

Environmental Assessment Document

Initial Environmental Examination

Grant Number: 0093 NEP

July 2011

Nepal: Rural Reconstruction and Rehabilitation Sector Development Program

Sankhu-Jarsingpauwa-Fatkeshor, Jarsingpauwa- Bhotechaur Road Upgrading Subproject, Kathmandu District

Prepared by the Government of Nepal

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Government of Nepal
Ministry of Local Development
Department of Local Infrastructure Development and Agricultural Roads
Rural Reconstruction and Rehabilitation Sector Development Program
[ADBGrant 0093NEP]

Initial Environmental Examination (IEE) Report

of

**Sankhu-Jarsingpauwa-Fatkeshor,
Jarsingpauwa-Bhotechaur
Road Upgrading
Sub Project. Kathmandu District, Nepal.**

Submitted to:
Ministry of Local Development
Government of Nepal

Proponent:
**District Development Committee/
District Technical Office**
Kathmandu

July, 2011

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ABBREVIATIONS

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

NAME AND ADDRESS OF THE PROPONENT

Name of Proposal

Sankhu-Jarsingpauwa-Fatkeshor Road Upgrading Sub Project .Kathmandu District, Nepal.

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साँखु-जहरसिंपौवा-फट्केश्वर, जहरसिंपौवा-भोटेचौर सडकको प्रारम्भिक वातावरणीय परीक्षण प्रतिवेदनको कार्यकारी सारांश

पृष्ठभूमि

नेपाल सरकारले लामो दून्दले गर्दा क्षति भएका ग्रामीण पूर्वाधारहरूको पुनःनिर्माण र पुनःस्थापना को कार्य एशियाली विकास बैंक, स्विस् सरकार (SDC), ब्रिटिस सरकार (DFID) तथा ओपेक फण्ड (OFID)को आर्थिक सहयोगमा 'ग्रामीण पूर्वाधार पुनःनिर्माण र पुनःस्थापना आयोजना' नेपालको बिसवटा जिल्लाहरूमा संचालन गरिरहेको छ । काठमाडौं जिल्लामा अवस्थित प्रस्तावित साँखु-जहरसिंपौवा-फट्केश्वर, जहरसिंपौवा-भोटेचौर सडकको पुनःस्थापना सोही कार्यक्रम अन्तर्गत संचालन गर्न लागिएको एक उप-आयोजना हो । उप-आयोजना (प्रस्ताव) अन्तर्गत १३.५३ कि.मी. लामो उक्त कच्ची सडकको कालोपत्रे स्तरमा पुनःस्थापना गर्न प्रस्ताव गरिएको छ ।

प्रस्तावक

प्रस्तावित सडक उप-आयोजना को प्रारम्भिक वातावरणीय परीक्षणको प्रस्ताव जिल्ला विकास समिति र जिल्ला प्राविधिक कार्यालय, काठमाडौं हुन् । प्रस्तावकको प्रारम्भिक वातावरणीय परीक्षण स्विकृत गर्ने सम्बन्धित निकाय स्थानीय विकास मन्त्रालय हो ।

प्रारम्भिक वातावरणीय परीक्षण अध्ययनको उद्देश्य

प्रारम्भिक वातावरणीय परीक्षण अध्ययनको मुख्य उद्देश्य प्रस्तावित उप-आयोजना निर्माण तथा संचालन बाट उक्त क्षेत्रको भौतिक, जैविक, सामाजिक, आर्थिक तथा सांस्कृतिक वातावरणमा पर्न सक्ने प्रभावहरू पत्ता लगाई नकारात्मक प्रभावको न्यूनिकरण र सकारात्मक प्रभाव बढाउने उपायहरू बारे सुझाव दिनु, वातावरणीय अनुगमन योजना बनाई कार्यान्वयन गराउनु तथा प्रस्तावित सडक आयोजनाको लागि प्रारम्भिक वातावरणीय परीक्षण गर्नु वा वातावरणीय प्रभाव मुल्याङ्कन गर्नु पर्ने कुराको एकिन गर्नु हो ।

प्रस्तावको सान्दर्भिकता

प्रस्तावित सडकले काठमाडौं जिल्लाको उत्तरी-पूर्वी दुर्गम भेगका वासिन्दाहरूलाई सदरमुकाम संगको पहुँच बढाउनेछ भने स्थानिय स्तरमा उत्पादन हुने तरकारी र दुधलाई बजार सँग जोडी स्थानिय आय आर्जनमा अभिवृद्धि गर्नेछ साथै प्रस्तावित सडकले पहिले चल्दै आएको सडक (पुनरानो बसपार्क देखि मेलम्चिसम्म) भन्दा ३५ किलोमिटरले छोटो हुने देखिएको हुँदा यातायातमा समयको बचत र लागल कम हुने देखिन्छ ।

अध्ययन प्रकृया

जुलाई, २००९ मा फिल्ड सर्वेक्षणबाट लिइएको तथ्याङ्क तथा अन्य उपलब्ध तथ्याङ्कहरूको साथै सामाजिक तथा प्राविधिक टोलीबाट पुनर्वास कार्यको सर्भेक्षणको सिलसिलामा संकलन गरेका तथ्याङ्कहरू केलाएर प्रारम्भिक वातावरणीय परीक्षण प्रतिवेदन तयार गरी निष्कर्ष तथा सुझावहरू दिइएको छ । यो प्रारम्भिक वातावरणीय परीक्षण प्रतिवेदन नेपाल सरकारको वातावरण संरक्षण ऐन २०५३, वातावरण संरक्षण नियमावली २०५४ अनुसार तथा स्थानीय विकास मन्त्रालयबाट मिति २०६६/०२/२५ मा स्विकृत गरिएको यसै प्रस्तावको कार्यसूची अनुसार तयार गरिएको छ । साथै, एशियाली विकास बैंकको Environmental Assessment Guideline, 2003 तथा Safeguard Policy Statement, 2009 को समेत अनुसरण गरीएको छ ।

आयोजनाको विवरण

प्रस्तावित सडकले काठमाडौं जिल्लाको उत्तरी-पूर्वी दुर्गम भेगका वस्तीहरूलाई जिल्लाको सदरमुकाम संग जोड्दछ । यसको कूल लम्बाइ १३.५३ कि.मि. छ । हाल उक्त कच्ची ग्रामीण सडकको पुरै सडक खण्डमा सुख्खा याममा मात्र गाडी चल्छ । यो सडक तीन वटा गाउँ विकास समितिहरू क्रमशः लप्सेफेदी, नाङ्गलेभारे, फट्केशिला भएर जान्छ । सडकको कूल चौडाइ ५ मि. हुनेछ । यस उप-आयोजनाको कूल अनुमानित लागत रु ११०,३७३,१४४.५८ र प्रति कि.मी अनुमानित लागत रु.८,१५७,६६०.३५ प्रति कि.मी लाग्ने देखिन्छ ।

विद्यमान वातावरणीय स्थिति

यो सडक लप्सेफेदी गा.वि.स.को जहरसिंपौवा बजार बाट समुद्री सतहदेखि १८०० मी. को उचाईबाट शुरु भएर १०९२ मी. उचाईको फट्केश्वर बजारमा पुग्छ । यो विद्यमान सडक मौसम अनुकुलतामा चालु रहन्छ । सडकको विभिन्न खण्डमा भू-क्षय र साना पहिरोको समस्याहरू देखिन्छ । प्रस्तावित सडक क्षेत्रको वायु तथा पानीको स्तर सफा रहेको देखिन्छ साथै ध्वनि प्रदुषणको समस्या देखिदैन । यो सडक प्रायः खेती गरिएको जमीन तथा वन र वस्तीहरू भएर जान्छ ।

यस सडक खण्ड र जंगलमा पाइने मुख्य रुखको प्रजातिहरूमा चिलाउने, उत्तिस, कटुस, सल्ला, लप्सी, फलाट, निबुवा आदि पर्दछन् । जंगली जीवजन्तुहरूमा नेउरीमूसा, श्याल, बाँदर, मृग, वन विरालो, लोखर्के पाइन्छ । काग, भंगेरा, परेवा आदि पंक्षीहरू घरको छेउछाउमा देखिन्छ । सडक छेउको वनमा कालिज पाइन्छ । यो सडक खण्ड संरक्षित क्षेत्र वा मध्यवर्ती क्षेत्रमा पर्दैन ।

यो सडक खण्डको प्रभावित क्षेत्र भित्र जम्मा घरधुरी संख्या ११०९ र जनसंख्या ६१५४ रहेको छ र सरदर परिवारको आकार ५.५४९ छ । यहाँ ब्राहमण, क्षेत्री, तामाङ, मगर तथा दलित (दमाई, कामी) जातीहरु बसोबास गर्दछन् ।

यहाँका बासिन्दाहरुको मुख्य पेसा कृषि, पशुपालन र रोजगार (निजी तथा सरकारी) हो । यातायातको राम्रो सुविधा नभएको तथा पहाडी क्षेत्र भएकोले कृषि उब्जनीले मात्र पर्याप्त नहुने हुँदा यहाँका अधिकांश मानिसहरु श्रम रोजगारीका अन्य पेशामा काम गर्ने साथै जीविकोपार्जनको सिलसिलामा काठमाडौँ उपत्यका भित्र केहि व्यापारमा, केहि विभिन्न प्रकारको नोकरीमा काम गर्दछन् ।

प्रमुख वातावरणीय प्रभावहरू

सकारात्मक प्रभाव

उप-आयोजना बाट तत्कालै हुने लाभमा स्थानीय स्तरमा रोजगारीको सिर्जना हुनेछ । आयोजना संचालनको लागी करिव ६०,८७२ मानव-दिन बराबरको अदक्ष र १०,३०० मानव-दिन बराबरको दक्ष श्रमशक्तीको आवश्यकता पर्नेछ । आयोजना संग सम्बन्धित कार्यमा (रोजगारीमा) गरीब, महिला तथा पिछडिएका स्थानीय जनताले प्राथमिकता पाउनेछन् । यस चरणमा हुने अन्य लाभहरुमा वन्द व्यापारको बृद्धि, उप-आयोजनाले प्रदान गरेको शीपमुलक तथा जनचेतनामुलक तालिम तथा उप-आयोजना निर्माण कार्यमा सहभागी भई स्थानीय जनताको शीप बृद्धि हुने अवसर पर्दछन् ।

सडक सञ्चालनका चरणमा सडकले प्रभावित क्षेत्रका बासिन्दालाई बजार, सामाजिक सेवा प्रदायक स्थान तथा देशका अन्य भागहरुसम्म पुग्न छिटो, छरितो तथा सुविधाजनक पहुँचको अवसर प्रदान गर्नेछ । सडक सुविधाको कारण मल तथा किटनाशक औषधीहरुको सस्तो तथा सुलभ आपूर्तिले कृषिको उत्पादकत्वमा अभिवृद्धि हुनेछ । यसले स्थानीय जनताको आय तथा खाद्य सुरक्षामा अभिवृद्धि हुनेछ साथै स्थानीय श्रोत साधनको उपयोग गर्ने साना कृषि उद्योगहरुको प्रवर्द्धन हुनेछ । पहुँच तथा यातायातको अवसर संगै शिक्षा, स्वास्थ्य, संचार, बजार, बैकिङ तथा अन्य आर्थिक तथा सामाजिक क्षेत्रहरुको विकास हुनेछ । यसले यस क्षेत्रका मानिसहरुको समग्र जीवनस्तर उकास्न मद्दत पुऱ्याउनेछ । सडकको सञ्चालनले स्थानीय जग्गा जमिनको मुल्य बृद्धि गर्न सहयोग पुऱ्याइ स्थानीय जग्गाधनीलाई लाभ पुऱ्याउनेछ ।

उप-आयोजना कार्यन्वयनबाट पर्न सक्ने नकारात्मक प्रभावहरु:

सडक निर्माणको क्रममा भिरहरु काट्दा, खन्दा निस्किएको माटो तथा ग्रेगर थुपार्दा, निर्माण सामग्री भिक्नलाई खानी सञ्चालन गर्दा त्यस क्षेत्रको भिरालो ठाँउहरुमा असर पर्न गई पहिरो तथा भु-क्षय हुन सक्ने सम्भावना रहन्छ । फोहर तथा खन्दा निस्किएका माटो, ग्रेगर को उचित व्यवस्थापन हुन सकेन भने यसले भु-क्षय बढाउन सक्छ । बाटोको चौडाई ५ मी.भन्दा कम भएकोले सडक निर्माणको क्रममा खेती गर्ने जमिन अधिग्रहण गर्नु पर्ने देखिन्छ । सडक निर्माणको दौरान १ वटा घर, ७ वटा घरका बार्दलीमा असर पर्ने देखिन्छ । निर्माण कार्यको क्रममा श्रमिकहरु तथा स्थानीय जनताको स्वास्थ्यमा असर पर्ने अथवा अप्रिय दुर्घटनाहरु घट्न सक्ने सम्भावना रहन्छ । सडक निर्माणको क्रममा पानीका पाइपहरु, मन्दिर, बिद्युत पोल, कुलो आदिमा असर पर्ने देखिन्छ ।

सडक सञ्चालनको चरणमा सवारी साधनको आवगमनबाट, वर्षायामको पानीबाट तथा स्थानीय भिरपहराहरुमा गाईवस्तु चराउदा वा रुख विरुवा काट्दा भिरपहराहरुमा अस्थिरता बढ्न गई पहिरो जान सक्छ । सडक किनाराका नाला बाट वगेको अनियन्त्रित पानीले सडक मुनिका खेतवारीमा भु-क्षय हुन सक्छ । सवारी साधनको बृद्धिले धुलो तथा ध्वनी प्रदुषण बढ्नेछ । त्यसैगरी सडकको सुधार संगै वन क्षेत्रसम्म भएको पहुँचको बृद्धिले वन सम्पदा तथा वन्य जन्तुमा चाप बढ्न गई वन सम्पदाको क्षय र जीवजन्तुलाई असर पर्न सक्छ । सडकको सुधार संगै बस्ती र बजारको अव्यवस्थित विस्तार हुने सम्भावना र सडक क्षेत्र मिच्ने प्रवृत्ति देखिन सक्छ ।

प्रभाव न्यूनीकरणका उपायहरु:

