
9	Submission and Approval of Final Report												

5.2. Estimated Budget

The cost for the proposed IEE study is around NRs 1, 70,000.

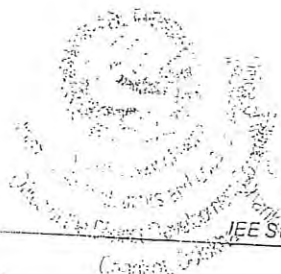
5.3. Necessary Experts

The following necessary experts will be involved for the preparation of the IEE Study of the proposed upgrading road Project

- Environmental Expert/Team Leader

ERMIC Pvt. Ltd.

Local Development Officer



Term of Reference
 IEE Study of Nayapiti-Pawati-Dadakharka Road Project

- Road Engineer
- Sociologist
- Biologist
- Physical expert
- Enumerators

6. SPECIFIC IMPACT OF THE IMPLEMENTATION OF THE PROPOSAL ON THE ENVIRONMENT

The Proponent will assess and evaluate the possible impacts of the proposed road sections on socio-economic, cultural, physical and biological aspects for the construction and operation periods in the following areas:

6.1. Beneficial Issues/Impacts

General beneficial impacts include, but are not necessary limited to the followings

6.1.1 Socio-economic and Cultural Issues

Construction Stage

- Employment opportunity
- Increase income of local peoples
- Enhancement of technical skills of local peoples
- Small scale enterprise development and business promotion
- Rent from land acquired temporarily during construction
- Commercialization in agricultural products among local communities

Operation & Maintenance Stage

- Increase an economic valuation of land of project affected VDCs
- Reduced travel costs
- Mainstreaming of local culture and products
- Increase cost opportunity of local farmers for their agricultural products
- Employment of local people
- Market development opportunity
- Women empowerment
- Easy access of local peoples to district head quarter and main streaming of country
- Dissemination of spiritual and religious values of different place that the local peoples were adopted in project affected areas.

Based on the identification and prediction of the impacts, the suitable enhance measures to maximize the project benefits will be explored and designed. No beneficial issues are noticed under physical and biological environment. However, if noticed during the study, they will be included in final IEE report.

ERMG. Pvt. Ltd.

Local Development Officer

6.2. Adverse Issues/Impacts

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

6.2.1 Socio-economic and Cultural Issues

Construction Stage

- Issues of land and property acquisition and resettlements
- Population displacement
- Impacts due to loss of structures/infrastructures existing in RoW of proposed road
- Pressures on social service facilities such as water, electricity, irrigation canals, open etc.
- Employment Loss for locally available labour force
- Workforce camp operation
- Cutting, filling and drain scouring
- Construction hazard such as landslide, slope failure and spoil disposal
- Social conflict and disputes
- Issues of health, Sexually Transmitted Disease (STD), HIV AIDs
- Occupational health and safety.
- Cultural invasion and social threat

Operation Stage

- Road side safety issue with peoples living near to the road side due to vehicular movement
- Road Safety and possible accidents
- RoW Encroachment
- Population pressure and impact due to new settlements along the road alignment and possible ribbon settlements development
- Health and pollution
- Social conflicts due to change in community structures
- Possible cultural invasion and social disputes
- Increase problem in social security
- Threat in cultural assets found in project affected areas

6.2.2 Physical and Chemical Issues

Construction Stage

- Issues regarding route clearance
- Impairment of cultural and historical monuments /areas
- Change in land use pattern of project affected areas.
- Landslides, erosion and downward/upward slope destabilization
- Sedimentation and change in aquatic ecosystem
- Solid waste disposal, muck disposal and excavated waste
- Hazards caused by combustible and toxic waste due to use of bitumen and their storage, heating, spreading, fuel lubricants, oil, acid use of other chemicals for construction
- Issues of pollution (Water, Noise and land Pollution)
- Stockpiling of construction materials

Operation Stage

- Reclamation of spoil disposal site
- Removal of labor camp/ construction camp
- Clearance of stock piling materials like bitumen, drums, leakage chemicals etc.
- Issues regarding slope instability
- Issues regarding drainage management
- Change in land use
- Sedimentation, air and noise pollution

6.2.3 Biological Issues

Construction Stage

- Issues regarding vegetation clearance (route clearance)
- Cutting of trees and clearing of shrubs and herbs of the forest areas which eventually causes loss of habitat /biodiversity of the project area;
- Issues on the protected species of flora and fauna;
- Disturbances in wildlife activities and corridor of wildlife movements
- Fragmentation on existing ecosystem
- Disturbance on specific ecological niche of rare species of fauna

Operation Stage

- Impacts on forest resources
- Disturbances on the corridor of the wildlife movement
- Possible illegal hunting and poaching of wildlife
- Disturbance on specific ecological niche of rare species of fauna

6.3. Any Other Seen/Arisen Issues during Study

Beside these issues, if other issues on physical, socio-economic, chemical, biological and cultural are noticed after FGD and detail field visit during the IEE study, it shall be incorporate in the IEE report.

6.4. Management Issues

Based on detailed analysis of the likely impacts of the project activity on the local environment, a mechanism will be developed and included in the IEE report to maximize the beneficial impacts and minimize the adverse ones. The EMP will account for the mitigation measures for each identified impact, monitoring of impacts and environmental auditing components including environmental monitoring responsibilities. Furthermore, the study will take in to account the project execution issues, strict management and use of appropriate technologies for construction activities.

6.5. Enhancement Activities

The IEE report will also include any enhancement issues raised / found during the study including site specific issues if any.

6.6. Other like Issues Raised by Public

The study will also include other issues/impacts identified except the issues/impacts addressed in Tola during the report preparation.

7. ALTERNATIVES FOR THE IMPLEMENTATION OF THE PROPOSAL

The study shall document no action alternative and other possible alternatives of the project. In general, the following alternatives shall be considered;

7.1. Design

This alternative will explore through different design options available for the project and best one to be adopted for the particular project.

7.2. Project Site

The route of proposed road project is opened. The proponent will invest for its upgrading purpose. So, there is no alternative for an existing road alignment. However, alternative routes that may avoid significant environmental impacts will be assessed.

7.3. Technology, Procedures of Operation, Time - Schedule and Raw Materials to be Used

Proposal implementation technology (labor-intensive, labor-based etc) process of proposal implementation will be assessed. Alternative resources required for the proposed works, including cement, steel, gabion boulders, gravel, earth, sand, bioengineering sapling will be assessed. Procedures of operation will be assessed in terms of round the year operation and seasonal operation of road; types and specifications of vehicles that are allowed to ply on the road, etc will also be assessed in terms of needs as well as demand in the area. Schedule of implementation of the proposal works including agricultural off-season, monsoon season, day and night time working etc will be assessed.

7.4. Environment Management System

Alternative for the environmental management system, including institutional structures, third party monitoring options, and participation by local stakeholders, role of local bodies, including NGOs/CBOs will be assessed.

- Whether or not the risks resulting from the implementation of the proposal can be accepted
- No forest option; Road without affecting the forest area.
- Other matters

8. MATTERS CONCERNING THE PREVENTION OF THE IMPACTS OF THE IMPLEMENTATION OF THE PROPOSAL ON THE ENVIRONMENT

Mitigation measures for all the identified significant impacts shall be taken into consideration during preparation of the IEE report. The proponent shall propose mitigation measures to prevent or reduce significant adverse impacts to acceptable levels. Measures to enhance beneficial project impacts shall also be presented. The mitigation measures shall be proposed for physical, biological, socio-economic and cultural environments for upgrading and operation phases. The proponent will be responsible for the implementation of environmental mitigation and enhancement program will be mention in IEE report.

The mitigation measures shall be specific and developed by applying a pragmatic approach that is technically and economically feasible, socially acceptable, and preferably, of proven effectiveness. The cost required for each and every mitigation measure and enhancement measures shall be identified in detail

and incorporated in IEE report. Cost of mitigation and enhancement measures shall be categorized in terms of upgrading and operation phases.

The enhancement and mitigation measures shall be categorized in terms of the physical, biological, socio-economic and cultural environment for the construction and operation phases. A matrix of impact and mitigation measures shall also be included in the IEE report. In general, the following area shall be covered while preparing mitigation and enhancement measures during upgrading Nayapul-Pawati-Dadakharka road.