यस उप-आयोजनालाई वातावरण मैत्री बनाउनका लागी सकारात्मक प्रभावलाई बढावा गर्ने तथा नकारात्मक प्रभावहरुलाई नियन्त्रण या न्युनिकरण गर्ने थुप्रै उपायहरु यस प्रतिवेदनमा प्रस्तावित गरिएको छ । जनताले राजी खुशीले बाटोको लागी दिएको वाहेक आयोजनाले गरिवीको रेखामुनि परेका परिवारहरुको अधिग्रहण गर्ने सवै जग्गाको प्रचलित मुल्य अनुसार क्षतिपुर्ति दिइनेछ । सडक बोलपत्रको माध्यमबाट निर्माण व्यवसायीले गर्नेछ । उप-आयोजनाले प्रभावित जनतालाई निर्माण कार्यमा रोजगारीमा तथा शिपमुलक तालिममा प्रथमिकता दिनेछ । उप-आयोजना निर्माणको क्रममा त्यस क्षेत्रको संवेदनशील वातावरणलाई सुरक्षित राख्न विशेष ध्यान दिइनेछ । निर्माण कार्यमा कार्यरत श्रमिकहरुको बिमा गरिने छ तथा सुरक्षाका सम्पूर्ण सामग्री श्रमिकहरुलाई प्रयोगमा ल्याउन दिइने छ । वन, जीवजन्तुको संरक्षण गर्न तथा सामाजिक अक्षुण्णतालाई कायम राख्न जनचेतनामुलक कार्यक्रमहरु तथा तालिमहरु सञ्चालन गरिनेछ । निर्माण स्थलहरुमा प्राथमिक उपचारको सामग्रीहरुको व्यवस्था गरिने छ । वृक्षारोपणमा संरक्षित तथा स्थानीय प्रजातिहरुलाई प्राथमिकता दिइनेछ । सडक सञ्चालनका क्रममा सडकमा देखिएका अस्थिरताहरुलाई नियमित रुपमा मर्मत संभार गरिनेछ । सडकमा तथा सडकको कारण नजिकैको खेतवारीमा पानी जम्मा हुन नदिन उचित निकासको व्यवस्थापन गरिनेछ । सडक दुर्घटना बाट बचाव गर्ने उपायहरु अवलम्बन गरिनेछ ।

वातावरण व्यवस्थापन योजना

यस प्रतिवेदनमा वातावरण व्यवस्थापन योजना अन्तर्गत उप-आयोजनाबाट पर्ने संभावित असरहरु, असरहरुको प्रभाव, न्युनिकरण विधि, अनुगमन विधि तथा कार्यतालिका प्रस्तावित गरिएको छ । यसका साथै न्युनिकरणका उपायहरुको तथा अनुगमन कार्यको

कार्यन्वयन गर्ने जिम्मेवार निकायहरुको पनि पहिचान गरिएको छ । अनुगमनका लागी आवश्यक भौतिक, जैविक, सामाजिक-आर्थिक तथा साँस्कृतिक वातावरणका विभिन्न अनुगमन सुचाङ्कहरुको पनि पहिचान गरिएको छ । वातावरण व्यवस्थापन योजना कार्यन्वयन गर्न निम्नानुसार खर्च हुने अनुमान गरिएको छः

क्र. सं.	विवरण	रकम (ने.रु.)	कैफियत्
१.	वातावरण सम्बन्धी जनचेतनामूलक तालिम तथा अन्य तालिम	२,००,०००/-	आयोजनाको बजेटमा समावेश गरिने ।
२.	श्रमिकहरुको विमा	९,१२,०००/-	आयोजनाको बजेटमा समावेश गरिने ।
३.	बायो-इन्जिनियरिङ्ग, क्षतिपुर्ती वृक्षारोपण ५२३ रुख	११,००,०००/-	आयोजनाको बजेटमा समावेश गरिने ।
४.	पुनर्वास योजना तथा जग्गा अधिग्रहण	४५,८०,८११।५२	पुनर्वास योजनामा समावेश गरिने ।
५.	सामाजिक कार्ययोजना र लैङ्गिक कार्ययोजना	९,९६,७००/-	सामाजिक योजना तथा आयोजनाको बजेटमा समावेश गरिने ।
६.	कूलो मर्मत तथा निर्माण	६,००,०००/-	आयोजनाको बजेटमा समावेश गरिने
७.	पेशागत स्वास्थ्य सुरक्षा तथा जानकारीमूलक सूचनापाटी	४,००,०००/-	आयोजनाको बजेटमा समावेश गरिने
८.	बढी भएको माटो आदि र खानी व्यवस्थापन	१०,००,०००/-	आयोजनाको बजेटमा समावेश गरिने
९.	वातावरणीय अनुगमन तथा मुल्यांकन	२००,०००/-	आयोजनाको बजेटमा समावेश गरिने ।
	जम्मा :	९९,८९,५११.५२	

वातावरण व्यवस्थापन योजनाको कूल अनुमानित लागत रु.३५,००,०००.०० (इन्जिनियरिङ्ग, सामाजिक र पुनर्वास योजना बाहेक)

निष्कर्ष

पहिचान गरिएका प्रायः वातावरणीय प्रभावहरु कम महत्वका तथा मुख्य गरी निर्माणकार्यका वखतमा सिमित रहेको पाइएको छ । वातावरण व्यवस्थापन योजना अन्तर्गत उल्लेख गरिएको उपायहरुको कार्यान्वयन गरिएमा यस आयोजनाको कार्यान्वयनले आयोजना क्षेत्रको भौतिक, जैविक, सामाजिक - आर्थिक तथा साँस्कृतिक वातावरणमा उल्लेखनीय नकारात्मक प्रभाव नपार्ने देखिन्छ । यस प्रारम्भीक वातावरणीय अध्ययनको आधारमा यस प्रतिवेदनमा उल्लेख गरिएको वातावरणीय व्यवस्थापन योजनालाई पूर्ण रुपमा लागु गरी प्रस्तावित उप-आयोजना कार्यान्वयन गर्न सिफारिश गरिन्छ । उप-आयोजनाको 'वातावरणीय प्रभाव मुल्याङ्कन' स्तरमा अध्ययन गर्न आवश्यक नरहेको सिफारिश समेत गरिन्छ ।

EXECUTIVE SUMMARY

Background

Government of Nepal has received financial assistance from ADB, SDC, DFID and OFID for implementation of the Rural Reconstruction and Rehabilitation Sector Development Program (RRRSDP). The RRRSDP aims for reconstruction and rehabilitation of rural infrastructures damaged in the twenty conflict affected districts of the country. The Proposed 13.53 Km long Sankhu-Jarsingpauwa-Fatkeshor, Jarsingpauwa-Bhotechaur Rural Road in Kathmandu District is one of the sub project selected under the RRRSDP. It is an existing earthen/gravel road proposed for rehabilitation in bituminous standard.

Project Proponent

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

Objectives of the IEE Study

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

Relevancy of the Proposal

The proposed Subproject will connect a remote rural area within Kathmandu District with the district headquarters. It will provide easier access to people to social services, and market access for local products like vegetables and milk. As a result, the Subproject will assist to promote economic activities, reduce poverty and increase socio-economic conditions of the people of the area. Also; this alignment is 35Km shorter than the other way to Melamchi which was effective before this alignment was in operation saving time and money.

Study Methodology

The IEE study has been conducted through review of secondary information collected from relevant agencies, and primary information collected from the field survey in July 2009. The survey methods included walk-through survey along the proposed alignment with checklists, conduction of sample household survey, organizing focus group discussions (FGD) in the related VDCs, and information supplemented by the resettlement and technical team of the Subproject.

The IEE report has been prepared following the Environmental Protection Act, 1997(2053 B.S.) and Environmental Protection Rules, 1997(2053 B.S.), Second amendment 2007(2053 B.S.) of the Government of Nepal (GoN); and Environmental Assessment Guidelines, 2003, and Safeguard Policy Statement, 2009 of ADB. The report follows the Terms of Reference for IEE Study approved by MoLD on 25/02/2066 B.S.

Brief Description of the Subproject

The proposed road lies at the remote south-eastern part of Kathmandu district. The total length of the road is 13.53 Km. The road passes through Lapsephedi, Naglebhare and Fataksila village development committees (VDCs). Average width of the road will be 5 m. The total project cost is estimated of NRs. 110,373,144.58 and cost per kilometer is estimated of NRs. 8157660.35.

Existing Environmental Condition

The elevation of the starting point of the road at Jarsingpauwa of Lapsephedi is 1800m amsl to 1092m amsl and passes through Fataksila. The existing road is motorable only during fair weather condition. Ambient air and water quality of the proposed project area is observed to be good and there is no noise pollution. The road passes through cultivated land, forest and settlements. There are existing soil erosion and landslide at different places along the road alignment.

The project area is sparse with dominant species observed in the road alignment and forest area are Uttis (*Alnus nepalensis*), Chilaune (*Schima wallichii*), Khote Salla (*Pinus roxburghii*), and Katus (*Castanopsis indica*), Lapsi (*Choerospondias axillaries*), Phalant (*Quercus lamellose*), Hibuwa (Forest Tea). Common wildlife including Common Mongoose (*Herpetes edwardsii*), Jackal (*Canis aureus*), Monkey (*Macaca mulatta*), Barking Deer (*Muntiacus muntjak*), Jungle Cat (*Felis chaus*), and Squirrel are the mammals and House Sparrow (*Passer domesticus*), House Crow (*Corvus splendens*), Blue Rock Pigeon (*Columba livia*) are common birds found in the surrounding of house. Kalij Pheasant (*Lophura leucomelana*) is found in the forests along the road alignment.

Total population of the sub project area is 6154, total household number is 1109, and average family size is 5.549. Brahmin, Chettri, Tamang, Magar and occupational caste (Damai, Kami) are the main castes living in the area.

Subsistence agriculture and livestock farming are the main occupation. Due to limited transportation facilities and high altitude, agriculture farming is not enough for subsistence level. Moreover, significant percentage of the economically active male population also migrates to various places including Kathmandu, Lalitpur and Bhaktapur District seasonally during slack farming season for employment.

Major Environmental Impacts

Beneficial Impacts

The immediate benefit from this road Subproject is employment opportunities. The implementation of Subproject require about 60872 person days of unskilled and 10300 person days of skilled manpower. The project will give priority to the poor, ethnic minorities and disadvantaged local people for employment opportunity. Other beneficial impacts include enhancement of local business, development in skills of local people from skill developing training, awareness raising training and involvement in the construction of the project.

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

Adverse Impacts

During the road construction, the cutting of slopes and consequently disposal of soil and earth material, operation of quarries might result in on erosion and landslide during construction and operation.

During the road construction, 19 numbers of trees will be cut down. One private house, balcony of seven private houses and 1 community temple will be affected. Since the existing average road width is less than 5m, there is need to acquire some additional land from, agriculture area. For upgrading the existing road, water supply pipe lines and irrigation canal will be affected during construction of road. Labours and local people are prone to health effects and accidents relating to construction activities.

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

Mitigation Measures

The various benefit augmentation measures and adverse impact mitigation measures have been proposed in the report to make this project environment friendly. Other than land donated by local people for the projects, adequate compensation will be provided to affected poor and marginalize household for all the lands that need to acquire. The construction of road will be based on Contractor Approach. Affected families will be given high priority for employment and skill development trainings. Necessary measures will be taken to reduce the adverse effects that might arise from site clearance, cutting of slopes, disposal of spoils and quarrying activities. Necessary trainings and awareness programs will be conducted under social action of the subproject. Necessary measures will be adopted for protection of flora and fauna. At construction site, the workers will be provided insurance, first aid facilities and safety equipments. Loss of trees will be compensated by planting of trees in the ratio of 1:25 and additional 10 percent for the numbers of trees that need to be cut down from forest land and in the ratio 1:1 in private land. Protected species will be given emphasis for plantation. Proper maintenance and proper drain system will be provided to prevent accumulation of water on the nearby agricultural lands during operation. Adequate road safety measures like information signboards will be provided to minimize road accident.

Environmental Management Plan

Environmental management plan is prepared to ensure the implementation and monitoring of mitigation measures for minimizing adverse impacts and maximizing the beneficial impacts. The necessary mitigation

measures together with environmental monitoring process and responsible bodies for environmental monitoring have been identified. Similarly, for environmental monitoring various sections of physical, biological, socio-economic and cultural environment have been identified to generate useful information and improves the quality of implementation of mitigation measures.

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

SN.	Description	Amount (NRs.)	Remarks
1	Environmental awareness raising training and other training	200,000.00	To be included in project budget
2	Insurance cost	9,12,000.00	To be included in BoQ
3	Bio-engineering, Compensatory Plantation of 523 Trees	11,00,000.00	To be included in project budget
4	Resettlement plan and land acquisition	45,80,811.52	To be included in resettlement plan
5	Social Action plan and Gender Action Plan	9,96,700.00	To be included social plan
6	Irrigating canal maintenance and constructing	6,00,000.00	To be included in project budget
7	Occupational health and safety, Information signboard	400,000.00	To be included in project budget
8	Soils disposal site and reinstate of quarry	10,00,000.00	To be included in project budget
9	Environmental Monitoring	2,00,000.00	To be included in project cost
	Total	99,89,511.52	

Environment management cost excluding Engineering, Social and Resettlement cost is NRs.35, 00,000.00.

Conclusion and Recommendation

The identified environment impacts will be seen in limited small areas and mainly during construction period. The implementation of proposed mitigation measures for identified adverse impacts will minimize as well as mitigate the adverse impacts on environment. The Resettlement Plan and compensation to the affected households should be ensured. The implementation of measures as described in environmental management plan will mitigate the negative impacts on physical, biological, socio-economic and cultural environment. Therefore, this IEE is sufficient for approval of the proposed sub-project, and recommended for implementation with incorporation of mitigation measures and environmental monitoring plan. Therefore, the proposed Subproject does not require Environmental Impact Assessment.

1.1 Background

1. The Rural Reconstruction and Rehabilitation Sector Development Program (RRRSDP) focuses on immediate post conflict development priorities for accelerated poverty reduction and inclusive development, thereby enhancing the effectiveness and efficiency of the delivery of public services, and improving access of rural people to economic opportunities and social services. The Program is financed by the Government of Nepal (GoN), Asian Development Bank (ADB), Department for International Development (DFID), Swiss Development Cooperation (SDC), Nepal and OPEC Fund for International Development (OFID). The Program covers twenty districts spread over the country. Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR) under the Ministry of Local Development (MLD) is the executing agency (EA). The District Development Committees (DDCs) / District Technical Office (DTO) are the Project Implementing Agencies. The DDC/DTO are supported by District Implementation Support Team (DIST) with engineering, safeguards and social mobilization responsibilities.

2. Kathmandu District is one of the project districts under RRRSDP. This Proposal is for upgrading in bituminous standard of the 13.53 km long Sankhu-Jarsingpauwa-Fatkeshor Road Upgrading Sub Project (DTMP-Code: 27A070R) in Kathmandu District.

1.2 The Name and Address of Proponent

Name of Proposal

Sankhu-Jarsingpauwa-Fatkeshor, Jarsingpauwa-Bhotechaur Road Upgrading Subproject, Kathmandu District, Nepal

Name and Address of Proponent

District Development Committee (DDC), District Technical Office (DTO), Kathmandu District

Phone No: 01-4490085

Fax No: 01-4490085

Email: dtokathmandu@rrr.gov.np

1.3 Relevancy of the Proposal

3. Despite the project area being within Kathmandu District, it belongs to remote and underdeveloped South- eastern part of the valley. The area has high potential in production of vegetable and milk. The subproject will enhance access to market and social services to the people of the area, and will significantly contribute in their socio-economic development. Better access will also open door to new development opportunities. Access shall also attract other development infrastructures and open door to further development opportunities in the area.

1.4 Need and Objectives of the IEE Study

4. **Need:** An IEE study of the Proposal is a legal requirement according to the Environment Protection Act, 1997 (2053 B.S.); and Environment Protection Rule, 1997 (2054 B.S.), Amendment 2007 (2064 B.S.) of GoN; and according to the provisions of the Environmental Assessment Guidelines, 2003; and Safeguard Policy Statement, 2009 of ADB.

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

1.5 Methodology Adopted

6. The IEE study has followed the provisions of the EPA, 1997 (2053 B.S.) and EPR, 1997(2054 B.S.), the provisions of ADB and approved ToR for IEE Study by MoLD on 25/02/2066 BS. It follows methodology suggested in the approved Terms of Reference for IEE Study (please refer Annex I). For the collection of environmental features related to bio physical environment, maximum 100 meter distance observable from the centre of the road alignment was taken as an influence area and socio-economic and cultural environment was taken of Zone of influence (Zol) of the subproject is one and half hour walking distance from the centre line of the road) information of the sub project area. The IEE study has been conducted through primary information collected from the field survey in Sept. 2009 and review of secondary information collected from relevant agencies. Field survey, sample household survey, organization of Focus

Group Discussions in the related VDCs was carried out and necessary information was collected. The DDCs officials, VCDs and Community Groups were also contacted to verify information to solicit their concerns. Based on the analysis of information the impacts have been predicted, mitigation measures prepared and monitoring plan has been developed.

1.6 Description of the Proposal

7. Jarsingpauwa - Fatkeshor road starts from Jarsingpauwa, Lapsephedi-8 VDC adjoining to Nanglebhare VDC of Kathmandu. This road passes through Jarsingpauwa, Bagdhara, Chapbhanjyang and Fatkeshor settlements of three VDCs and ends at Fatkeshor of Fataksila VDC of Sindhupalchowk District. From Detailed survey, the total length is calculated 13.530 Km. The road is currently graveled and earthen at different sections and vehicles service available only during fair weather.

8. The total length of the road as in approved ToR was 28.6 km. According to ToR, the starting point of the road was Sankhu and road alignment gets bifurcated at Jarsingpauwa and ends at two destinations, one at Fatkeshwor and another at Bhotechaur. The section Sankhu –Jarsingpauwa - Bhotechaur was taken by Department of Road (DOR) and to avoid the duplication of projects on same section it was concluded to work on remaining length Jarsinghpauwa - Fatkeshor. The road alignment previously passes through Sankhu, Lapsephedi, Nanglebhare, Fatakshila, and Bhotechaur VDCs. Widening, geometric correction and grade improvement, slope stabilization, side drains and construction of cross drainage structures is planned to be implemented under the proposed rehabilitation works of the road. The total project cost of road construction is estimated to be NRs. 110373144.58 and cost per kilometer is estimated to be NRs. 8157660.35.

Salient Features of the Subproject:

1. Name of the Project	:	Sankhu-Jarsingpauwa-Fatkeshor, Jarsingpauwa-Bhotechaur Road Upgrading Sub-Project
2. Location		
2.1 Geographical Locations		
2.1.1 Start Point	:	Jarsingpauwa Bazar of Lapsephedi VDC
2.1.2 End Point	:	Fatakshor of Fatakshila VDC of Sindhupalchowk District.
2.2 Geographical Feature		
2.2.1 Terrain	:	Hilly
2.2.2 Alignment	:	Valley: approx. 13.53Km
2.2.3 Altitude	:	1800m amsl at Jarsingpauwa to 1092m amsl at Fatakshila
2.2.4 Climate	:	Sub-Tropical, Temperate
2.2.5 Soil	:	Boulder Mix Soil, Hard soil
3. Classification of Road	:	District Road (Rural Road Class A)
4. Standard of road	:	Upgrading proposed for all weather road
5. Length of Road	:	13.53 Km
6. Standard of Pavement	:	Bituminous (premix carpet)
7. Existing Traffic	:	21 buses, 5 Trucks/tractors, 26 motorcycles per day (In dry season)
8. Design speed	:	20 Km/hr
9. Major Settlements:		
9.1 Major Settlements	:	Jarsingpauwa, Bagdhara, Nangle, Chapabot, Chhap, Chhapbhyang and Fatakeshor.
9.2 No. of Household	:	1109 HHs
9.3 VDCs along the Road	:	Lapsephedi, Nanglebhare and Fatakshila
10. Cross Section		
10.1 Right of way	:	5m each side (from center line)
10.2 Formation width	:	5 m
10.3 Carriageway width	:	3 m
10.4 Lane	:	Single
11. Structures		
11.1 Stone Masonry (C.S.M.)	:	80.27 Cum.

11.2 Gabion Wall	:	362 Cum.
11.3 Hume pipe	:	120 Rm.
11.4 Masonry Drain	:	2906.45 Cum.
11.5 Causeway	:	1 No.
12. Bio-Engineering	:	NRs. 11,00,000
13. Earth Work		
13.1 Cutting	:	70174.66 Cum
13.2 Filling	:	5775.92 Cum (back filling with compaction)
14. Gradient		
14.1 Max.	:	12%
14.2 Min	:	1%
15. Curve		
15.1 Vertical	:	0 to 20 m
15.2 Horizontal	:	10 m. Radius (Min) and 250 m. Radius (Max)
16. Project cost		
16.1 Total Cost (NRs)	:	NRs 110,373,144.58
16.2 Costs per km (NRs.)	:	NRs 8,157,660.35
16.3 Cost for Resettlement plan	:	NRs 4,580,811.52
16.4 Social Sector	:	NRs 996,700.00 (livelihood project, training etc.)
16.5 Environmental Mgmt. Cost	:	NRs 3,500,000.00 (Excluding Engineering, Social and Resettlement)
16.6 Grand Total Cost	:	NRs 119,450,656.10
17. Employment generation:		
17.1 Total employment	:	71172 person days
17.1.1 Skilled	:	10300 person days
17.1.2 Unskilled	:	60872 person days

1.7 Construction Approach and Activities

9. The construction approach will be based on contractor Approach. As upgrading of road is not possible through manual labour, the construction will be carried by using the equipment and machineries but it will be used in such a way to ensure the minimum environmental damage. Equipments such as dozer, excavator, grader, roller, dump truck, bitumen sprayer, etc. will be used.

10. Activities included during the road construction are: Site clearance, Graveling Premix work, Structures (Toe wall, retaining wall etc.), Earthwork, Cross drainage works, Side drain works and Bioengineering, Graveling,

1.8 Proposed Schedule for Implementation of Subproject

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

Table 1.1: Subproject Implementation Schedule

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

Note:

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

Figure 1.1: Location of Sankhu-Jarsingpauwa-Fatkeshor, Jarsingpauwa-Bhotechaur Road Upgrading Subproject in Kathmandu District

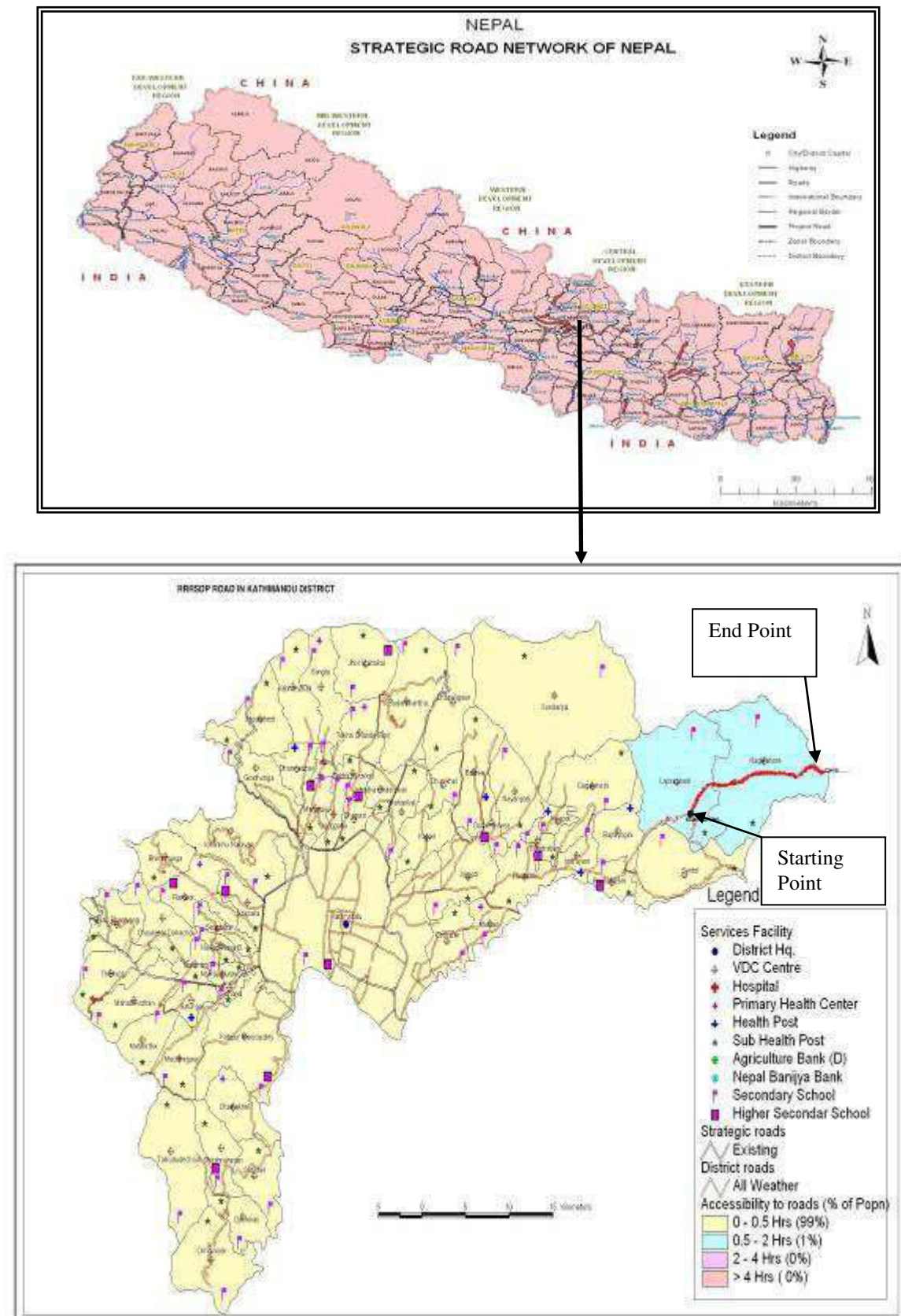
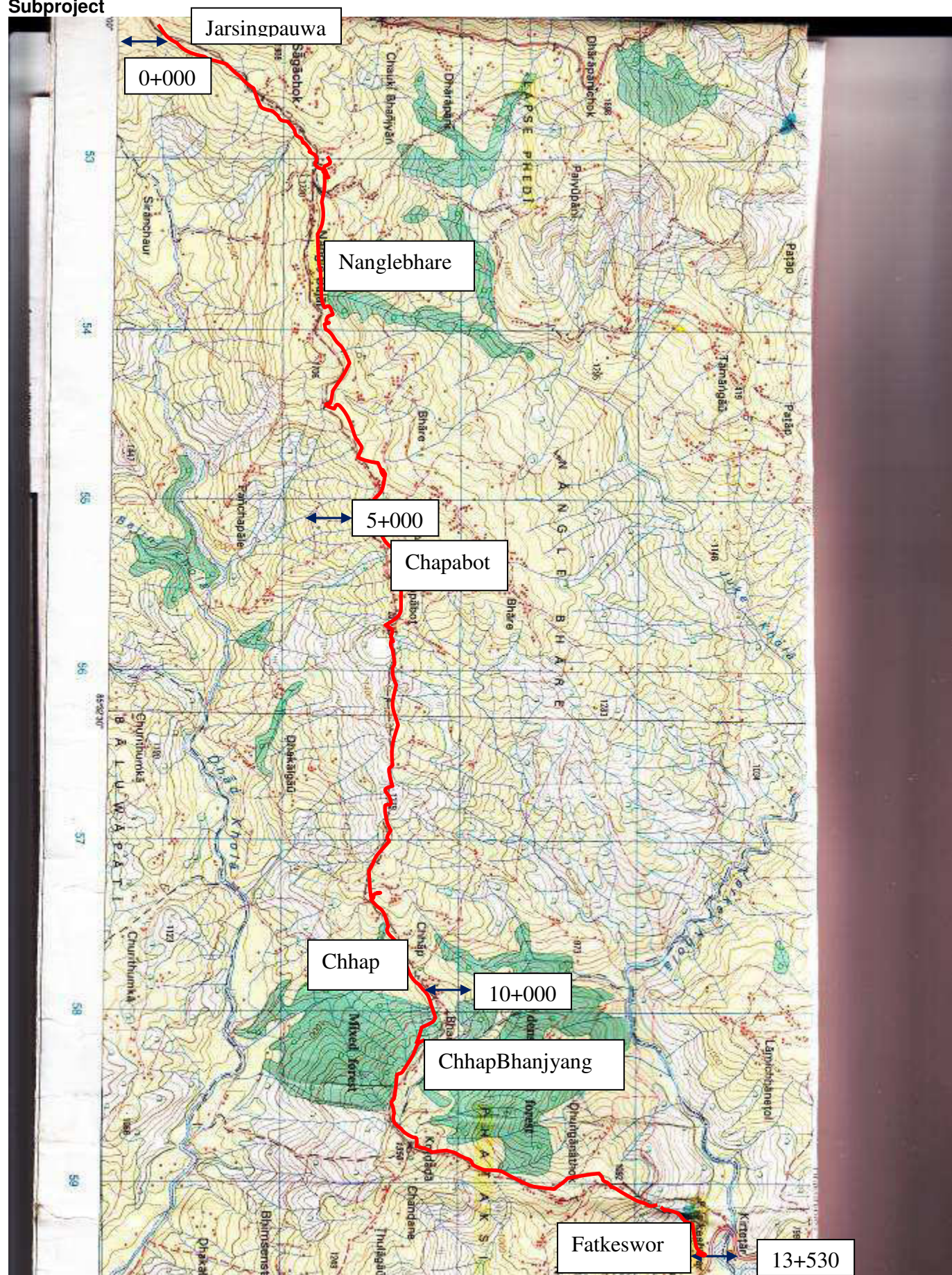


Figure 1.2: Alignment of Sankhu-Jarsingpauwa-Fatkeshor, Jarsingpauwa-Bhotechaur Road Subproject



2. PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

2.1 Public Consultation

12. In order to ensure the involvement of concerned stakeholders, following procedures were followed:
- Publication of Public Notice- a 15 days public notice was published on 2066/03/01 B.S. in the Nagarik national daily newspaper (see Annex V) seeking written opinion from the concerned VDCs, DDC, schools, health posts and related local stakeholders. A copy of the public notice was also affixed in the offices of the different organizations and *deed of enquiry (muchulka)* was collected (see Annex VI and Annex VII).
 - Interaction with local communities and related stakeholders like District Forest Office, District Soil Conservation Office, District Agricultural Development Office and others were carried out during field survey to collect the public concerns and suggestions (see Annex VIII). Focus Group Discussions were conducted in all the three VDCs to collect and solicit their suggestions on protection of bio-physical and socio-economic environment in the Zone of Influence (Zoi) of the road. Summary of minutes of meeting is given in following Table 2.1.
 - Draft IEE report was kept at information center of DDC, Lapsephedi, Fatakshila and Nangle Bhar VDCs for public disclosure. Information was also disseminated through person to person contacts and interviews and group discussions. Recommendation Letters for implementation of the Proposal were also obtained from all the concerned VDCs (see Annex IX).