- Protective Measures
- Design Measures
- Compensatory Measures
- Enhancement Measures

The IEE shall propose organizations and agencies to be consulted while implementing mitigation programs.

9. MATTERS TO BE MONITORED DURING THE IMPLEMENTATION OF THE PROJECT

To monitor the impacts of the proposed project on physical, biological, socio-economic and cultural resources of the area, an environmental monitoring plan shall be formulated. The proponent will be responsible for the implementation of environmental monitoring of the proposed project. The monitoring plan shall include the following aspects:

- Baseline, compliance and impact monitoring in terms of the physical, biological, Socio-economic and cultural environment. Baseline and impact monitoring shall include parameters, indicators, methods, schedules and locations, while compliance monitoring shall include parameters, indicators, methods and schedules. Compliance and impact monitoring shall be categorized in terms of construction and operation phases;
- Agency responsible for monitoring and agencies to be consulted, if required, during monitoring activities, and
- Organizational set-up, budget and human resources requirements for carrying out the environmental monitoring.

10. OTHER NECESSARY MATTERS

10.1. Particulars of the Cost and Benefits of the Proposal

The cost benefit of the project/ proposal shall be briefly described in the IEE report. The study shall also document the possible benefits of the project in terms of environmental conservation in relation to the cost occurred (mitigation cost). The mitigation costs (based on the quantities) of all the activities shall be given and their ratio to the project cost shall be shown in IEE report. Summary of cost benefit assessment shall be given in IEE report which shall include the following:

- Cost for Environmental mitigation measures
- Cost for enhancement measures
- Cost for the social support programmes
- Cost for the environmental monitoring
- Total cost of the project

10.2. Environmental Management Plan

The Environmental Management Plan (EMP) shall be prepared in detail having the project specific impact, mitigation measures and roles, responsibilities. The plan shall include activities, impacts, proposed mitigation and enhancement measures, organization responsible for the implementation of the measures and monitoring activities, schedule, cost and mode of co-ordination with the line agencies, VDCs and local people. The EMP shall also identify the human resources requirement for the monitoring, mitigation and enhancement works; quantify the work-month and schedule; and develop an action plan for all the proposed measures. The plan shall also include the monitoring procedure/ protocol, especially the mechanism for compliance monitoring by spelling out the responsibilities of each concerned stakeholder. The plan shall be prepared based on the five principles of environment management: what, when, where, how and by whom. It shall also cover the plan for environment protection measures including benefits augmentation measures and adverse impacts mitigation measures based on the above principles.

The EMP shall be prepared in matrix form also. It shall be developed for the construction, operation and maintenance phase

Details of agencies to be consulted for the implementation of mitigation and enhancement measures, and the environmental monitoring shall be identified in the IEE study.

10.3. IEE Report Format

The IEE Report will be prepared as per schedule 5 of EPR, 1997, pertaining to Rule 7 (Annex 5). The chapters will also be planned in accordance to the contents of the schedule

10.4. Other Deliverables

The report will include all cited information, reference lists, maps, graphs, photographs, tables and charts, and questionnaires used during the study. The IEE Report will be finalized by strictly following the ToR and outputs received from the extensive field survey will be incorporated. In addition, the inputs and suggestions received from the Public Notice/Consultation with locals and concerned VDC will also be integrated in the final report. The proponent will implement this proposal persuading to section 5 of the EPA. The proponent will submit required copies of the report of the proposal prepared under Rule 7 along with the recommendation of concerned VDC or municipality to the concerned body for the approval of proposal.

[Handwritten signatures and stamps]

References

- CBS 2011, National Census Report, Central Bureau of Statistics, Kathmandu
- EPA 97, Environmental Protection Act 1997, Ministry of Law, Justice and Parliament Affairs, Nepal
- EPR 97, Environmental Protection Rule 1997, Ministry of Law, Justice and Parliament Affairs, Nepal
- Environmental and Social Management Framework, 2009 (Revised), DoLIDAR, Lalitpur, MoFALD 2013,
- Environment Examination Resource Book, 2013, Ministry of Federal Affairs and Local Development, Singha Durbar, Kathmandu
- DoR, 2003. Reference Manual for Environmental and Social Aspects of Integrated Road Development, Ministry of Physical Planning and Works, Department of Road, Kathmandu.
- Department of Roads, 2000. Policy Document, Environmental Assessment in the Road Sector of Nepal. Geo-Environment Unit, Ministry of Physical Planning and Works, Nepal.
- SSRN, 2011/2012, Statistics of Strategic Road Network, Government of Nepal, Ministry of Physical Planning, Works and Transport Management, Department of Road (DoR).
- Nepal Rural Road Standard, 2055, 1st revision, Department of Local Infrastructure Development and Agricultural Roads (DOLIDAR), Ministry of Federal Affairs and Local Development

pdfelement
 Local Development Officer

Annex-1

Checklist for Physical and Chemical Environment

A. Topography/Physiography

1. Study of Topographic maps/ other available maps and identify the ground topographic characteristics of land covered by the proposed road project
2. Verify the topographic characteristics of the land in the field
3. Soil Type

B. Climate and Hydro-Meteorology

1. Study of published data of regarding temperature, rainfall, humidity, wind speed and direction, solar radiation
2. If possible classify the climatic zone, and its verification
3. Visit the meteorological office of the district and get latest information
4. Water resources/ water resource zone: Information about the water resource of the affected area and its watershed zone will be studied

C. Air Quality

1. Collect any data on air quality of the area from previous literature
2. Investigate on the air polluting activities of the area (traffic, biomass burning, industries, other anthropogenic activities)

D. Erosion and land Stability

1. Identification of erosion prone area along the road alignment
2. Investigate the erosion features and potentials of the local streams and gullies

E. Land Use

1. Investigate on the land use of the Project Blocks from the topo-maps, and other available land use maps
2. Investigate the land use affected by the project structures and subsidiary facilities
3. Investigate on the land use potentials of the proposed project area

F. List of the Required Structure

Format-I-A1: Land Slide Investigation Survey Sheet

Chainage (From – To)	Particular	Field Data
	Sheet No.	
	Location	
	Dimension (LXBXH)	
	Aspect	
	Rock and Soil Type	
	Weathering Condition	
	Geo-morphological Characteristic	
	Scarp	
	Tension Crack/Side Crack	
	Gully Condition	
	Toe Condition	
	Hydrology	
	Vegetation and Land Use	
	History	
	Potential Impact	
	Remarks	

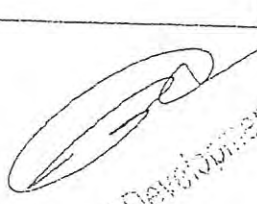
नियर

Format I-A₂
Table Land Use

Left		Land Use Type (Khet, Bari, Kharbari/Abando ned Land, Forest, Shrubs, Settlement etc.)	Ownership	Remarks	Right		Land Use Type (Khet, Bari, Kharbari/Abando ned Land, Foerst, Shrubs, Settlement etc.)	Ownership	Remarks
From	To				From	To			

Format I-A₃
List of Required Additional Structure along the road Alignment

Chainage		Water or other disturbing Source	Required Structure (Culverts, Side Drain Cross Drain, animal tracks, foot trails etc.)	Location	Remarks
From	To				


Local Development Officer




इन्जिनियर

Annex 2

Check List for Biological Environment

- A. Forest and Vegetation
1. Forest Classification by types
 2. **Forest Area** (By Management Categorisation as per Forest Act and Forest regulation):
The areas shall be delineated according to following classification
 - a. Details of Forest by Management
 - i. Community Forest
 - ii. Religious Forest
 - b. Private Forest