Table 2.1: Summary of FGD Meeting Conducted Under IEE Study

Location	Date	No. of Participants		Issues/ Suggestion	Decisions
		Male	Female		
Lapsephedi	08/03/2066	53	5	1. FGD program disseminated information on the project to stakeholders. 2. Participants committed on providing land voluntarily for the road. 3. Affected community structures should be rehabilitated. 4. Compensation shall be given for all affected private houses.	Issues/suggestions raised during the FGD meetings will be addressed in the mitigation measures and benefit augmentation measures.
Naglebhare -3	08/03/2066	15	0		
Naglebhare -1	08/03/2066	17	0		
Fatakshila	08/03/2066	8	2		

13. The approved IEE report is accessible to interested parties and general public through the websites of ADB and MoLD/DoLIDAR. The copy of approved IEE report has been distributed to following offices:
1. District Development Committee, Kathmandu
 2. District Technical Office, Kathmandu
 3. District Project Office, Kathmandu
 4. District Implementation Support Team, Kathmandu
 5. Lapsephedi, Naglebhare and Fataksila VDCs.
 6. Ministry of Local Development, Environment Management Section
 7. Department of Local Infrastructure Development and Agricultural Roads
 8. Project Coordination Unit, RRRSDP
 9. Asian Development Bank, Nepal Resident Mission

3. REVIEW OF RELEVANT ACTS, REGULATIONS AND GUIDELINES

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

Table 3.1: Review of Environmental Acts, Regulations and Guidelines

SN	Environmental Acts, Regulations and Guidelines	Description of Requirements
1	Three Years Interim Plan, 2064/65-2066/067, GoN	Requires all projects will be formulated and constructed based on methods that optimally utilize the local skill and resources and generate employment opportunities.
2	Environmental Protection Act, 2053, GoN	Any development project, before implementation, shall pass through environmental assessment, which may be either IEE or an EIA depending upon the location, type and size of the projects.
3	Environmental Protection Rule 2054 (amendment, 2064), GoN	The EPR and its schedules clearly provide various step-wise requirements to be followed while conducting the IEE study. It also obliges the Proponent to timely consult and inform the public on the contents of the proposal and IEE study.
4	Forest Act, 2050 (amendment, 2064), GoN	Requires decision makers to take account of all forest values, including environmental services and biodiversity, not just the production of timber and other commodities. It includes several provisions to ensure development, conservation, management, and sustainable use of forest resources based on approved work plan.
5	Forest Rules, 2052, GoN	Elaborates legal measures for the conservation of forests and wildlife. Expenses incurred for cutting trees and transportation shall be borne by proponent.
6	<i>Batabaraniya Nirdesika</i> (Nepal; MLD), 2057, GoN	The directive is focused in the practical implementation of small rural infrastructures through the minimization of environmental impacts. This directive includes the simple methods of environmental management in the different phases of the project cycle.
7	National Park and Wildlife Conservation Act, 2030, GoN	Addresses for conservation of ecologically valuable areas and indigenous wildlife. The Act prohibits trespassing in park areas, prohibits wildlife hunting, construction works in park area, damage to plant and animal, construction of huts and house in park area without permission of authorized person. It lists 26 species of mammals, 9 species of birds, and 3 species of reptile as protected wildlife.
8	Local Self Governance Act (2056) and Regulation (2056), GoN	Empowers the local bodies for the conservation of soil, forest and other natural resources and implements environmental conservation activities
9	Land Acquisition Act, 2034 and Land Acquisition Rules, 2026, GoN	Specifies procedural matters on land acquisition and compensation
10	National Environmental Impact Assessment Guidelines, 2050, GoN	Provides guidance to project proponent on integrating environmental mitigation measures, particularly on the management of quarries, borrow pits, stockpiling of materials and spoil disposal, operation of the work camps, earthworks and slope stabilization, location of stone crushing plants etc.
11	APPROACH for the Development of Agricultural and Rural Roads, 2056, GoN	Emphasizes labor based technology and environmental friendly, local resource oriented construction methods to be incorporated actively in rural infrastructure process.
12	RRRSDP Environmental Assessment & Review Procedures (EARP), 2064, GoN	For preparation of environmental assessments of future subprojects under Rural Reconstruction and Rehabilitation Sector Development Program (RRRSDP), this EARP includes: i) The process to be adopted while preparing environmental reports, ii) the potential environmental impacts that could result from undertaking the Project based on the Initial Environmental Examinations (IEEs) of sample core subprojects; iii) the proposed mitigation measures to avoid the identified impacts; iv) institutional capacity assessment and strengthening arrangements; v) legal framework for environmental assessment, domestic and the Asian Development Bank (ADB) environmental assessment and review procedures; and finally vi) the approaches to be adopted during implementation of the Project in order to ensure that environmental aspects are dealt with in a comprehensive manner.
13	Reference Manual for Environmental and Social Aspects of Integrated Road Development, 2060, GoN	Suggests stepwise process of addressing environmental and social issues alongside the technical, financial and others.

14	Green Roads in Nepal, Best Practices Report: An Innovative Approach for Rural Infrastructure Development in the Himalayas and Other Mountainous Regions, 2056, GoN	Focuses on participatory, labor based and environment friendly technology with proper alignment selection, mass balancing, proper water management, bioengineering and phased construction.
15	Environmental Assessment Guidelines, 2060, ADB	Requires that environmental considerations be incorporated into ADB operations where environmental assessment is the primary administrative tool to integrate environmental considerations into decision-making of all types of development initiatives.
16	Safeguard Policy Statement, 2066, ADB.	ADB's Safeguard Policy Framework consists of three operational policies on the Environment, Indigenous people and Involuntary resettlement. It requires that (i) impacts are identified and assessed early in the project cycle, (ii) plans to avoid, minimize, mitigate or compensate for the potential adverse impacts are developed and implemented and (iii) affected people are informed and consulted during project preparation and implementation.
17	The Interim Constitution of Nepal, 2063 (2007).	Has provision of right regarding environment - Every person shall have the right to live in clean environment.
18	The Labor Act, 2049	Regulates the working environment and deals with occupational health and safety.

4. BASELINE ENVIRONMENTAL CONDITION IN THE SUBPROJECT AREA

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

4.1 Physical Environment

4.1.1 Topography

16. The elevation of the starting point of the road is Jarsingpauwa is 1800m amsl at Lapsephedi (Latitude 27°45'1.8" N and longitude: 85°29'47.97"E) and 1092 m amsl at Fatakshila (Latitude 27°46'52.80"N and Longitude: 85°34'14.85"E).The road alignment passes through the upper valley slopes and ridges of middle hills. The grade of the road varies from 1% to 12%.

4.1.2 Geology and Soil Type

17. The road section comprises of different types of quartzite and schists. The soil type found in the alignment is ordinary soil (OS=53%), bolder mix soil (BMS=45%), soft rock (SR=1%) and medium rock (MR=1%). Following Table 4.1 presents the geological features recorded along the road alignment.

Table 4.1: Geological Features along the Road Alignment

SN	Chainage		Soil Type	Geological Problem	Cause of failure
	From	To			
1	0+000	5+100	OS-70%, BMS-30%	Soil erosion at ch 3+200, 3+700	Road under cutting, surface run off
2	5+100	7+500	OS-60%, BMS-40%	Soil erosion at ch 5+400, 6+030, 6+900	Road under cutting, surface run off
3	7+500	8+860	OS-40%, BMS-60%	-	-
4	8+860	9+000	OS-40%, BMS-58%, SR-2%	-	-
5	9+000	12+500	OS-40%, BMS-55%, SR-3%, MR-2%	Soil erosion at ch 9+800	Road under cutting, surface run off
6	12+500	13+530	OS-70%, BMS-30%	-	-

Source: Field survey, July, 2009

4.1.3 Land Use

18. Land use pattern of the area through which the road passes have been classified into three types: cultivated land, forest and barren as shown in Table 4.2.

Table 4.2: Summary of Land Use Pattern along the Road Alignment

Type of Land	Chainage		Length(m)	Existing Width(m)	Additional Width (m)	Existing Area(Sq.m)	Additional Area (Sq.m)
	From	To					
Cultivated land	0+520	1+900	1380	6	0	0.83	0
	2+550	2+557	7	4.6	0.4	37.49	3.26
	2+560	2+593	33	4.8	0.2	24.48	1.02
	2+560	2+593	33	4.6	0.4	16.56	1.44
	2+560	2+593	33	5.0	0	0	0
	2+593	2+620	27	4.6	0.4	17.25	1.5
	2+720	2+760	40	4.2	0.8	17.43	3.32
	2+800	4+300	1500	6	0	0.90	0
	4+600	5+500	900	6	0	0.54	0
	4+620	4+650	30	4.2	0.8	21.0	4.0
	4+680	4+720	40	4.2	0.8	22.05	4.2
	5+700	7+000	1300	6	0	0.78	0
	8+400	8+600	200	6	0	0.12	0
	8+902	8+820	18	4.6	0.4	11.85	1.03
	11+200	11+400	200	6	0	0.12	0
	12+500	13+530	1030	6	0	0.62	0
Sub total							19.77

Forest	1+900	2+800	900	6	0	0.54	0
	5+600	5+700	100	6	0	0.06	0
	7+000	8+400	1400	6	0	0.84	0
	8+600	9+600	1000	6	0	0.6	0
	10+000	11+200	1200	6	0	0.72	0
	11+400	13+530	2130	6	0	1.28	0
Sub total							0
Barren land	0+000	0+520	520	6	0	0.31	0
	4+300	4+600	300	6	0	0.18	0
	5+000	5+600	600	6	0	0.36	0
	9+600	10+000	400	6	0	0.24	0
Sub total							0
Total							19.77

Source: Field Survey, July, 2009

4.1.4 Climate

19. The road lies in the temperate climatic region of Kathmandu Valley. Rainy season starts from June and ends in September. The meteorological record shows total average annual rainfall of 1947.90 mm. Average minimum temperatures of 12.10 °C and average maximum temperature of 25.3 °C is observed in the area (1996 record). (Source: District Profile of Kathmandu, 2058)

4.1.5 Hydrology and Drainage System

20. There are not any rivers along the road alignment however; many small seasonal streams are present along the road alignment. There are 3 numbers of existing Hum Pipe drainage with small stream/kholsi at 11+230 and 12+100. The proposed summary of the cross drainages along the road alignment is given in Annex XIV.

4.1.6 Soil Erosion and Sedimentation

21. The stability of slopes along the road corridor depends upon slope angle, the material constituting the slope, rock discontinuities, and hydrological conditions. Proposed alignment does not pass through major landslides or erosion-prone areas but many soil erosions due to road undercutting and surface runoff are found along the road. The locations are Ch 3+200, 3+700, 5+400, 6+030, 6+900 and 9+800.

4.1.7 Existing Road Condition

22. The road is earthen and motorable during dry weather. Average width of the road is less than 5m. The average gradient of the alignment is 4-8 % but at some places equal to 12% gradient was also found.

Table no. 4.3: Existing Road Condition

Chainage/Location		Existing Road condition
From	To	
0+000	2+500	Gravel
2+500	3+100	Earthen
3+100	8+200	Earthen
8+200	9+600	Gravel
9+600	10+300	Earthen
10+300	11+400	Gravel
11+400	13+530	Earthen

Source: Field Survey, July, 2009

4.1.8 Air, Noise and Water Quality

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

4.2 Biological Environment

24. This alignment does not pass through any national park and protected area.

4.2.1 Vegetation

25. The forest is sparse with dominant species observed in the road alignment are Uttis (*Alnus nepalensis*), Chilaune (*Schima wallichii*), Salla (*Pinus roxburghii*), and Katus (*Castanopsis indica*), Lapsi (*Choerospondias axillaries*), Phalant (*Quercus lamellose*), Hibuwa (Forest tea).

26. Other vegetation found in the community forest within the Zol are Mayal (*Pyrus pushir*), Shirish (*Albizia procera*), Painyu (*Prunus cerasoides*). NTFPs found within the Zol are Timbur, Kafal (*Myrica esculenta*), Lapsi (*Choerospondias axillaris*) and Lemon (*Citrus aurantifolia*).

27. Forest area: Community forests along the road alignment are Jarsingpauwa Community Forest and Manidada Community Forest.

4.2.2 Wildlife

28. Deer (*Muntiacus muntjak*), Rabbit (*Oryctolagus cuniculus*), Badel- wild pig (*Porcula salvania*) are found in community forests of the Zol of sub project area. Sparrow (*Passer domesticus*), Crow (*Corvus splendens*), Kalij Pheasant (*Lophura leucomelana*), Blue Rock Pigeon (*Columba livia*) are common birds found in the surrounding forests along the road alignment.

4.2.3 Aquatic Life

29. Aquatic lives are not found in Zol as there are not major river streams or other water bodies in Zol.

4.2.4 Endangered and protected species

30. *Floral Species*: Lapsi (*Choerospondias axillaries*) is listed as Rare Species in IUCN Red Data Book.

4.3 Socio-economic and Cultural Environment

4.3.1 Population, Household and Ethnicity

31. The demographic profile of the concerned VDCs is presented in following Table 4.3. Major castes in the area are Tamang, Chhetri, Brahman and Dalit.

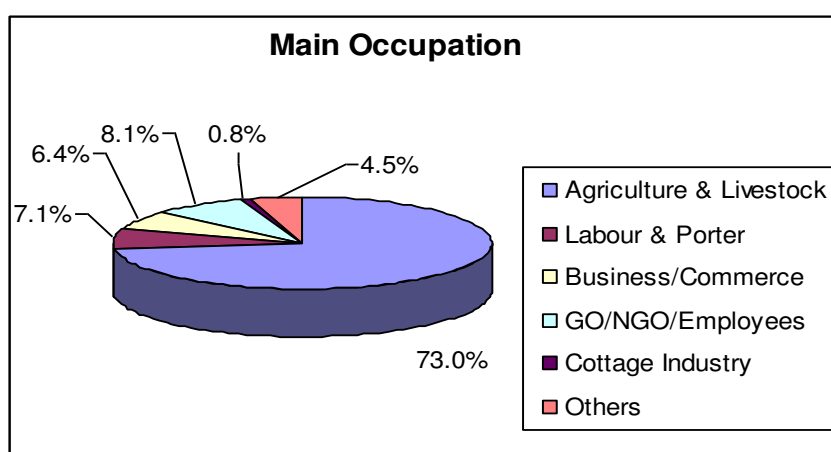
Table 4.4: Demographic Profile of VDCs

Population, Household, Ethnicity	Male	Female	Total	Brahmin /Chhetri	Ethnic	Dalit	HH	Average HH size
Lapsephedi VDC: Jarsingpauwa, Bagdhara	1062	958	2020	268	1611	141	359	5.63
Nanglebhare VDC: Nangle, Pangrebas, Chapabot, Chhap, Chhapbhanjyang	1832	1702	3534	2123	1285	126	648	5.45
Fatakshila VDC: Chhapbhanjyang, Fatkeshor	324	276	600	210	297	93	102	5.88
Total	3218	2936	6154	2601	3193	360	1109	5.549

Source: Field Survey, July, 2009

4.3.2 Main Occupation

32. The main occupation of the area is agriculture & livestock (73%), GO/NGO/Employees (8.1%), labour & porter (7.1%), business, & commerce (6.4%), cottage industry (0.8%) and others 4.5%.