(Management status and forest management groups (if any) and importance of these forests shall be discussed. In case of community forest, estimation of the boundary of the community forest area from the field survey and available records, constituted member, purpose of usage of community forest on application etc.; activity area, Item of forest products, Frequency of gathering forest products will also be discussed. The opinion of the key stakeholders of forest management will be gathered and presented.)
 3. **Wild Forest Vegetation Biodiversity observed:** List of tree, shrub and herb found within the influence area of the project will be prepared.
 4. Agro-vegetation Diversity Observed
 5. **Ethnobotanical Use:** The above vegetation species will also be tabulated according to local ethno-botanical uses (such as timber, fodder, NTFP, ornamental, medicinal, food value etc.)
 6. **Conservation significance:** The species found shall also be categorised according IUCN/ CITES APPENDIX and Government of Nepal Protection category, as Rare, Endangered, Endemic, Vulnerable, etc.
 7. **Biomass and wood Stock:** The vegetation lying within the directly affected area particularly tree species shall be inventoried for trees above 10 cm DBH for biomass and wood stock as per forest regulation norms or any other international norms
 8. **Status of vegetation:** In the affected areas, frequency of occurrence, importance value index, and density per ha shall be calculated.
 9. **Water resources/ water resource zone:** Information about the water resource of the affected area and its watershed zone will be studied

Tree and Pole count within a ROW of Proposed Road for Wood Volume Estimation

Location: VDC.....
 Chainage: From.....To.....Km
 Altitude:masl

Ward No.....
 Site Name:
 Aspect:

S. N o.	Side of the Road (L/R)	Local Name	Scientific Name	Owner ship	Measurement (CBH*height)	Remarks (Road/ROW)

Local Development Officer

इन्जिनियर

Forest Classification by Forest Act--Affected by the Project

Chainage	Name of Forest		Dominant tree species	Associated tree species	Associated shrub/herbs	Ecological Status	National Forest (by management types)					
	From	To					G	CF	LF	RF	PF	

Note: G = Government, CF = Community Forest, LF = Leasehold Forest, R = Religious Forest PF = Private Forest (Document only those registered under Government)

Community Forest

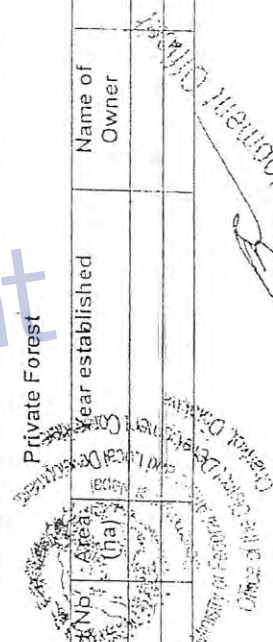
Chainage	Forest Name		VDC	Ward No	Area (ha)	Total involved HH	Total Beneficiary Nos	Year established	Main Forest products Used
	From	To							

Religious Forest

Chainage	Forest Name		VDC	Ward No	Area (ha)	Total involved HH	Religious purpose	Year established	Main Forest products Used
	From	To							

Private Forest

Chainage	Forest Name		VDC	Ward No	Area (ha)	Year established	Name of Owner	Main Forest products Used
	From	To						



Handwritten signature

Handwritten signature

Wild Vegetation Observed - Tree, Shrubs, Herbs of Project Area

SN	Botanical Name	Local Name	Observed site	Vegetation Type (T, S, H, P, B, F etc.)	Occurrence Status			Conservation Status		
					C	S	R	GON	IUCN	CITES

Note: Vegetation Type, T = Tree, S = Shrub, H = Herb, P = Petridophyte, B = Brayophyte, F = Fungi

Agro-vegetation Diversity Observed - Fodder, Fruits, Cereals, Legumes, Vegetable and Ornamental of Project Area

SN	Botanical Name	Local Name	Observed Site	Vegetation Type (F, FR, C, L, V, O)	Occurrence Status			Conservation Status		
					C	S	R	GON	IUCN	CITES

Note: F = Fodder, FR = Fruit, C = Cereal, L = Legume, V = Vegetable, O = Ornamental

Ethno-botanical Uses of the Vegetation - Project Affected Area

S.N	Scientific Name	Local name	Use Type	Used Parts	Mode of Use	Use value

Note : Use abbreviation for use Types: E - edible, M - medicine, F - fodder, FW - Firewood, T - Timber, I - implement, Fi - fiber, Fe - fence, P - poison, W - wine making etc.

Signature

Tree Sps./diversity & Wood Volume Estimation (Sampling Plots) Sample Plot 25m/25m - Project Area

Plot No:

Location (Chainage):

Date:

Local Name	Botanical Name	No of trees (25x25 m ² plot)	CBH (cm)	Height m	DBH (cm)	Basal Area (m ²)	Volume m ³	Total tree volume m ³	Pole size trees	Total sapling	Total seedling

Note: Volume only for CBH 10cm and above, others enumerate name and number under sapling and seedlings

Shrub diversity (Sampling Plots) Sample Plot 5m/5m - Project Area

Plot No:

Location (Chainage):

Date:

Local Name	Botanical Name	No of trees (5x5 m ² plot)	Remarks

Herb diversity (Sampling Plots) Sample Plot 1m/1m - Project Area

Plot No:

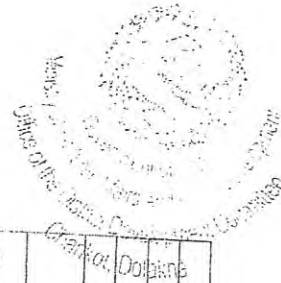
Location (Chainage):

Date:

Local Name	Botanical Name	No of trees (1x1 m ² plot)	Remarks

Development Officer

Signature



Status of Tree Vegetation in the Project Affected Areas

S.N.	Local Name	Scientific Name	Density/ha	Frequency %	Abundance	Relative Density	Relative Frequency	Relative Dominance	Importance Value Index

Status of Shrub Vegetation in the Project Affected Areas

S.N.	Local Name	Scientific Name	Density/ha	Frequency %	Abundance	Relative Density	Relative Frequency	Relative Dominance	Importance Value Index

Status of Herb Vegetation in the Project Affected Areas

S.N.	Local Name	Scientific Name	Density/ha	Frequency %	Abundance	Relative Density	Relative Frequency	Relative Dominance	Importance Value Index

A. P. B.

S. S. S.

Annex-3
Checklists for Wildlife

Mammals of the Project Area

S N	Common Names	Scientific Names	Status of occurrence			Habitat			Observed Location
			Common	Sparse	Rare	F	B	O	

Note: Habitats = F- forest, B – Bush, O- Open grass land, A – Agricultural land. Also present the conservation status of species as per GON, IUCN, CITES

Herpetofauna of the Project Area

S N	Common Names	Scientific Names	Status of occurrence			Habitat			Observed Location
			Common	Sparse	Rare	F	B	O	

Note: Habitats = F- forest, B – Bush, O- Open grass land, A – Agricultural land. Also present the conservation status of species as per GON, IUCN, CITES

Birds of the Project Area

S N	Common Names	Scientific Names	Status of occurrence			Habitat			Observed Location
			Common	Sparse	Rare	F	B	O	

Note: Habitats = F- forest, B – Bush, O- Open grass land, A – Agricultural land. Also present the conservation status of species as per GON, IUCN, CITES

Office of the Secretary
Local Development Office

[Signature]

[Signature]

Butterflies of the Project Area

S N	Common Names	Scientific Names	Status of occurrence			Habitat			Observed Location
			Common	Sparse	Rare	F	B	O	

Note: Habitats = F- forest, B - Bush, O- Open grass land, A -- Agricultural land; Also present the conservation status of species as per GON, IUCN, CITES

Aquatic and Amphibian Fauna of the Project Area

S N	Common Names	Scientific Names	Status of occurrence			Observed Location
			Common	Sparse	Rare	

Note: present the conservation status of species as per GON, IUCN, CITES

Local Development Officer
 Date: 12/01/2021
 Signature: [Signature]

Signature: [Signature]
 Date: 12/01/2021

Annex- 4

Checklist for Socio-economic Environment

A. Household Survey

Semi-structured questionnaire will be used to evaluate the socio-economic status of the households located in the road alignment in RoW and ZOI within 100m distance in project affected VDCs from centre line of the road. By the representation of appropriate sample intensity required number of sample households will be developed by using systematic random sampling method.