4.3.3 Market Centres and Business Facilities

33. Major settlements along the road alignment are Jarsingpauwa, Bagdhara, Pangrebas, Chapabot, Chhap, Chhapbhanjyang and Fatakeshor. Grocery shops and tea stalls exist in almost all settlements. According to survey data, 5 hotel and lodges, 7 tea shops, 16 grocery shops, and 6 other shops (stationery, medicine, tailoring etc.) are present in the area.

4.3.4 Local Economy

34. The economy of the area is predominantly agriculture-based. Local people are gradually attracted towards cultivation of cash crops such as ginger, Kafal, Mel, and vegetable. Cultivation of fruits and vegetables for commercial purpose aiming market of Kathmandu valley seems to be increasing. Local people also do business activities in Sindupalchowk district. Many people seasonally migrate to Kathmandu and abroad for employment.

4.3.5 Agriculture Pattern

35. Major crops grown in the sub project area are rice, wheat, maize, millet, potato and beans. Cash crop farming is also increasing in recent days. Major cash crops grown in the area are mustard, amliso and vegetable. The area has appropriate climate and soil for farming of citrus fruits such as orange, lemon, and nibuwa.

4.3.6 Livestock

36. Due to availability of good number of fodder trees, the sub project area has good potentiality cow and buffalo farming for dairy and goat farming for meat. People sell milk from Sindhupalchowk area and Kathmandu district to the Kathmandu valley through this existing road. Currently, the existing road has facilitated selling of milk from all the sub project VDCs. Milk collection centre are at Jarsingpauwa, and Fatakshila of Shindhupalchaok District along the road.

4.3.7 Industry

37. There are not major industries in the sub project area but some people are engaged in weaving of bamboo products, making furniture, dairy, Khuwa (butter) production, and tailoring. The area has high potentiality for agro-based industries. There are 2 weaving industry, 7 nos. of rice/flour mill and 5 milk collection center are available within Zol.

4.3.8 Tourism Potential

38. The sub project area has potentiality of eco-tourism development. Some lodges are in operation in Jarsingpauwa and Fatakshila Bazaar area.

4.3.9 Health and Sanitation

39. People use water from dug well and spring (5 nos.). Open defecation is also prevalent. Major health problems observed in the area are gastric, water borne diseases, gout, respiratory diseases, skin disease, malnutrition, and typhoid. Sanitation awareness among local people is increasing and many of them have toilets in their home, but there is no public sewerage system. People discharge their wastewater in the nearby natural streams and agricultural land.

4.3.10 Public Services and Infrastructures

Table 4.5: Infrastructure Facilities in the Project Area

Infrastructure Facilities	Details
Education	17 educational institutions ranging from primary level to college level exist in the area. There are higher secondary school in Jarsingpauwa and Chapabot. Most of the families send their children to school. Female enrollment in schools is higher. Literacy rate in the project area has been estimated around 75 percent.
Health	3 Sub health posts exist in various settlements
Communication	All of the settlements have telephone facilities mostly with CDMA connection.
Electricity	All settlements in Zol are connected with national grid transmission line
Water Supply	Piped drinking water supply, Kuwa etc are available to all settlements
Other Infrastructures	There is a Agricultural Service Sub-Centre, dairy firms and Veterinary Service Sub Centre within ZOI of project area.

Financial Institutions	There are 8 saving and credit cooperatives in Zol.
Community Center	3 nos. in all VDCs.

Source: Field Survey, July, 2009

Table 4.6: Public Services and Infrastructures along the Road Alignment

Type of Public Service and Infrastructure	Chainage/ Location	Distance from the Road CL	Remarks
Kalika Saran Higher Secondary School	0+000	Outside row	Not affected
Chapabot Higher Secondary School	3+300	Outside row	-
Nimnagram Siksha Mandir	3+500	Outside row	-
Chautara	5+500	3m	Wall is affected
Drinking Water pipe lines	8+000, 9+400, 13+200, 14+200	Crossing the road	Affected during road construction
	10+200-10+600, 13+600-14+100	Along the road	Affected during road construction
Earthen Irrigation Canal	12+000-12+700	Along the road	Affected during road construction
Electric Poles	0+540	Adjacent	Affected during road construction
Branch road	0+000, 0+060, 0+120, 0+900, 1+500, 3+490, 5+600, 7+800, 8+940, 11+200, 13+530	Adjacent	Damaged during road construction
Ganesh Mandir (temple)	2+560 to 2+593	Adjacent	Affected during road construction

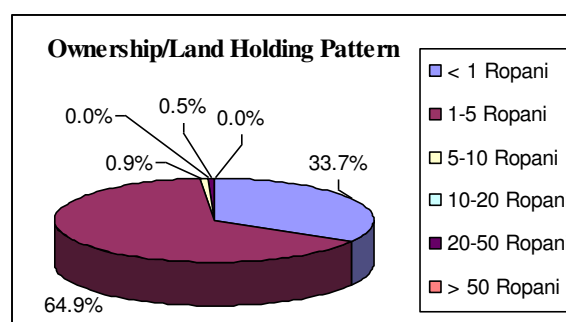
Source: Field Survey, July, 2009

4.3.11 Existing Traffic Situation

40. Five regular passenger buses daily ply on the road, whereas about 21 buses, 5 Trucks/tractors, 26 motorcycles per day are found to operate in the road. Road is almost closed during rainy season. Vehicles are mainly used for commuting and transportation of milk and vegetables.

4.3.12 Land Holding Pattern

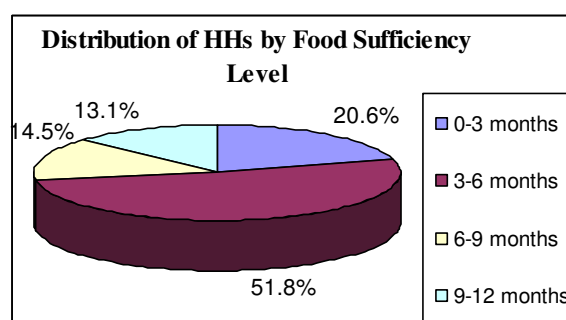
41. Land holding pattern within the Zol of the road demonstrates that most of the population (65%) have 1-5 ropani (approximately 1 ha= 19.8 ropani) land while 33.7% households have less than 1 ropani, 0.9% HHs have 5-10 ropani land. (see Annex Xc.).



Source: Field Survey, July, 2009

4.3.13 Food Security

42. About 20.6% of the households have enough food for less than three months, 51.8% for 3 to 6 months, 14.5% households have enough food for 6-9 months and 13.1% households are reported as 9-12 months. Food sufficiency condition is given in Annex Xd.



Source: Field Survey, July, 2009

4.3.14 Migration Pattern

43. Few permanent migrations take place annually to abroad for employment.

4.3.15 Settlement and Market

44. Major settlements within Zol are Jarsingpauwa, Bagdhara, Nangle, Pangrebas, Chapabot, Chhap, Chhapbhanjyang and Fatakeshor. Housing pattern of these scattered settlements are mostly one to two storied. Some of them are also of thatch roof. RCC buildings have started to appear in the market centres of Lapasephedi and Fatakeshor.

4.3.16 Potential for Development

45. The potential of the sub project area are as mentioned in Table 4.6 below.

Table 4.7: Development Potentialities in Various Sectors

SN	Sector	Development potentiality
1	Agriculture	Coffee, potato, vegetable farming, timber (uttis) production, dairy production within the whole Zol
2	Tourism Promotion	There are many places along the alignment in which the tourism activities can be enhanced such as in Lapasephedi and Fatakshila settlements.
3	Small and Cottage Industry	Bamboo products, furniture, dairy industry within the whole Zol
3	Trade and business	Development several rural market centres at various places along the road alignment and main market centres at Lapasephedi and Fataeshila.

Source: Field Survey, July, 2009

4.3.17 Religious, Cultural and Historical Sites

46. There is one religious place Ganesh Temple at CH 2+560. There are no other significant sites of religious, cultural and historical importance in the Zol.

47. Assessment on alternatives of the sub project is discussed as in the following sub sections.

5.1 No Action Option

48. This alternative assesses the consequences if the Proposal is not implemented. An earthen road currently exists, which is operable only in fair weather. The road connects a remote and poverty ridden area with high potential in dairy and vegetable productions. People have been selling the products to the markets of Kathmandu Valley. However, travel time and cost is high due to earthen standard of the existing road. Rehabilitation of the road will decrease the cost as well as provide better access facility with enhanced opportunity for development of the area without any additional significant adverse impacts. The no action option may avoid environmental impacts, but only at the cost of poverty and underdevelopment of the area. Development is must for attaining poverty reduction goal of the government, and access facility is the basic infrastructure that facilitates overall development. Thus, this option is not relevant for the Proposal.

5.2 Proposal Alternatives

49. Construction of other supporting roads could be the options for achieving the transportation and access. Considering other alternatives, the proposed road project can be the best option to serve the purpose of efficient transportation requirement. Upgrading of this road will help to connect remote south-eastern part of Kathmandu and Sindhupalchowk districts to the market centres of Kathmandu district.

5.3 Alternative Alignment

50. The alignment of the road is an existing motorable and fair weather earthen track with 6m width and proposed for upgrading which need to acquire minimum additional land and few numbers of tree will be cleared. Hence, new alternative alignment is not studied and the proposed existing alignment can be the best option.

5.4 Alternative Design and Construction Approach

51. The upgrading of road will be based on contractor approach as upgrading to bituminous standard is not possible through LEP approach. Hence other alternatives are not studied for construction of this sub project.

52. The proposed road has been designed considering combination of both the LEP approach for works possible through manual labor (earth excavation, bio-engineering, gabion structures), and Machine Intensive road construction approach for works that require mechanized applications (grading, rolling, and black topping and other R.C.C. structures).

5.5 Alternative Schedule

53. During the rainy season, the construction work will be stopped. Rehabilitation and construction work will be carried out during the remaining months. The construction period is more appropriate from October to June due to dry weather, and then the people are generally free from farming activities.

5.6 Alternative Resources

53. Stones and boulders for gabions, masonry and fine aggregates like sand will be procured from markets of crusher plants at Indrawati river of Sindhupalchowk district. The proposed construction will optimally use the local labour force and local materials.

6. IDENTIFICATION OF IMPACTS AND MITIGATION MEASURES

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

6.1 Beneficial Impacts and Benefit Augmentation Measures

6.1.1 Construction Stage

Employment Generation and Increase in Income

55. *Impacts:* Employment opportunity for local people during construction of the road, without gender biasness, is 71172 person days, with 10300 for skilled and 60872 for unskilled labor. The amount of money earned as wages will directly support various economic activities of the people, and assist to empower women and indigenous people. It will assist towards enterprise development with multiplier effect if wage is used for economic investments. This is one of the direct and significant impacts of the project but it is of short-term and local in extent.

56. *Measures:* Priority for employment will be given to local poor, dalit, vulnerable groups and women. They will be given training to do the job.

Skill Enhancement

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

58. *Measures:* Skill enhancement of local people will be done from social sector part of the program, which includes Skill development training on construction and Life skills related (LEST) Training. The skill and knowledge thus acquired will make them find employment opportunities in future life.

Enterprise Development and Business Promotion

59. *Impacts:* During construction period, different types of commercial activities will come into operation in order to meet the demand of workers. Since they will have good purchasing power, they will regularly demand for different types of food, beverage and other daily necessary items. Local shops and restaurants will be opened to meet these demands in Lepsephedi and Fatakshila settlements. This impact is direct, low significance, local and for short term.

60. *Measures:* Leadership Development Training, Skill development training on construction, account keeping under Livelihood Enhancement Skills Training (LEST) of Social Action Plan will be provided.

Community Empowerment and Ownership

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

62. *Measures:* The coordination committees will be constituted and training will be given to them.

Women and Indigenous People Empowerment

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

64. *Measures:* Assist to organize women groups, provide training and social mobilization, provide micro-finance and encourage cooperatives to undertake commercial scale farming activities.

6.1.2 Operation Stage

Improvement in Accessibility and Saving of Time and Transportation Cost

65. *Impacts:* Rehabilitation of road will enhance the access of people to social services, and quick transportation of goods. At present, traveling from Jorpati to Bhotang takes about 10 hrs and travel cost is NRs 225 which is expected to reduce travel time will reduce by half with the upgrading of road and cost will be cheaper. This impact is direct, high, regional and for long term.

66. *Measures:* Proponent will undertake regular maintenance of the road.

Increase in Trade, Commerce and Development of Market

67. *Impact:* Improved access will increase economic activities and minor local markets like Lepsephedi and Fatakshila settlement markets will grow. Productivity will increase due to cheaper transportation of agricultural inputs. Sale of farm and livestock products will increase in the bigger markets of Kathmandu district. This will support the economy of rural area. The impact will be indirect, significant, local and for long term.

68. *Measures:* DDC/VDCs shall manage planned growth with required infrastructure facilities in the market areas. Agriculture extension services, market linkages and networking for better market price will be coordinated with district agriculture office.

Appreciation of Land Value

69. *Impacts:* Construction of road will lead to appreciation of land values due to availability of reliable access facility. This will uplift the economy of local people. Financial institutions may accept their land as mortgage for lending. Mainly the land price will increase in Jarsingpauwa and Nanglebare by two times. The impact is indirect, medium, local and for long term.

70. *Measures:* Promotion of land development activities and control of encroachment within RoW. Awareness program shall be organized on use of high value land to get bank loans for setting up enterprise ventures.

Enhancement of Community Development Services

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

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

6. 2 Adverse Impacts and Mitigation Measures

6.2.1 Construction Stage

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

6.2.1.1 Physical Impacts

1. Change in Land Use

74. *Impacts:* Upgrading of road requires acquisition of some agricultural land.

2. Slope Instability

75. *Impacts:* Removal of vegetation and open cuts with exposed soil to rain may cause soil erosion as well as landslide. As the road is an existing corridor, hill slopes will not be disturbed by new cuttings of slope. Major instability areas along the road alignment are at Ch 3+200, 3+700, 5+400, 6+030, 6+900 and 9+800... The likely impact is direct, high to medium, site specific and short to medium term depending on cases.

76. *Measures:* Cut slope will be maintained depending upon the soil type; use of Bio-engineering techniques (Grass plantation, Brush layering, Palisades, Shrub/Tree plantation, Bamboo plantation, live check dams etc.); no construction work during rainy season; and use of soft engineering structures (dry wall, toe wall, riprap drain, check dams etc.) before disposing spoil. Recommended civil engineering

structures and bioengineering measures necessary at various chainages for slope stabilization have been given in Annex XIV.