B. Focus group Discussion (FGD) in Project affected VDCs

Focus Group Discussion (FGD) in major settlements along road alignment shall be applied to gather the community concern regarding the development of the Project

1. Discussions on the proposal with the locals – Question and Answer
2. Seek following information from the locals

About Project:

- a. Willingness to cooperate in the land acquisition process and willingness to give land and property for the project
- b. Willingness to give land on compensation for permanent area occupied
- c. Envisaged mode of compensation for the land and property
 - Cash compensation
 - Land to land
 - Some other methods (if any)
- d. Approximate current value of land in the VDC in the project sites
- e. Availability of labour for construction from the VDC, approximate number of labour force available for such works
- f. Willingness to give land for temporary use
- g. Mode of compensation to the temporarily occupied land and conditions

About People

- h. Demographic Feature of the project area along with male and female population
- i. The major ethnic groups in the close proximity of the project sites and their demography along with male and female population
- j. Relationship between the ethnic groups
- k. Any cultural difference between the ethnic groups
- l. Economic status of people (In general)
- m. Major health problems of the area (Frequently observed disease, among child, old, young, women)
- n. Education status of people (In general)
- o. Health status of people (In general)

1/ Study
जनियर

[Signature]
Project Engineer

[Signature]

p. Occupational status of people (in general)

About Agriculture

- q. What is the current season wise intercropping practice in the area
- r. What is the production per unit of the land for each crops
- s. What are the fertilisers used currently by the farmers and what is the approximate quantity of use in a year by an average farmer household
- t. Do you use pesticide? Name the types of pesticide used by a farmer household.
- u. Food security and food sufficiency (is the local production sufficient to feed area people, if not sufficient the mode of coping)
- v. What potential exists for vegetable and horticulture or other agro-based economic opportunity

About Community User group:

w. Community Forest within project affected area

- Name
- Area
- No of User Households
- No of Male Households
- No of Female Households
- Year of establishment:

VDC wards

VDC wise break

x. Any other community User groups (Details same as community forests

About Infrastructures

- y. Any infrastructure (foot trail, suspension bridge, existing water supply line, water springs, irrigation they think will be affected by the project

About culture and historical places

- z. Name the temples in the VDC and what is their religious significance
- aa. Is any of the temple lies close to the project sites
- bb. What are key festivals of the VDC people and the observation day of festival (how many people visit the site)
- cc. Is there a site of historical and touristic significance in the area

About development

- dd. Name the primary schools in the VDC – students and teachers number
- ee. Name the Middle schools in the VDC – students and teachers number
- ff. Name the Secondary schools in the VDC – students and teachers number
- gg. Name the higher secondary schools in the VDC – students and teachers number

निर्देशक

Charan, Dabara

Local Development Officer

फर्मल

- hh. Name the health posts in the VDC – number of health workers
 ii. Telephone numbers in the VDC
 jj. Name the post office in the VDC
 kk. Name the industries in the VDC – number of workers
 ll. Water supply system and coverage (mode of water fetching for household use)
 mm. Energy Use and types of energy use
 - for cooking
 - for lighting

Market Development Opportunities

Market Price:

Rice/kg	(produce of)
Wheat/kg	(produce of)
Maize/kg	(produce of)
Barly/kg	(produce of)
Buck wheat/kg	(produce of)
Other grains/kg	(produce of)

Meat mutton /kg
 Chicken.kg
 Pork/kg
 Fish/kg

Milk/ltr
 Sugar/kg
 Tea/Cup
 Others

About Development Needs

- nn. What are the first five development needs of the VDC
 oo. What is expected by the people from the project (at the minimum)

About Gender

- pp. Educational status of women compared to man counterpart and reason
 qq. Social status of women
 - in household decision making
 - in household works
 - in land and property
 - livestock
 - in social organisation
 rr. How the status of women could be upgraded

Local Development Officer

[illegible]

11/12/20

Schedule-5 of EPR
(Relating to Rule 7)

Matter to be mentioned while preparing reports relating to Initial environmental examinations:

1. Name and address of individual or institution preparing the report:
2. Summary of the proposal: (To briefly mention the following matters in regard to the possibly impact of the implementation of the proposal on the environment):
 - (a) Objectives of the proposal,
 - (b) Impact on land-use.
 - (c) Adverse impact on the environment impact on human life, and population pressure,
 - (d) Damage to be suffered by local goods or objects,
 - (e) Other necessary matters.
3. The following matters must be explicitly mentioned in respect to the proposal:
 - (a) Type of proposal,
 - (b) If related to delivery, the nature and type of goods to be delivered.
 - (c) Proposal's
 - (i) Installed capacity
 - (ii) Number of hours to be operated per day or year.
 - (d) Materials to be used (quantity and year to be mentioned).
 - (e) Emission resulting from the implementation of the proposal (the time of operation and the consequent volume of emission to be specified)
 - (f) Energy to be used:
 - (g) Human Resource requirements:
 - (h) Resources required for the implementation of the proposal:
 - (i) Total (Gross) capital
 - (j) Detailed particulars of the area where the project is to be implemented:
 - (k) Manufacturing processes
 - (l) Details of the technology
 - (l) Other necessary matters.
4. Impact of the implementation of the proposal on the environment:
 - (a) Impact on the social, economic cultural spheres:
 - (b) Biological Impact:
 - (c) Physical Impact:
5. Alternatives for the implementation of the proposal:
 - (a) Design
 - (b) Project site
 - (c) Processes, time-schedule,
 - (d) Raw materials to be used,
 - (e) Others

Office of the District Development Officer
Chandigarh
141 001

Local Development Officer

6. Alternatives to reduce or control the impact of the implementation of the proposal on the environment.

7. Matters to be monitored while implementing the proposal.

8. Other necessary matters.

Note: - Data, maps, Photographs, tables, charts graphs etc. shall be enclosed, as required, while preparing the report.

Office of the District Development Officer
District Development Officer

pdfelement

जनियर

प्रमुख

Framework of IEE report

(Environment Examination Resource Book, 2070, MoFALD.

प्रारम्भिक वातावरणीय परीक्षण प्रतिवेदनको प्रारूप

- शीर्ष पाना
- विषयसूची
- संक्षेपाकृत शब्दहरूको विस्तृत रूप
- कार्यकारी सारांश (नेपाली)
- Executive Summary (English)
 १. प्रस्तावकको नाम र ठेगाना
 २. परिचय
 ३. सडक परियोजनाको विवरण
 ४. कार्यविधि
 ५. नीति, नियम तथा विधान समालोचना
 ६. वर्तमान वातावरणीय स्थिति
 ७. परियोजनाको विकल्प
 ८. प्रभावको मूल्याङ्कन तथा नकारात्मक प्रभावको न्यूनीकरण र सकारात्मक प्रभावको वर्णन
 ९. वातावरण व्यवस्थापन योजना
 १०. निष्कर्ष
 ११. अध्ययन टोलीको दृढीकृत
 १२. सन्दर्भ सामग्री
 १३. अनुसूची
 - क. अनुमोदित टीओआर (ToR)
 - ख. सार्वजनिक सूचना
 - ग. मुचुल्का
 - घ. सिफारिस-पत्र
 - ङ. सम्पर्क गरिएको व्यक्तिहरू
 - च. सम्पर्क गरिएको अधिकारीहरू
 - छ. प्रकाश चित्र
 - ज. रूखहरूको विवरण
 - झ. अन्य

Local Development Officer

Final



pdfelement

ANNEX B: PUBLIC NOTICE

Handwritten signature or initials.

Handwritten signature or initials.

आर्थिक

www.abhyan.com.np

E: abhyan@abhyant.com, P: ९७७-९७७-२०१२०१

हरेक बुट, आर्थिक कोण

अभियान

डाक्टर दैनिक

संस्करण: १०७९/०६/०१
 पृष्ठ संख्या: १२
 मूल्य: रु. १००/-
 प्रकाशक: डा. वि. रा. शर्मा, काठमाडौं

नेपाल सरकार
 प्रधानमन्त्री तथा स्थानीय विकास मन्त्रालय
 जिल्ला विकास समितिको कार्यालय, दोलखा

गारुडि-सुकाठौंका-पर्वत-सुनसरी (वि) सार्वजनिक सुचना

(प्रथम पटक प्रकाशित मिति: २०७९/०६/०१)

जिल्ला विकास समिति दोलखा प्रस्तावक रहेको, स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग (DoLIDAR) अन्तर्गत ग्रामीण पुर्ननिर्माण तथा पुनर्स्थापना आयोजना (RRRSDP) को आयोजना, समन्वय इकाई (PCU) ले सहजीकरण गरिरहेको वसायका सडकहरूको स्तरोन्नती गरी राखालग गर्ने प्रस्तावहरू रहेका छन्।

क्र.सं.	सडकको नाम	दूरी (कि.मि.)	प्रभावित न.पा. तथा गा.वि.स.हरू
१	निगाने बाघखोर - मुवाफदा-माम्बेनदुधपोखरी सडक	७	भुवाफेदा
२	मुस्ता-पुनसुकाठ - महेरखोल (दोलापतल) सडक	१०	ताम्बु, गौरीमुदी, भिर्ग
३	नयाँपुल - पयटी - डाँडाचर्क सडक	१९	भिर्गेश्वर नगरपालिका, फस्कु, पयटी, घ्याङसुकाठाँकर, भेड्पु

उल्लेखित जिल्ला सडकहरू नेपाल ग्रामीण सडक मापदण्ड, २०६६ (संशोधित २०६९) बमोजिम कुल ५.२५ मी. चौडाई (नाली बाहेक) तथा २० मी. (साटुपको) नैसर्गिक ढोला सुवेला २० र १० मी.) सडक (अधिकार क्षेत्र रहने गरी प्रस्ताव गरिएको छ। उक्त प्रस्तावहरू कामचलायमान गरी एवं वातावरण संरक्षण गि, २०५३ तथा वातावरण संरक्षण नियमावली, २०५४ को प्रावधान अनुरूप संघीय मामिला तथा स्थानीय विकास मन्त्रालयले थपिनु परेको कार्यतुली (ToR) बमोजिम प्रारम्भिक वातावरणीय परीक्षण अध्ययन कार्य भइरहेको छ। यहाँ शिलशिलामा सडक उपआयोजना क्षेत्रका भौतिक, जैविक, आर्थिक-सामाजिक तथा सांस्कृतिक वातावरण एवं तीसरा अध्यायहरूमा पर्ने प्रभावहरूको बारेमा वातावरण संरक्षण नियमावली, २०५४ को नियम ७ (२) अनुसार यी सूचना पत्रमा प्रकाशित गितिले १५ दिनभित्र तल उल्लेखित ठेगानामा आ-आफ्ना लिखित राय सुझावहरू पठाइदिनुहुनको लागि सम्बन्धित गा.वि.स. विकास समिति, स्वास्थ्य चौकी, वन कार्यालय तथा वन उपयोग समिति एवं सम्पूर्ण नरोक्नारवाला व्यक्ति वा संस्थाहरूलाई यसै सूचनाद्वारा अनुरोध गरिन्छ। यस बमोजिमको राय सुझाव सम्बन्धित मन्त्रालयमा म्याल नोड पठाउन सकिनेछ।

प्रस्तावक	संलग्नक	सम्बन्धित मन्त्रालय
जिल्ला विकास समिति दोलखा कार्यालय, दोलखा फोन: ०४२-४२९४६९, ४२९४७७ फ्याक्स: ०४२-४२९४७७ ईमेल: doleka@abhyant.com	संलग्नक E: abhyant@abhyant.com फोन: ०१-४४६६०३४, ४४६६०३५ फ्याक्स: ०१-४४६६०३५ ईमेल: abhyant@abhyant.com	संलग्नक संघीय मामिला तथा स्थानीय विकास मन्त्रालय सिंहदरवार, काठमाडौं फोन: ०१-४२०००००, ०१-४२००००१ ईमेल: ipd@moald.gov.np abhyant@abhyant.com

डा. वि. रा. शर्मा
 जलियार

डा. वि. रा. शर्मा



ANNEX C: DEEDS OF PUBLIC ENQUIRY (MUCHULKA)

[Handwritten signature]
पुलितर

[Handwritten signature]



पत्र संख्या :- २०७१/०७२
चलानी नं:- ४९८

नेपाल सरकार
वन तथा वन्यजन्तु विभाग
वन विभाग

जिल्ला वन कार्यालय, दोलखा

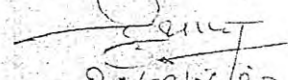


फोन फ्याक्स नं:- ०४१-४२११३४
मिति :- २०७१/०३/२०

विषय :- सूचना टाँस गरिएको बारे ।

श्री जिल्ला विकास समितिको कार्यालय,
चरिकोट, दोलखा ।

उपरोक्त सम्बन्धमा त्यस कार्यालयको च.नं. ५१२ मिति २०७१/०३/२० को पत्र साध मिति ०७१/६/०१ मा आर्थिक अभियानमा राष्ट्रिय दैनिकमा प्रकाशित सूचना यस कार्यालयको सूचना पाटोमा टाँस गरिएको र उक्त सूचना बमोजिम सडक निर्माण गर्दा पर्न सक्ने वातावरणीय प्रभाव मूल्यांकन सम्बन्धमा (IEE) गर्दा वातावरण संरक्षण ऐन, २०५३ वातावरण संरक्षण नियमावली २०५४ मा उल्लेखित तथा आवश्यक कार्यविधि पुरा गरी कार्यवाही गर्नु गराउनु हुन सिफारिश गरिन्छ ।


२०७१/०६/२०
चन्द्र बहादुर थापा
नि. जिल्ला वन अधिकृत
नि. जिल्ला वन अधिकृत

१/१३/२०७१
जानियर

सार्वजनिक सूचना टाँस गरिएको मुचुल्का

लिखितम जोगापुर २ अञ्चल दैलेख जिल्लाको
 जिल्लाको ठाउँ जोगापुर ३। गा.वि.स./न.पा.मा बस्ने हामी तपासिल
 बमोजिमका व्यक्तिहरुले मिति २०७९/०६/१९ गतेको दैनिक पत्रिका आर्थिक
 अभियानमा प्रकाशित दोलखा जिल्लाको जोगापुर २ प.व.टी. डाँडाखोला सडक
 निमाणे कार्यको प्रारम्भिक वातावरणीय परीक्षण (IEE) सम्बन्धी सूचना आजको
 मितिमा हामी देहायका व्यक्तिहरुको रोहबरमा यस
 जिल्लाको ठाउँ जोगापुर ३ को सूचना-प्राप्तिमा टाँस भएको ठीक साँचो हो
 भनी सही छाप गरिदियौं।

१. तेज पाहाड मण्डल

२. जोगापुर २

३. कल्याण नैष्क कल्याण

४.

५.

इति सम्वत् २०७९ साल ०६/०६/१९ महिना रोज ८ शुभम्।

२०७९/०६/१९
 नि. जिल्ला वन अधिकृत



१. [Signature]
 २. [Signature]
 ३. [Signature]

सार्वजनिक सूचना टाँस गरिएको मुचुल्का

लिखितम जनकपुर अञ्चल दोलखा जिलाको
 दोलखा जि. व. का. जिल्ला वन कार्यालय
 बमोजिमका व्यक्तिहरुले मिति २०७१/०६/१९ गतेको दैनिक पत्रिका आर्थिक
 अभियानमा प्रकाशित दोलखा जिल्लाको निजाले गाउँपालिका सडक
 निर्माण कार्यको प्रारम्भिक वातावरणीय परीक्षण (IEE) सम्बन्धी सूचना आजको
 सितिमा हामी देहायका व्यक्तिहरुको रोहवरमा यस
 जिल्लाको वन कार्यालयको सूचना पाटीमा टाँस भएको ठीक साँचो हो
 भनी सही छाप गरिदियौं।

१. तेज बहादुर श्रेष्ठका

२. नारायण शर्मा

३. कल्पना क्षेत्री

४.

५.