3. Spoil Disposal

77. *Impacts:* As the existing road have average of 6m width, additional land is not required and spoil will be generated in very less volume. However, unmanaged disposal of spoil may cause gulling and erosion, block drainages, damage farm lands, crops and forest, water logging and may threat settlements. The impact from spoil disposal will be direct, high, local and for long term.

78. *Measures:* Spoil will be safely disposed and managed at designated site with minimum environmental damage. Engineer will give approval for disposal site of spoil. Balanced cut and fill and re-use of excavated materials will be given emphasis. Spoil will be used to reclaim land or eroded areas. Disposal site will be provided with proper drainage, vegetation and adequate protection against erosion. Compaction and trimming the slope of disposed spoils and use of bioengineering measures (Grass, Shrubs, Tree plantation) Potential safe spoil management areas are given in Table 6.1.

Table 6.1 Potential Spoil Disposal Sites

S.No.	Chainage	Recommended soil tipping/disposal sites
1	0+000	Jarsingpauwa left side of the road
2	3+200	Right side of the road alignment
3	4+550	Right side of the road alignment
4	6+650	Left side and Right side of the road alignment
5	8+250	Left side of the road alignment
6	9+900	Left side and Right side of the road alignment
7	12+300	Left side of the road alignment
8	13+540	Fatakshila River area

Source: Field survey, July, 2009

4. Quarry/ Borrow Operation

79. *Impacts:* Potential adverse impacts are accelerated land erosion, landslides, disturbance in natural drainage patterns, water logging and water pollution. The likely impact will be direct, medium in magnitude, site specific in extent and short term in duration.

80. *Measures:* The mitigation measures will be quarry and borrow operation plan will be prepared and approved by Engineer; unstable sites, erosion prone area, forest area, settlements, fertile farm land will be avoided for quarry / borrow operation; quarry sites will be rehabilitated by providing appropriate civil engineering structures (toe wall, retaining wall) and bioengineering measures (Grass plantation, Shrub/Tree plantation, Brush layering) after the extraction is complete. Recommended quarry sites in the area are given in Table 6.2.

Table 6.2: Recommended Quarry Sites

SN	Chainages	Places of recommended quarry sites
1.	2+500	Stone quarry in a limited scale.
2	5+000	Stone quarry
3.	13+700	Stone collection from Indrawati River

Source: Field Survey, July, 2009

5. Air, Noise and Water Pollution

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

82. The project area at present does not experience higher levels of noise pollution. However, during construction, the increased construction activities may increase the noise level to some extent. The impact of road construction on the noise level will be direct, low, site specific, reversible and short term.

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

84. *Measures:* The mitigation measures will include use of face mask by the workers working in the areas of high dust generation; contractor will frequently sprinkle water during surfacing of the road; avoid disposal of excavated materials in the water bodies; cover dry material or make it wet during transportation.

Both the sides of the road alignment will be planted with trees, as far as possible which will act as sound and noise barrier.

6. Water Management

85. *Impacts:* Water from the roadside drain outlets may cause erosion and landslide affecting the stability of the road. Natural drainage may get blocked due to construction of road. The impact will be indirect, medium, site specific and for medium term.

86. *Measures:* The mitigation measures will be to provide adequate numbers of drainage structures in order to have minimum interference with natural drainage pattern of the area; channelize surface water discharge from side drains; do not block or divert water away from natural watercourse. Details about necessary structures required to mitigate the water induced adverse impacts are as given in Annex XIII.

7. Location of Camp Sites and Storage Depots

87. *Impacts:* Sitting of camp may cause encroachment of forest, agriculture land and alteration of drainage, fuel leakage, solid waste and waste water problems. Impact will be direct, medium significance, site specific and for short-term.

88. *Measures:* The mitigation measures will be use of local labors to avoid camp; rent local house instead of camp to keep labors; sitting camp away from productive lands and forest areas; pay compensation for using private farm or lands for storage or camp; fuel and chemical storage areas will be on paved surface with surrounding catch drain to protect soil from leakage. Appropriate camp sites have been observed at 0+000 near Lapsephedi, at 1+900 near Bagdhara. At camp sites will be provided with drinking water and latrine facilities. For waste water and solid waste management, soak pit will be made and proper management will be done.

8. Crusher Plants

89. *Impacts:* The required crushed aggregate will be produced from crusher market. Therefore, there will be no impact due to crusher plant.

9. Use of Bitumen

90. *Impacts:* Bitumen is required for black topping which needs heating before using. Contractors tend to use local fuel wood collected from nearby forest to heat bitumen. Spillage of bitumen also damage soil productivity.

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

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

10. Construction equipment vehicles

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

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

11. Chemical issue

94. *Impacts:* Storage of facts and chemicals, and operation of vehicles and machineries result in the spillage of hazardous chemicals that can pollute nearby water sources and soil; and affects health of the workers. The impact will be direct, medium, local and for short term.

95. *Measures:* The mitigation measures will be to store fuels and chemicals on paved surface with surrounding catch drain to protect soil from leakage. Proper storage of hazardous chemicals and providing information signboards. Use of safety gears to workers during handling of chemicals and fuels. Close monitoring during operation of machineries.

6.2.1.2 Biological Impacts

1. Loss or Degradation of Forests and Vegetation

54. *Impacts:* There will be loss of 19 numbers of trees (4 Chilaune, 11 Uttis, and 4 Katus) from forest and public. The impacts on vegetation/forest resources have been considered to be direct, medium in magnitude, site specific in extent and long term in duration.

96. *Measures:* The loss of trees can not be minimized; however, it can be compensated by replantation. Following the 'Work Procedure for Providing the Forest Land for Other Use, 2063' of Government of Nepal (cabinet decision of 10.11.2063 B.S.), Proponent will manage a nursery to grow tree sapling and plant them in 1:25 ratio and additional 10 percent for each cleared tree.

2. Impact on Wildlife Due To Loss of Habitat and Hunting

97. *Impacts:* The proposed area is not a significant habitat of wildlife and bird species. However, there are forest areas around the Zol where common species of wildlife exists. Construction work may disturb these wild animals and birds. Workers may harass or kill wildlife. However, there are community forests and people are aware to protect trees and wildlife. The impact will be indirect, low, local and for short term.

98. *Measures:* The mitigation measures to be adopted will include limiting work within road width; tree shall not be cut unless absolutely necessary; construction activities near forest area will be managed to avoid disturbance to the wildlife habitat; workers shall be strictly discouraged from collecting fuel wood or hunting/harassing of wildlife.

3. Impacts on Flora and Fauna (as listed in CITES and IUCN Red Data Book)

99. *Impacts:* The upgrading of road will be removed 19 nos. trees of community forest and road alignment does not pass through core forest areas. Hence there will be no impact on flora and fauna during construction stage.

100. *Measures:* The mitigation measures will be included in bio-engineering cost for plantation. Transportation and harvesting cost will be included in resettlement plan.

6.2.1.3 Socio-economic Impacts

1. Loss or Degradation of Farm Land and Productivity

101. *Impacts:* There will be no permanent loss of agricultural land due to road rehabilitation. There is no impact.

2. Impact on Community Infrastructure

102. *Impacts and Measures:* The community infrastructure that requires reconstruction/rehabilitation during construction works and the mitigation measures are as presented in following Table 6.3.

Table 6.3: Impact on Community Infrastructure and Mitigation Measures

Infrastructure	Location	Distance from the Road Centre Line	Mitigation Measure
Kalika Saran Higher Secondary School	0+000	Outside row	Information signboards will be provided. Roadside tree plantation.
Chapabot Higher Secondary School	3+300	Outside row	Information signboards will be provided. Roadside tree plantation.
Nimnagram Siksha Mandir	3+500	Outside row	Information signboards will be provided. Roadside tree plantation.
Chautara	5+500	3m	Reinstate of damaged section of wall.
Pipe Line	8+800, 9+400, 13+200, 14+200, 10+200-10+600, 13+600-14+100	Crossing the road/ Along the road	Required to reinstate.
Electric Pole	0+540	Adjacent	Relocation required.
Branch road	0+060, 0+120, 0+900, 1+500, 3+490, 5+600, 7+800, 8+940, 11+200, 13+530	Adjacent	Reinstate of damaged section.
Irrigation Canal	12+000 to 12+700	Adjacent	Reinstate of damaged section.

Infrastructure	Location	Distance from the Road Centre Line	Mitigation Measure
Ganesh Mandir (temple)	2+560 to 2+593	Adjacent	Relocation of temple with public consultation.

3. Impact on Private Structures

103. *Impacts:* The road width at some sections is less than 5 m and these affect private houses during construction of road. One house and Balcony of seven houses will be affected. The impact will be direct, site specific, short term and low in magnitude. Details about property loss and damage will be described in Resettlement Plan Report and the summary is given in Annex XV.

104. *Measures:* Compensation and resettlement measures will be dealt as per decision made by Compensation Determination Committee (CDC).

4. Health and Safety Matters

105. *Impacts:* During construction, workers will be exposed to respiration and eye diseases due to exposure to dust, risk of accident during work, polluted drinking water, unhygienic sanitary facilities, hearing loss due to high level of noise. Increased contact between local and migrated workers can cause spread of serious health risks like STDs and HIV/AIDS. This impact is direct, high in magnitude, short term and local.

106. *Measures:* Make mandatory the use of helmets, safety belts, masks, gloves and boot by workers depending on nature of work; sprinkle water at high dust sites; provide clean drinking water at sites and camp; pit toilets at sites and camp; first aid facilities at sites and camp with training to use them; provide group accidental insurance for workers. Awareness generation to local people and workers on HIV AIDS and other communicable diseases.

5. Decline in Aesthetic Value

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

108. *Measures:* Discourage indiscriminate dumping of spoil material; quarry sites will be properly closed to suit the local landscape and cover by plantation of local species trees.

6. Impacts on Cultural, Religious and Archeological Sites

109. *Impacts:* There is only one Ganesh temple at chainage 2+560 is required to be relocated and There are no any cultural and archeological sites along the road alignment.

6.2.2 Operation Stage

6.2.2.1 Physical Environment

1. Road Slope Stability and Management

110. *Impacts:* Destabilization of slope (quarrying stones or soil, animal grazing, irrigated cultivation, opening of branch roads), poor maintenance of road, and blockage of drains can lead to slides and slope failure. Sensitive areas for possible slope stability problems are the areas of steep cut; and surroundings of streams at 11+230 and 12+100. The impact will be direct, medium, local and long term.

111. *Measures:* The mitigation measures to be adopted include immediate clearance of slides and restoration of slopes; clear drainages; restoration of rill and gully formation; and conservation of soil.

2. Impact Due to Air, Noise and Water Pollution

112. *Impacts:* Dust will be generated from the gravel road and vehicles emit gaseous pollutants. Continued dust pollution may cause adverse health impact to the people living in the vicinity. As the road is of district road category and the vehicular movement is not expected to be very high. Thus, the impact will be direct, low, local and long term.

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

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

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

6.2.2.2 Biological Environment

1. Depletion of Forest Resources

116. *Impacts:* The forest resources may deplete due to human pressure on forest to meet increasing needs of heating and cooking, illegal felling/cutting of trees for timber. The impact will be indirect, medium, local and long term.

117. *Measures:* The mitigation measures recommended are support District Forest Office and VDCs to encourage and support local community in controlling illegal harvesting of forest resources; awareness programs organized to educate local people on the importance of forest conservation. Improved access will facilitate easy transportation of LPG Gas and kerosene to replace use of firewood.

2. Disturbance to Wildlife and Illegal Hunting

118. *Impacts:* Although there are no significant habitats of wildlife near road alignment, wildlife exist in community forest of Zol and they may be disturbed due to the frequent movement of vehicle and blowing of horn in the forest area. Poaching or illegal hunting of wildlife may occur due to easy access. The impact will be indirect, low, local and for long term.

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

6.2.2.3 Socio-economic and Cultural Impacts

1. New Settlement and Market Center Development

120. *Impacts:* Expansion of settlement area and market can be observed at Lapsephedi and Fatakshila. Encroachment of RoW may take place. This will reduce road capacity, increase road accidents, and adversely impact road. The impact will be direct, medium, local and for long term.

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

2. Change in Social Behavior

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

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

3. Road Accidents

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

125. *Measures:* To be adopted will be applying appropriate road safety measures with the help of 3-Es i.e. Engineering, Enforcement and Education; and required safety signs will be used along the road.

7. ENVIRONMENTAL MANAGEMENT PLAN

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

7.1 Institutions and Their Roles

Table 7.1: Concerned Institutions and Their Roles

Institution	Role	Responsibility in the Project	Remark
Ministry of Environment	Mandated to formulate and implement environmental policies, plans and programs at national level	Facilitate when needed on environmental safeguards	No direct responsibility in the project
Ministry of Local Development (MLD)	It is concerned line ministry, executive agency and concerned agency as per EPA/EPR. Environment Management Section is responsible to look into safeguard matters for the ministry.	<ul style="list-style-type: none"> To review IEE, ToR and Report, and give approval. Coordinate with project on safeguard issues Conduct environmental monitoring from central level. 	Executing Agency
Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR)	Department under MLD responsible to execute infrastructure projects under MLD. Provides back-up support to DDCs in technical matters through DTO.	RRRSDP is being executed under overall coordination and supervision of the Department for the Ministry. It is also supporting DDCs through DTOs to implement the project.	Executing Agency
RRRSDP- Project Coordination Unit	Project specific unit.	Technical Unit to support and coordinate all activities for implementation of RRRSDP. Review, comment, and forward IEE ToR and report for review to ADB and for approval to MLD	First Class Officer / DDG of DoLIDAR have been heading the PCU.
District Development Committee / District Technical Office	DDC/DTO is Project Implementing Agency.	<ul style="list-style-type: none"> Prepare IEE ToR and submit for approval to PCU/MLD. Conduct IEE Study, Public Consultation, and prepare IEE Report Receive comments from PCU/ADB/MLD and modify accordingly. Get final approval from MLD Conduct environmental safeguard monitoring Reporting 	District Technical Officer is the Project Manager
District Project Office	Project implementation office working directly under DDC/DTO.	Responsible for overall activities related to implementation of the works at field level.	Implementing Agency
Central Implementation Support Consultant (CISC)	Support consultants at central level	Technical and management support to PCU	Consultant
District Implementation Support Team (DIST)	Support consultants at district level	Technical and management support to DPO	Consultant