इति सम्बत् २०७१ साल ०६/१९ महिना रोज ४ शुभम्।

२०७१/०६/२०
 नि. जिल्ला वन अधिकृत

सुन तया भवन नमस्तर
 जिल्ला वन विभाग कार्यालयको छाप
 वन कार्यालय, दोलखा
 २०७०

M. १/११
 १/११

सार्वजनिक सूचना टाँस गरिएको मुचुल्का

लिखितम

अञ्चल

जिल्लाको

जंगनापुर

२१ लक्ष्मी

गा.वि.स./त.पा.मा

वस्ने

हामी तपसिल

वर्माजिमका व्यक्तिहरुले मिति २०७५/११/१९ गतेको दैनिक पत्रिका आर्थिक

अभियानमा प्रकाशित दोलखा जिल्लाको ~~सामुदायिक~~ ^{डोडादमक} सडक

निर्माण कार्यको प्रारम्भिक वातावरणीय परीक्षण (IEE) सम्बन्धी सूचना आजको

मितिमा हामी देहायका व्यक्तिहरुको रोहवरमा यस

जिल्लाको सूचना पाटीमा टाँस भएको ठीक साँचो हो

भनी सही छाप गरिदियो।

१. वलराज मुहाधोकी

२. शान्त बहादुर तामाङ शान्ताबाहादुर

३. शान्तिमान प्रताप कोफले

इति सम्वत् २०७५ साल ११/१९ महिना रोज शुभम्।

वलराज मुहाधोकी
मुख्याधिकारी

कार्यालयको छाप

निर्धार

General

लिखितम अन्तकपुर अञ्चल दोलखा जिल्लाको
पथटी गा.वि.स. / न.पा.मा वस्ने हामी तपसिल
वमोजिमका व्यक्तिहरुले मिति २०७१/०६/०१ गतेको दैनिक पत्रिका आर्थिक
अभियानमा प्रकाशित दोलखा जिल्लाको तात्कालिक भेदपु सडक
निर्माण कार्यको प्रारम्भिक वातावरणीय परीक्षण (IEE) सम्बन्धी सूचना आजको
मितिमा हामी देहायका व्यक्तिहरुको रोहबरमा यस
गा.वि.स.को सूचना पाटीमा टाँस भएको ठीक साँचो हो
भनी सही छाप गरिदियौं ।

9. $\frac{7}{9} \times \frac{10}{11} = \frac{70}{99}$

Signature

२. बल बहादुर तामा

⑥ मा. वरुण उ. मा. कि. पदी

३. देविरभण कइल

64

४. श्रावण महिना

4027-6

५. पुस्तक परिषद्

Recd 60/11-8

इति सम्बत् २०७१ साल ०७ महिना रोज १७ शुभम् ।


 जिला प्रशासक, बहाल
 गाविस तालिम/अञ्चल

मा. वि. स. को छाप
सामितिको क.
पवटी, दोलाखा
२०७३

1 रवि
इजिप्तर

General

सार्वजनिक सूचना टाँस गरिएको मुचुल्का

लिखितमा जनकपुर अञ्चल पल्लवा जिल्लाको
 धादिङ्ग/मोडु गा.वि.स./न.पा.मा बस्ने हामी तपासल
 वमोजिमका व्यक्तिहरुले मिति २०७१/११/१९ गतेको दैनिक पत्रिका आर्थिक
 अभियानमा प्रकाशित दोलखा जिल्लाको न्यायिक प्रणाली-२ डोल्खा सडक
 निर्माण कार्यको प्रारम्भिक वातावरणीय परीक्षण (IEE) सम्बन्धी सूचना आजको
 मितिमा हामी देहायका व्यक्तिहरुको रोहवरमा यस
 को सूचना पाटीमा टाँस भएको ठीक साँचो हो
 भनी सही छाप गरिदियो।

१. द्रो. भोज धादिङ्ग/मोडु-२, डोल्खा
२. रिज्जिना बोका " " " " " "
३. अम्बिका जोरले मोडु-४
४. रमेश बज्रा " - ६
५. गुणराज जोरले " ३

इति सम्वत् २०७१ साल ६ महिना रोज १५ शुभम् ।

केशर बहादुर विरवर्मा
 अध्यक्ष

गाउँ विकास समितिको कार्यालय
 धादिङ्गको कार्यालयको छाप
 दोलखा

जानियर

जानियर



सार्वजनिक सूचना टाँस गरिएको मुचुल्का

लिखितमा प्र.स.क.पुर अञ्चल दोलखा जिल्लाको
 गिर्जाेश्वर गा.वि.स./न.पा.मा बस्ने हामी तपासल
 बसोजिमका व्यक्तिहरुले मिति २०७३.१२.१२ गतेको दैनिक पत्रिका आर्थिक
 अभियानमा प्रकाशित दोलखा जिल्लाको सप्तौ पुल पर्वदी डाँडाखर्क सडक
 निर्माण कार्यको प्रारम्भिक वातावरणीय परीक्षण (IEE) सम्बन्धी सूचना आजको
 मितिमा हामी देहायका व्यक्तिहरुको रोहवरमा यस
 अभियानमा को सूचना पाटीमा टाँस भएको ठीक साँचो हो
 भनी सही छाप गरिदियौं।

१. श्री सुब्रह्म राउत - डा. वि. वि. वि.

२. श्री माधव प्र. सुवेदी - श्री. अ. वि. वि.

३. श्री जगत क. बाजा - ल्या. प. वि.

४. श्री जगत बहादुर बज्र - का. वि.

५. लक्ष्मी काजी - श्री. वि. वि.

इति सम्वत् २०७३ साल कार्तिक महिना रोज १८ शुभम्।

.....
 १६/१२

कार्यालयका छाप
 माधव प्रसाद सुवेदी
 प्रशासकीय अधिकृत

.....
 निज नियर

.....

मुचुल्का

मिति २०७१ साल आश्विन १७ गते १७ दिन सोमवार

टोलरवा स्थानमा जिल्ला विकास समिति अन्तर्गत संचालन हुन गइरहेको नामावली-भेदघु सडक उपआयोजनाको प्रारम्भिक वातावरणीय परीक्षण अध्ययन (IEE) को सिलसिलामा स्थानीय समुदाय र वातावरण परीक्षण अध्ययन टोली बीचमा छलफल गरी सडक निर्माण गर्दा वातावरणमा पर्ने नकारात्मक तथा सकारात्मक प्रभावहरुको बारेमा न्यूनिकरण गर्ने उपायहरुको तपशिलको उपस्थितिमा छलफल गरी निर्णय गरियो ।

उपस्थिति

क्र.सं.	नाम/थर	ठेगाना	दस्तखत
१.	रामु भुजेल	पवरी - ९, होल्माला	
२.	हेल्मिराज ठेगेल	पवरी - ८, होल्माला	
३.	द्विजराज टकाल	पवरी - ८, होल्माला	
४.	काठोलमणी ल्याँपाने	पवरी - १, १०	
५.	पुष्कर परियाल	पवरी - ४	
६.	शास्त्र ध. काको	पवरी - ४	
७.	रुनरपाती नेपाली	पवरी ९, होल्माला	
८.	सन्धिप परियाल	पवरी - ४	
९.	लामा नेपाली	पवरी - ४	
१०.	लाल तं शर्मा	पवरी ९	
११.	उडपल नेपाली	पवरी ४	
१२.	सुनरा काको	पवरी - ४	
१३.	अन्नमणी काको	" - ६	
१४.	रानी माया पटियार	पवरी - ६	
१५.	शुष्मा टकाल	पवरी - ६	
१६.	रामु नेपाली	पवरी - ४	

जानियर

प्रमुख



Handwritten signatures and initials at the bottom of the page.



आदर्श गाउँ विकास समितिको कार्यालय
Office of the Adarsh Gaun Development Committee

चौलखा
Dolakha

पत्र संख्या / Letter No. ४८७/५०२

पत्रांश नं. / Dispatch No. १४२

मिति / Date २०७१/०१/१८

विषय / Subject - विचारित सम्बन्धमा /

श्री जिल्ला विकास समितिको कार्यालय,
चौलखा /

प्रस्तुत सम्बन्धमा नेपाल सरकार, जिल्ला विकास समितिको कार्यालय, प्रस्तावक रहेको स्वागति पूर्वक विकास तथा कृषि सङ्ग विभाग (००८३७९२) शासिक पुनर्निर्माण तथा पुनर्स्थापना R.R.R-३० P-२ अन्तर्गत प्रस्तावित नयाँ पुल - पदचो - काँडा लुके सडक उप आयोजनाको प्रारम्भिक वातावरणीय परीक्षण - प्रतिवेदन अन्तर्गत रही उक्त आयोजना कार्य १२५ वार्ड विचारित गरिदो।

२०७१/०१/१८

इन्जिनियर

प्रमुख



गाउँ विकास समितिको कार्यालय

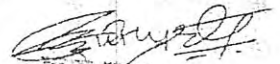


पत्र नम्बर :- ११८/८८१/०६२
चलानी न :-

मिति २०८१/८/१९

विषय :- शिफारिस गरिएको स्वास्थ्यकर्मी ।
की जिल्ला शिक्षा समितिको कार्यालय
चरकोट, दोलखा,

प्रस्तुत सम्बन्धमा नेपाल सरकार (जिल्ला शिक्षा) शासकीय
को कार्यालय, दोलखा प्रमाणित रकमको आधारमा प्रस्तावित शिक्षा तथा स्वास्थ्य
संरचना (DOCLIDAR) ग्रामिण पुनर्निर्माण तथा पुनर्-शासन आयोजना
R.R.R.S.D P-२ अन्तर्गत प्रस्तावित ल्याबोरेटरी-पठन-लिखन संरचना
उप आयोजना आयोजनाको प्रारम्भिक लागतमाणीय परिशिष्ट प्रतिकेदम
अर्पण रकम उक्त आयोजना कार्यक्षेत्रमा गर्नका लागि शिफारिस
गरिन्छ।


सहाय प्रमुख कार्यालय
गाउँ विकास समिति/अध्यक्ष
२०८१/०९/१८

१/१८/१९
मान्यवर





गाउँ विकास समितिको कार्यालय

दोलखा

पत्र संख्या :- ८८१/८६२

चलानी :- १९९२

दिनांक २०७१/०७/१९

विषय :- सिफारिस गरिएको बारे ।

श्री प्रहला विकास समितिको कार्यालय, दोलखा

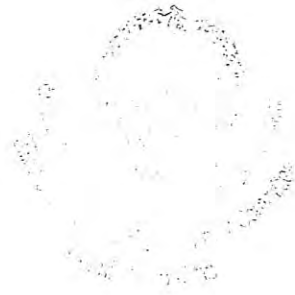
प्रस्तुत सम्बन्धमा नेपाल सरकार, जि. वि. स
कार्यालय, दोलखा प्रस्तावक रहेको DOLLAR, RRRSDP-2
अन्तर्गत प्रस्तावित तयौपुल - पक्की - डाँडाखर्क २३०० रुप
आयोजनाको IEE प्रतिवेदन अन्तर्गत रहे उक्त आयोजना
कार्यान्वयन गर्न सिफारिस गरिन्छ ।

[Signature]

प्रमुख अधिकारी
मा. वि. स. १०७१

[Signature]
१०७१

[Signature]



ANNEX E: LIST OF PERSON CONSULTED

Handwritten signature and text in Devanagari script, likely a date or reference.

Handwritten signature in cursive script.

SN	Name	Address
1	Shiva Ram Dhakal	Bedapu, Dolakha
2	KhadgaBahadurKarki	Gyang-4, Dolakha
3	IndraBahadurBudhathoki	Fasku-1 Dolakha
4	BishnuKhadka	Pawati-9, Dolakha
5	RajuBhujel	Pawati-9, Dolakha
6	Devi Raman Kattel	Pawati-8, Dolakha
7	Shiva Ram Dhakal	Pawati-7, Dolakha
8	Kapil Mani Neupana	Pawati-1, Dolakha
9	PuskarPariyar	Pawati-4, Dolakha
10	Santa BahadurKarki	Pawati-4, Dolakha
11	SwasthaniThapliya	Pawati-9, Dolakha
12	SajeepPariyar	Pawati-4, Dolakha
13	Ramji Nepali	Pawati-4, Dolakha
14	KulBahadurKhadka	Pawati-9, Dolakha
15	Ujwal Nepali	Pawati-4, Dolakha
16	SushmaKarki	Pawati-4, Dolakha
17	Anjali Karki	Pawati-6, Dolakha
18	Rani Maya Pariyar	Pawati-6, Dolakha
19	SushmaDhakal	Pawati-6, Dolakha
20	Raju Nepali	Pawati-5, Dolakha
21	Bala Ram Budhathoki	Fusku, Dolakha
22	Santa BahadurTamang	Fusku, Dolakha
23	Sudarshan Prasad Kafle	Fusku, Dolakha
24	Suresh Raut	BhimeshworDolakha
25	Madav Prasad Subedi	BhimeshworDolakha
26	BhaktaBahadurThapa	BhimeshworDolakha
27	BhimBahadurBasnet	BhimeshworDolakha
28	LaxmiKarki	BhimeshworDolakha
29	HiraThokar	Ghyan Sukathokar-5, Dolakha
30	ShreejanThokar	Ghyan Sukathokar-5, Dolakha
31	AmbikaGola	Bhedpu-4, Dolakha
32	Ramesh Tamang	Bhedpu-7, Dolakha
33	Gunraj Lama	Bhedpu-3, Dolakha



ANNEX F: QUESTIONNAIRES

Handwritten signature or initials.

Handwritten signature or initials.
नियर

प्रस्तावित आयोजनाको
प्रारम्भिक वातावरणीय परिक्षण (IEE) अध्ययन प्रश्नावली

१. सामान्य जानकारी

- क) सर्वेक्षण गरिएको गाउँ विकास समितिको नाम:
 ख) वडा नं. गाउँ : घर नं.
 ग) घर मुलिको नाम, थर :
 घ) परिवारमा बस्ने सदस्यको संख्या : अ) महिला आ) पुरुष
 ड) परिवारमा बस्ने सदस्यहरूको विवरण

क्र.सं.	नम	परिवारको मुलिसँगको नाता	लिंग	उमेर	शिक्षा	पेशा
१.						
२.						
३.						
४.						
५.						

बोल्ने भाषा:

प्रमुख धार्मिक पर्वहरू:

प्रमुख चाठ पर्वहरूको नाम:

धर्म:

सर्वेक्षण क्षेत्रका धार्मिक तथा सांस्कृतिक ठाउँहरू:

च) घर जग्गा भएको/नभएको

१) घर तथा जग्गा दुवै भएको

२) जग्गा भए प्रकार

जग्गाको प्रकार	सिचाई सुविधा भएको	सिचाई सुविधा नभएको	आफैले गरेको	अरुलाई कमाउन दिएको	कैफियत
बेत (रोपनीमा)					
बारी					
पाखो					

३) सिचाईको श्रोत :

४) घर मात्र भएको जग्गा नभएको :

५) घर जग्गा केही नभएको

छ) पशुपंछी पालन गर्ने गोठ/खोर आदि भए/नभएको - भएमा प्रकार खुलाउने)

ज) घरमा शौचालयको व्यवस्था छ/छैन - भएमा शौचालयको प्रकार खुलाउने)

झ) खाना पकाउनको लागि प्रयोग गर्ने चुलोको प्रकार

ञ) खाना पकाउनको लागि प्रयोग गर्ने इन्धनको प्रकार

ट) इन्धनको श्रोत के हो ? र कहाँबाट प्राप्त हुन्छ ?

ठ) गाई वस्तुको गोबर के काममा प्रयोग हुन्छ ?

ड) तपाईंको परिवारले कहाँको पानी पिउनु हुन्छ र पानीको गुणस्तर कास्तो छ ?

ढ) तपाईंको घरबाट तल उल्लेख गरिएका नजिकका श्रोतहरू छन छैनन्

॥ *सिमानियर*

सिमानियर

यदि छन् भने पुग्नकति संख्यामा छन र उक्तश्रोत पुग्नकति समय लाग्छ ?