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

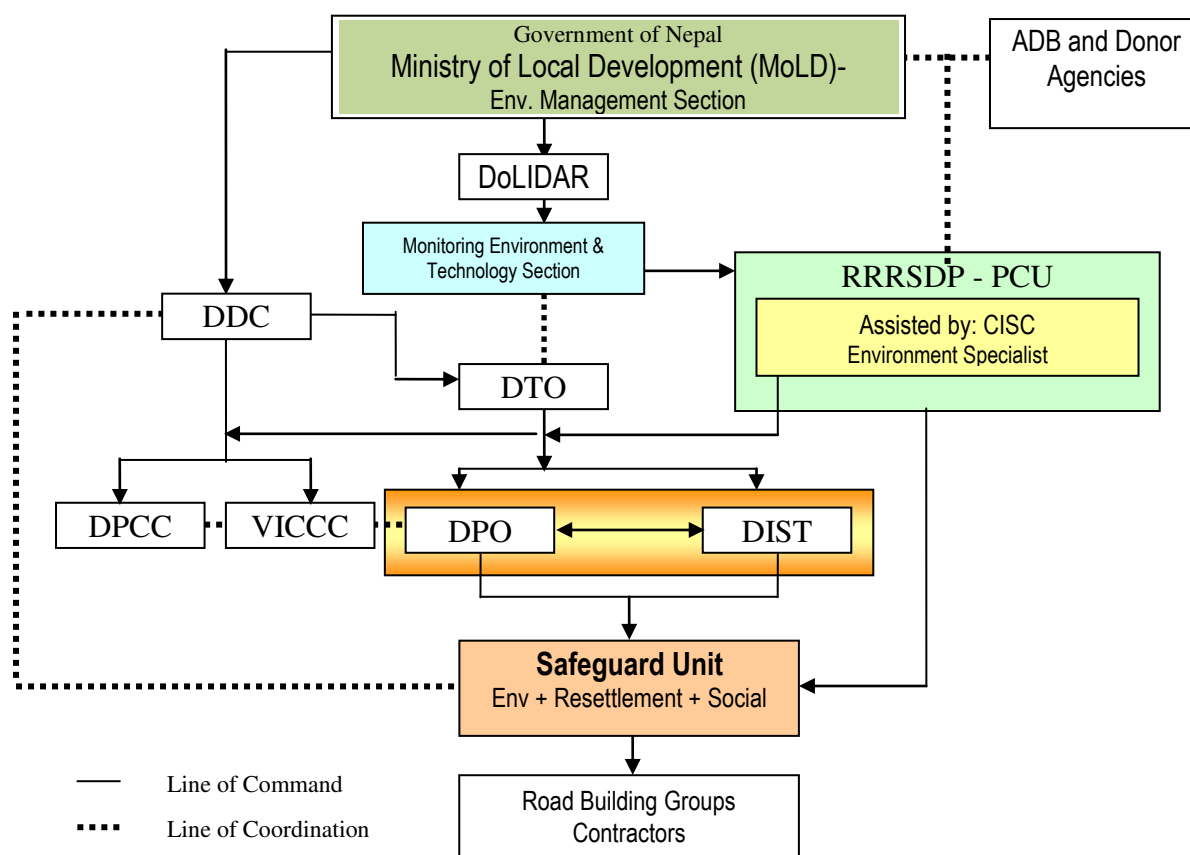
7.2 Reporting

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

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

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

Fig. 1.3: Environmental Management Organization Structure



7.3 Environmental Management Plan

131. The DDC/DTO with support of DPO/DIST at local level and PCU/CISC at central level will be responsible for conducting careful and routine monitoring of EMP compliance. Overall implementation of the EMP will be the responsibility of the Proponent. Framework for implementing environmental management plan is shown in Table 7.2.

Table 7.2: Beneficial Impacts and Proposed Enhancement Measures

Activity	Effect	Related Beneficial Impacts	Type of Impact *)				Benefit Augmentation Measures	Responsible Agencies	
			Nat	Mag	Ext	Dur		Executing Agency	Supporting Agency
Construction Stage									
Construction of road	Employment Generation and Increase in Income	Increase in income level	D	H	L	ST	Maximize manual work through local, poor, vulnerable and women. Training in income generation and skill enhancement. Employment opportunity will get Skilled 10300 person days and unskilled 60872 person days respectively.	DDC/DTO/ DIST	DPCC / VICCC / CISC/PCU
On the job training to local labour	Skill Enhancement	Increase in income generating activities, employment opportunities	IN	M	L	LT	Skill enhancement of local people will be done from social sector part of the program, which includes Skill development training on construction and Life skills related (LEST) Training. The skill and knowledge thus acquired will make them find employment opportunities in future life.	DPO/DIST	DDC/DTO / CISC/PCU
Construction of road	Enterprise Development and Business Promotion	Enhancement in local economy	D	M	L	ST	Leadership Development Training, Skill development training on construction, account keeping under Livelihood Enhancement Skills Training (LEST) of Social Action Plan will be provided.	Contractor	DIST/ CISC/PCU
Construction coordination committee program	Community Empowerment and Ownership	Increase in income and ownership.	IN	L	L	ST	Coordination committees will be constituted and training will be given to them.	DPO/DIST	DDC/DTO / CISC/PCU
Operation of Road	Women and Indigenous People Enhancement	Poor, indigenous and women will have easy and frequent access to social services (education, health, community development, bank, training, CBOs and networking)	IN	H	L	LT	Assist to organize women's groups, provide training in enterprise development, organize cooperatives, provide micro-financing to undertake production of commercial products, provide market services.	VDC / DDC	VDC / DDC
Operation Stage									
Operation of Road	Improvement in Accessibility and Saving of Time and Transportation Cost	Saving in travel time by half and lower travel cost	D	H	R	LT	Proper maintenance (regular, emergency) , continuation of bioengineering	DTO/DDC	DoLIDAR
Operation of Road	Increase in Trade, Commerce and Development of Market centers	Minor local markets like Chaughare, Manikhel, Bhotechaur markets will grow .Shifts towards improved commercial agriculture and increase in non-agricultural occupation	IN	H	L	LT	Manage planned growth with required infrastructure facilities in the market areas. Agriculture extension services, market linkages and networking for better market price.	DPO	DDC/VDC
Operation of Road	Appreciation of Land Value	Improvement in local economic condition	IN	M	L	LT	Promotion of land development activities and control of encroachment within RoW. Awareness program shall be organized on use of high value land to get bank loans for setting up enterprise ventures.	DDC/DPO	DDC/VDC
Operation of Road	Enhancement of Community Development Services	Ease of access to social service and raise in quality service	IN	H	R	LT	Keep road maintained to ensure access facility that will attract development of other social services facilities	Local people, DDC, VDC	DDC, VDC

Table 7.3: Adverse Impacts and Proposed Mitigation Measures

Activity	Potential Negative Effects	Related Adverse Impacts	Type of Impact *)					Mitigation Measures	Responsibility for Mitigation Measures		
			Nat	Mag	Ext	Dur	Rev		Executing Agency	Supporting Agency	
Construction Stage											
Physical Environment											
Construction of Road, earth excavation	Spoil Disposal and imposed weight of spoil on fragile slopes	Gully erosion, landslide, disruption of road, damage to farmland, water pollution etc.	D	H	L	LT	Re	Proper site selection and management of spoil at designated areas approved by Engineer; provision of proper drainages, toe walls; Proposed spoil disposal sites are 0+000, 3+200, 4+550, 6+650, 8+250, 9+900, 12+300 and 13+540.	DDC/DTO	DIST/VICCC/ VDC	
Site clearance, excavation	Slope Instability	Erosion, landslide, loss of property. Areas of concern are at Ch 3+200, 3+700, 5+400, 6+030, 6+900 and 9+800.	D	M	SS	MT	Re	Civil structures with bio-engineering application (Such as Grass plantation, Tree/Shrub plantation, Brush layering, Palisades, Bamboo plantation, Live check dam construction etc.) shall be used to stabilize the slopes. Drainage management (Catch drain, rip-rap drain, check dam etc.)	DDC/DTO	DIST	
Construction of Road	Water Management, generation of large volume of surface runoff	Erosion, landslide, damage to farmland	IN	M	SS	MT	IR	Proper drainage structures and proper spoil disposal, Avoid blockage or diversion of natural channels due to construction of road and disposal of spoils.	DDC/DTO	DIST	
Construction works, operation of construction vehicles, material hauling and unloading etc. Slope cutting, spoil and waste disposal.	Air pollution due to dust from exposed surface, from construction equipments and vehicles	Affect on local people and workers health and affect on agriculture.	D	L	L	ST	Re	Use of face mask while working on dust prone areas, covering of dust sources	DDC/DTO	DIST	
	Noise pollution	Disturbance and annoyance around school, health posts, forest areas.	D	L	SS	ST	Re	Restrict horn near school, health posts, settlement, forest areas. Locate crusher plant away from these areas; cover material during transportation.	DDC/DTO / Contractor	DIST	
	Water pollution due to sediment level, spills and leakage of oils and chemicals to water bodies	Risk of water borne diseases	D	L	L	ST	Re	Proper spoil management, and prevention of leakage and spills of construction chemicals, restriction in urination and defecation in open areas	DDC/DTO/ Contractor	DIST/VICCC	
Cutting of slopes	Quarry/borrow operation and its potential effect on instability, landslide	Change in river regime, instability, land slide; damage to forest, farmland and property; water pollution	D	M	SS	ST	Re	Proper selection and management of quarry sites, rehabilitation of quarry/borrow sites after completion of work. Recommended quarry sites are Ch 1+900 and 13+700 (Indrabati Khola)	DDC/DTO/ Contractor	PCU/CISC/DIST/ VICCC	

Activity	Potential Negative Effects	Related Adverse Impacts	Type of Impact *)					Mitigation Measures	Responsibility for Mitigation Measures	
			Nat	Mag	Ext	Dur	Rev		Executing Agency	Supporting Agency
Construction of road	Location of Camp Sites, Storage Depots	Encroachment of forest, agriculture land, solid waste, and waste water may cause pollution	D	M	SS	ST	Re	Locate camp site away from productive land and forest area (potential sites at 0+000, 1+900 and 13+650); use local labor and local houses as camp; pay compensation to land owner of camp area; proper storage of chemical and materials; drinking water facilities and latrine.	DPO assisted by DIST/ Contractor	DIST/VICCC
Operation of heavy equipments	Crusher Plants	Dust and Noise pollution and health risks to workers	D	H	SS	ST	Re	Procure from market centre as far as possible. Locate site away from farm and forest area; away from settlement and sensitive habitat; do not operate at night; water sprinkling facility to reduce dust.	DPO assisted by DIST/ Contractor	DIST/CISC/PCU
Construction of road	Use of Bitumen	Damage in soil productivity, air pollution due to heating of bitumen	D	M	L	ST	Re	Use kerosene for heating and strict prohibition on firewood uses, safety gears to workers (Such as gloves, boots, masks etc), appropriate storage of materials	DPO assisted by DIST/ Contractor	DIST/CISC/PCU
Operation of construction equipments	Construction machineries and tools (Rollers, tippers, spreader, water tanker etc.)	Air pollution due to emission of smoke, increase in vibration and noise pollution	D	H	SS	ST	Re	Equipment/vehicles deployed for construction activities shall be regularly maintained. All the vehicles deployed for material movement shall be spill proof to the extent possible	DPO assisted by DIST/ Contractor	DIST/CISC/PCU
Biological Environment										
Clearance of vegetation necessary for road formation	Loss or Degradation of Forests and Vegetation (Loss of 19 nos tree)	Loss of green cover; loss of environmental benefits from vegetation, disturbance in ecological function (dust and noise absorbance, aesthetic value etc	D	M	SS	LT	Re	Cutting of tree only in formation width, compensatory plantation of local species of tree at 1:25 ratio + 10 percent.. Compensatory plantation of 523 trees.	DDC/DTO/DFO	DFO/CFUGs/DIST/VD C
Construction activity	Impact on Wildlife Due To Loss of Habitat and Hunting	Killing and harrasing of wildlife; Loss of biodiversity and valuable species of wildlife	IN	L	L	ST	Re	Work only in day time, do not disturb wildlife, aware workers	DDC/DTO/DFO	DFO/CFUGs/DIST
Construction activity	Impacts on Flora and Fauna	Loss of biodiversity	IN	M	L	ST	Re	Minimum site clearance, discouraging workers for collecting fuel wood from forest or hunting/harassing faunas	DDC/DTO/DFO	DFO/CFUGs/DIST
Social-economic Environment										
Acquisition of land and property for maintaining road	Loss of Private Properties (1 House and Balcony of 7 houses)	Displacement of people, hardship	D	H	SS	LT	IR	Compensation and resettlement to the owner as described in resettlement plan	DDC/DTO	CFC ¹ /DIST

Activity	Potential Negative Effects	Related Adverse Impacts	Type of Impact *)					Mitigation Measures	Responsibility for Mitigation Measures	
			Nat	Mag	Ext	Dur	Rev		Executing Agency	Supporting Agency
width										
Demolition of structures along road alignment	Impact on Community Infrastructure	Loss of services (see table 6.3)	D	M	SS	ST	Re	Restoration or relocation of affected infrastructures: Pipe Line (8+800, 9+400, 13+200, 14+200, 10+200-10+600, 13+600-14+100); Electric Pole (0+540); Branch Road (0+060, 0+120, 0+900, 1+500, 3+490, 5+600, 7+800, 8+940, 11+200, 13+530); Irrigation Canal (12+100 to 12+940), Ganesh Temple (2+560 to 2+593), Wall of Chautara (5+500). Information signboards and roadside plantation near schools.	DDC/DTO	PCU DIST/CISC/MICCC/VDC
Occupational health and safety aspects	Health and safety matters	Injury, fatal accidents, outbreak of epidemics and diseases, decline in capacity to work	D	H	L	ST	IR	Occupational health and safety regulations, first aid facility at sites with health treatment arrangements, contingency planning; Proper drinking water and toilet facility for construction crew	DDC/DTO / Contractors	DIST/CISC
Construction of Road	Decrease in aesthetic value	Disturbances in working areas and scar on topography	D	L	L	ST	Re	Cover the road alignment by planting tree on both sides; manage working areas.	DPO in assistance by DIST / Contractors	PCU / CISC / Users Committee / VDC
Operation Stage										
Physical Environment										
Quarrying, operation of construction equipments	Road Slope Stability and Management	Slides and slope failure, Disturbance to traffic flow, pollution of water bodies, impacts on agriculture land, loss of vegetation.	D	M	L	LT	Re	Regular maintenance of slope protection structures, Selection of healthy upland farming techniques	DDC/DTO/VDC	DoLIDAR , DFO, District Watershed and Soil Conservation Office (DWSSC)
Operation of vehicles, Inadequate drainage	Air, Noise and Water Pollution	Disturbance to students, patients, wildlife, effect to nearby agriculture land and crops	D	L	L	LT	Re	Speed limit for vehicles, no horn signs, use vegetation barrier; Regular maintenance of drainage.	DDC/DTO	DoLIDAR/Local administration
Biological Environment										
Road operation	Depletion of Forest Resources	Loss of timber, forest resources and benefits	IN	M	L	LT	IR	Enforcement of law, vigilance and monitoring, participation of community	DFO/ CFUGs/VDCs	DDC/CDO
Road operation	Disturbance to the Wildlife and Illegal Hunting	Collision of wildlife with vehicles, disturbance in their normal activities, Loss of biodiversity	IN	L	L	LT	IR	Warning traffic signal, Awareness training to driver to limit speed and horn use	DTO/ CFUGs	DDC/CDO / DFO
Social-economic Environment										