क्र.सं.	सुविधाको किसिम	लाग्ने समय	कैफियत
१.	प्राथमिकविद्यालय		
२.	स्वास्थ्य केन्द्र		
३.	वस स्टप		
४.	पक्की सडक		
५.	वाणिज्य बैंक		
६.	सहकारी संस्था		
७.	सानाकिसानाविकास योजना		
८.	हाट बजार		
९.	कृषि केन्द्र		
.	गैर सरकारी संस्था		

२. पशुपंछीको सर्वेक्षण

क) सर्वेक्षण गरिएको कृषक परिवारसँग रहेको पशुपंछी विवरण

विवरण	संख्या	जात (स्थानीय/उन्नत)	कैफियत
गाई			
गोरु			
बाछ्रा-बाछ्री			
भैसी			
पाडा-पाडी			
बाखा			
खसीतथाबोका			
हास			
कुखुरा			
स्थानीयजातको सुगुर			
बंगुर			

३. खाद्यान्नतथानगदेवाली

क) तपाईंले गर्ने प्रमुखखाद्यान्नवालीहरू

खाद्यान्नतथानगदेवाली	लगाउने महिना	औषतउत्पादन	विक्रीगर्ने भए परिणाम	विक्रीगर्ने बजार	रासायनिकमलको प्रयोग छ छैन
धन					
मकै					
गहुँ					
कोदो					
तोरी					

१. *अनिल*

अनिल

ख) तरकारी खेती

१) के तपाई तरकारी खेती गर्नु हुन्छ ?
यदि गर्नु हुन्छ भने

तरकारीको नाम	लगाउने महिना	औषत उत्पादन	तरकारी बेच्ने वजार	समस्याहरू

२) तरकारी खेतीमा तपाईले भोग्नु भएका समस्याहरू के के हुन् ?

ग) फलफूल खेती

फलफूलको नाम	बोटको संख्या	वार्षिक उत्पादन परिणाम	घरमा खपत	विक्रि गर्ने परिणाम	कैफियत

वनजंगलको प्रकार बारे
सामुदायिक वनको विवरण

स्थानीय वन पैदावरको विवरण

४. रोजगारी स्थिति सम्बन्धी विवरणहरू

क) तपाईको परिवारको हालको राजगारीको स्थितिको बारेमा बताई दिनु होस् ।

नाम	ज्यालादारी		अन्य रोजगारी	
	कृषि क्षेत्र	गैरकृषि क्षेत्र	स्वयं रोजगारी	बैरोजगारी

ख) खेतीपातीमा तपाईको परिवारका सदस्यहरू वर्षमा कति दिन काम गर्दछन् ?

कामको प्रकार	संलग्न हुने दिन	कैफियत
खेत जोस्ने		
बाली लगाउने		

नियर

प्रमुख

गोडमेल गर्ने		
अन्यकामहरू		

ग) तपाईंको घर परिवारमा स्थानीय स्तरमा तल उल्लेखित सिपमुलक रोजगारीमा आवद्ध छन् वा छैनन् ।
यदि छन् भने तपाईंको परिवारको कति सदस्य कुन काममा आवद्ध छन् ।

१. पलम्बर २. कार्पेन्टर ३. टेक्सिसियन (मेकानिकल, इलेक्ट्रिसियन, इलेक्ट्रोनिक)
४. क्लिनर ५. इकुम्पमेन्ट अपरेटर ६. ड्राइभर ७. साधारण मजदुरी ८. अन्य

घ) महिला भेदभाव छ वा छैन :

यदि छ भने :

क) शिक्षा क्षेत्रमा ख) पत्रिक सम्पत्तिमा ग) खाना घ) लुगाफाटो ङ) कामको बाँडफाँडमा

५. परियोजनाले कुनै समुदायको घर-जग्गा अधिग्रहण गरेको छ ? यदि छ भने

क) विस्थापित परिवार संख्या

ख) जग्गा

ग) क्षतिपूर्ति

६. परियोजनाले जङ्गलमा पारेको प्रभाव

जङ्गलको प्रकार	जङ्गलमा परेको प्रभाव
सामुदायिक वन	
निजी वन	
सरकारी वन	
संरक्षित वन	

७. परियोजनाले जिवजन्तुमा पारेको प्रभाव

जिवजन्तुको प्रकार	परेको प्रभाव
१. जङ्गली जनावर	
क)	
ख)	
ग)	
घ)	
२. घरपालुवा जनावर	
क)	
ख)	
ग)	
घ)	
३. चरा चुरुङ्गी	
क)	
ख)	

मि. ग. र. म. ग. र. म. ग. र.

मि. ग. र. म. ग. र. म. ग. र.



ग)	
घ)	
४. सिमसार आश्रित जीव	
क)	
ख)	
ग)	
घ)	
५. लोपोन्मुखवनस्पति	
क)	
ख)	
ग)	
घ)	

८. यस गाउँका प्रमुख समस्याहरू के के हुन्?

क)

ख)

ग)

यो परियोजनाले समुदायलाई हुने लाभहरू के के हुन् ?

क)

ख)

ग)

हानीहरू के के हुन् ?

क)

ख)

ग)

यो परियोजनाले तपाईंलाई के सुविधा उपलब्ध गराइदियोस जस्तो लाग्छ ?

.....

.....

Handwritten signature



pdfelement

ANNEX G: SITE PHOTOGRAPHS

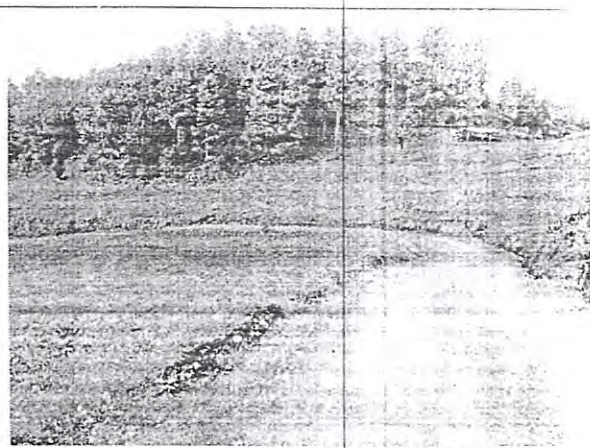
Handwritten signature

Handwritten text in Devanagari script

Handwritten signature
इन्जिनियर



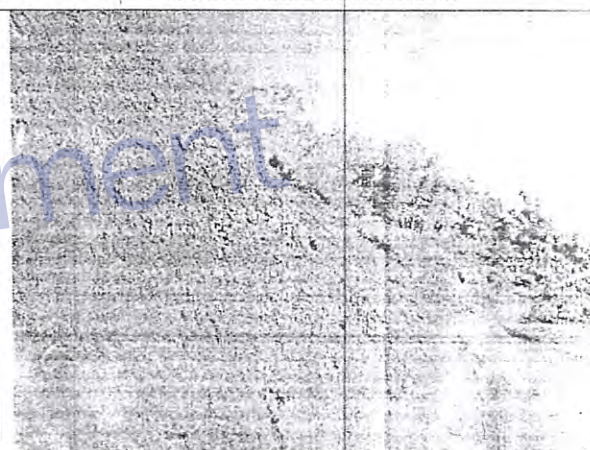
Public Consultation



Present road conditions



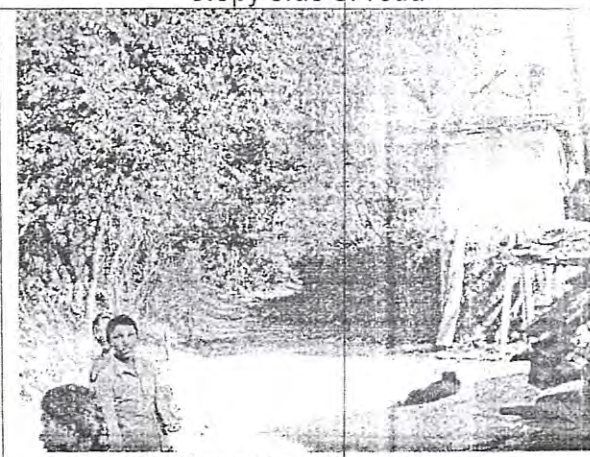
Cultivation and Forest



Slopy side of road



Earthen Road



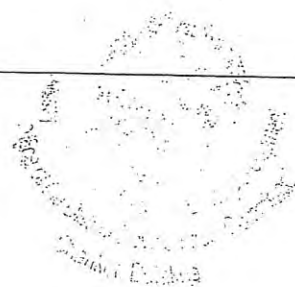
Settlements along the road

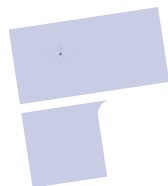
Signature
इन्जिनियर

Signature

विभाग
राज्य सरकार
राज्य सरकार

Initial Environmental Examination Study Report of
Nayapul-Pawati-Dadakharka Road Sub Project



 pdfelement