Activity	Potential Negative Effects	Related Adverse Impacts	Type of Impact *)					Mitigation Measures	Responsibility for Mitigation Measures	
			Nat	Mag	Ext	Dur	Rev		Executing Agency	Supporting Agency
Easy Access by road operation	New Settlement and Market Center Development	Encroachment of RoW, increased accidents, delay in traffic movement, depletion of local resources, water pollution	D	M	L	LT	IR	Awareness program, enforcement of law, planning of land development, plantation of trees.	DDC/DTO	CDO / VICCC
Operation of Road	Change in Social behavior	Social and cultural conflicts	IN	M	L	LT	Re	Awareness, Enforcement of law and order, Provision of training for skill	DTO	DDC/DoLIDAR
Operation of Road	Road Safety Measures	Increase in accidents	D	M	L	LT	IR	Appropriate road safety measures, Safety signs along the road.	DTO	DDC/DoLIDAR

* Legend:

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

7.4 Mitigation Cost

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

Table 7.4: Cost Estimate for Environmental Enhancement and Mitigation Measures

SN.	Environmental Protection Measures	Estimated Budget (NRs.)	Remarks
1. Benefits Augmentation Measures			
1.1	Training to DC/DTO/DPO/DIST to conduct environmental monitoring and reporting	100,000.00	To be included in project cost
1.2	Enhancement in Technical Skills (Bio-engineering)	100,000.00	To be included in project cost
	Sub-Total (1)	200,000.00	
2. Adverse Impacts Mitigation Measures			
2.1	Bio-engineering work, Compensatory Plantation of 523 Trees	11,00,000.00	To be included in project cost
2.2	Insurance cost	9,12,000.00	To be included in BoQ
2.3	Resettlement plan and land acquisition	45,80,811.52	To be included in resettlement plan
2.4	Social Action plan and Gender Action Plan	9,96,700.00	To be included social plan
2.5	Irrigation canal maintenance and construction	6,00,000.00	To be included in project budget
2.6	Occupational health and safety; First aid boxes, campsite sanitation (Pit latrine); solid waste management, Safety measures for workers (Helmets, gloves, masks, boots, etc.) and Information Signboard (15nos)	4,00,000.00	To be included in project budget
2.7	Spoils disposal site management and rehabilitation, reinstate of quarry etc.	10,00,000.00	To be included in project budget
	Sub-Total (2)	95,89,511.52	
	Total	97,89,511.52	

7.5 Implementation of Mitigation Measures

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

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

7.6 Environmental Monitoring

7.6.1 Monitoring Responsibility

135. The Proponent will develop in-built monitoring mechanism to safeguard environment during construction and operation stages. The DPO will be supported by DIST in the district, and PCU will be

supported by CISC at center to ensure effective monitoring and undertaking corrective actions, as required. A Safeguard Unit will be established in DPO. The social, resettlement and environment specialists / officers from DPO/DIST will work in cooperation under the Safeguard Unit. They will undertake Subproject level monitoring under supervision and coordination of Specialists from PCU/CISC.

136. MoLD/DoLIDAR will be responsible for central level monitoring of EMP compliance. A provision of NRs. 50,000 will be allocated for the periodic monitoring by the center.

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

Table 7.5: Environmental Monitoring Cost

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

Thus, total environmental monitoring and management cost is NRs. 99,89,511.52 including cost of resettlement and bio-engineering.

7.6.2 Types of Monitoring and Monitoring Parameters

138. Types of monitoring procedures used in this sub project are:

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

Table 7.6: Compliance Monitoring for Sankhu-Jarsingpauwa-Fatkeshor, Jarsingpauwa-Bhotechaur Road Construction Works

Parameters/Issues	Responsible Implementing Agency	Verifiable Indicators	Verification Methods	Schedule	Responsible Monitoring Agency
Final alignment selection as per IEE /EMP recommendation	DPO / DIST	Alignment incurs minimum requirements to acquire land from forest, agri. land, and minimum nos. of trees to clear.	Look the alignment on topo map with land use resources; verify it by walkthrough along final road alignment	Preconstruction phase	PCU / CISC; DoLIDAR
Land and property acquisition and compensation Voluntary land acquisition	Proponent with assistance of DIST	Cadastral records, Land and properties acquisition procedures; Procedures followed during voluntary donation of Land; Preparation of inventory of structures likely to be affected Payment of compensation	Public consultation, photos; geo-referencing; Check inventory against cadastral records and discuss with land owners Check record of pending compensation	Preconstruction phase before construction begins	CFC / PCU (CISC) / DOLIDAR / MoLD
Compliance to Environmental Protection Measures, including pollution prevention, water and soil management, slope stabilisation, cut and fill, waste management, spoils, sensitive habitats and critical sites, protection of fauna and flora	Contractor	Arrangement specified in the Code of Practice and in Manuals relating to environmental protection; EMP detail in IEE Document; records and observations on pollution, waste management, spoil deposit. Protection of wildlife and sensitive habitats, forests; and Use of fuel wood for heating and cooking.	Site inspection; Discussion with local people; Records; Photos; Sampling and laboratory tests.	During construction period and include in monthly report	DPO / DIST at district and PCU/CISC at center
Protect environment from air & noise pollution	Contractor	Dust level and noise level at work sites, major settlements and sensitive spots like health centres and schools; Crusher operated during night	Visual observation, Observation of good construction practices and discussion with residents and workers; DIST to measure air/noise level at sensitive spots.	Once in a month during construction; measurement once during peak construction	DPO / DIST at district and PCU/CISC at center
Protect water bodies from pollution	Contractor / DPO / DIST	Visual observation, observation of open defecation and pit toilets at work sites/waste management/spoil disposal around water sources; Parameters like pH, hardness, DO, Turbidity for drinking water.	Site inspection, test of site-selected samples of local streams water using standard field kit, record of waterborne disease	Observation once in a month during construction; Upon demand for testing with field kit	DPO / DIST at district and PCU/CISC at center
Use of local labour, particularly vulnerable groups and women	DPCC / VICCC / Contractor	Percentage of employment of local labour, especially vulnerable groups and women and their wage rate.	Verification from records	During the entire period where labour work is contracted	DPO / DIST at district and PCU/CISC at center
Awareness and orientation training on road construction locally employed	DPO / DIST	Training programmes for skill development, occupational safety and environmental protection associated with road	Training records, assess feedback from participants	Beginning of construction and	DPO / DIST at district and PCU/CISC at

Parameters/Issues	Responsible Implementing Agency	Verifiable Indicators	Verification Methods	Schedule	Responsible Monitoring Agency
labourers		construction works; employment generation skill		during construction	center (DTO)
Compliance to occupational health and safety matters	DPO / DIST; Contractor (if involved)	Health and safety regulations, first aid and medical arrangements, contingency plan, number and type of safety equipments such as mask, helmet, glove, safety belt.	Spot checks at work sites, accident records, safety equipment at site; discussion with workers	Throughout construction stage	DPO / DIST at district and PCU/CISC at center
Vegetation clearance	Contractor; DPO / DIST	Actual number of trees felled during construction works	Record, inspection and interview with local people and CFUGs	Before construction work	DPO / DIST at district and PCU/CISC at center; CFUGs
Measures to avoid pressure on forest and wildlife	Contractor /DIST	Use of firewood or fossil fuel by construction crew, events of hunting and poaching of wildlife	Record verification, interview with local people and CFUGs	Once a month during construction	DPO / DIST at district and PCU/CISC at center / CFUGs
Restoration, rehabilitation, reconstruction of all infrastructure services disrupted or damaged during the construction work	Contractor /DIST	Continued services by the facilities and functional public life	Site observation; Public Consultation Meetings	Once in 15 days during construction	DPO / DIST at district and PCU/CISC at center
Clean up and reinstatement of the construction sites (camps, quarries, borrow pits)	Contractor	Decommissioned sites indicate no adverse/residual environmental impacts, and are rehabilitated to the satisfaction of the supervisor and land owners	Site observation; Comparing photos; Consultation with land owners	At end of construction period	DPO / DIST at district and PCU/CISC at center
Air, noise, water and soil pollution due to construction equipments. Use of fire wood for bitumen heating.	Contractor/DIST	Visual observations, use of fuel for bitumen boiler. Spillage of chemicals and fuels from vehicles.	Site inspection. Discuss with workers and local people.	During construction period	Contractor/Proponent
Proper storage of chemicals; prevent pollution of soils an water	Contractor	Storage of chemicals on paved surface. Provision of safety gears during chemical handling by workers. Spillage during operation of machineries.	Site inspection, consultation with workers.	During construction period	DTO/DIST/Contractor

Table 7.7: Impact / Effect Monitoring for Sankhu-Jarsingpauwa-Fatkeshor Road Construction Works

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

8 CONCLUSION AND RECOMMENDATION

8.1 Conclusion

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

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

8.2 Recommendation

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

142. A key consideration in selecting the road alignment is to minimize the acquisition of valuable agricultural and forest land. However, some agricultural and forest land and some houses will have to be acquired for construction of the proposed road. A Resettlement Plan will be required to ensure that the persons affected by these losses are properly compensated.

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ANNEXES

Annex I: Terms of Reference



नेपाल सरकार
स्थानीय विकास मन्त्रालय
स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग (डोलिडार)
ग्रामीण पुनर्निर्माण तथा पुनर्स्थापना आयोजना
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आयोजना समन्वय इकाई
बाबनाथेश्वर, ललितपुर

प.स. ०६५/६६
च.नं.: १३३६

मिति: २०६६/१२/२८

विषय: प्रारम्भिक वातावरणीय परीक्षण (IEE) को स्वीकृत कार्य सूचि पठाईएको सम्बन्धमा ।

✓ श्री जिल्ला प्राविधिक कार्यालय
ग्रामीण पुनर्निर्माण तथा पुनर्स्थापना आयोजना
जिल्ला आयोजना कार्यालय:
काठमाण्डौ ।

उपयुक्त सम्बन्धमा त्यस जिल्लामा निर्माण हुने खगेश्वरी-रिङ्गरोड, साँखु-जर्सिङ्गपौवा-फटकेश्वर-भोटेचौर, घ्याम्पेडोल-बाणभञ्ज्याङ्ग सडक उप आयोजनाहरूको प्रारम्भिक वातावरणीय परीक्षण (IEE) को कार्य सूचि (ToR) नेपाल सरकार (सचिव स्तर) को मिति २०६६/१२/२५ को निर्णय अनुसार स्वीकृत भएकोले स्वीकृत ToR यसै साथ संलग्न गरी सो अनुसार आवश्यक कारवाहीको लागि अनुरोध छ ।

(Signature)

नारायण प्रसाद बराल
प्रोजेक्ट ईन्जिनियर

बोधार्थ:
श्री जिल्ला विकास समितिको कार्यालय,
काठमाण्डौ ।

(Signature)
नकाद सुचरा प्रकृषित गरी लगे
आ.का.
२.३९

स्वीकृत मिति :- २०६६/१२/२२

Draft
Terms of Reference (ToR)
for
Initial Environmental Examination (IEE)
of
Sankhu -Jarsinghpauwa- Fatkeshwor,
Jarsinghpauwa- Bhotechaur
Road Sub-Project

Submitted to:
Ministry of Local Development,
Government of Nepal

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

Telephone No. :- 01-4484005
Fax No. :- 01-4494329

May 2009

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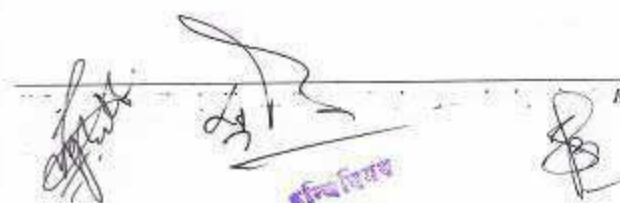
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TABLE

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FIGURE

- Figure 1. Map of Kathmandu District.
 Figure 2. Tropographical Map of Sankhu -Jarsinghpauwa- Fatkeshwor,
 Jarsinghpauwa- Bhotechaur road sub-project.



Kathmandu District

ABBREVIATIONS

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

ToR for *Link of Sankhu - Jarsinghpauwa - Farkeshwar, Jarsinghpauwa - Bhotechaur Road Sub-Project*

1.0 NAME AND ADDRESS OF THE PROPONENT

The District Development Committee (DDC)/District Technical Office (DTO), Kathmandu is the executing agency at the district level and the proponent of the Initial Environmental Examination (IEE) study for the rehabilitation of Sankhu -Jarsinghpauwa- Fatkeshwor- Jarsinghpauwa- Bhotechaur Road Sub-Project. The Ministry of Local Development (MLD) is the concerned authority for the approval of IEE study report.

Address of the Proponent:

District Development Committee (DDC)
District Technical Office (DTO)
Kathmandu
Telephone No. :- 01-4484005
Fax No. :- 01-4494329

2.0 INTRODUCTION

2.1 GENERAL INTRODUCTION

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

The RRRSDP program is financed by the Government of Nepal (GoN), Asian Development Bank (ADB), Department for International Development (DFID), OPEC Fund for International Development (OFID) and Swiss Agency for Development and Cooperation (SDC) to improve the connectivity, enhance economic and employment opportunities, increase access to market and social services of rural communities. The coordinating government department is the Department for Local Infrastructure Development and Agricultural Roads (DoLIDAR) under the Ministry of Local Development (MLD).

The DDCs is the Project Implementing Agencies at the district level. The DTO of each respective DDC is responsible for technical and Project management matters in the district. The DTO will be supported by the DIST which includes engineering, safeguards, and social mobilization staff.

FRISA/ITECO joint venture (in association with SKAT) on behalf of SDC are District Implementation Support Team (DIST) for RRRSDP and have the responsibility of providing technical assistance in four districts; Kabhre Palanchowk, Sindhupalchowk, Dolakha and Kathmandu.

This Terms of Reference (ToR) is prepared to conduct an IEE study of Sankhu - Jarsinghpauwa- Fatkeshwor, Jarsinghpauwa- Bhotechaur Road Sub-Project in Kathmandu District.



2.2 BACKGROUND OF THE SUB-PROJECT

The proposed of Sankhu -Jarsinghpauwa- Fatkeshwor, Jarsinghpauwa- Bhotechaur Road Sub-Project lies in the north-eastern part of Kathmandu, district of Central Development region of Nepal. This sub-project starts from Sankhu and ends at two different destinations one is Fatkeshwor and another is Bhotechaur. The bifurcation point is Jarsing Pauwa. Major settlements along the road alignment are Sankhu, Lapsifedi, Jarsing Pauwa, Nanglebhare, Chapabot, Chhapbhanjyang, Fatakshila, Fatkeshwor, Chauki bhanjyang, Dharapani, and Bhotechaur. Total length of the road alignment is 28.6 km.

The starting point of the road Northern part of Sankhu, Suntole VDC (Kathmandu), which is 13Km away from the Chabahil, Ringroad Kathmandu, district headquarter of Kathmandu. The alignment is already in use and track is already open in full breadth though some extra widening and other structure works are to be done. Frequent bus is in operation for transportation section, but these may face problem in rainy season.

The people in this project area are having many types of transportation problems due to seasonal road. Local people have no other access to the market centres to fulfil their daily needs. Hence, the locally produced materials like *vegetables and milk* are getting low prices than it may fetch. Other development facilities are also far from the reach of people because it is very difficult to create a system like water supply, electricity, bio-gas plant and telephone without an all weather road corridor. Having lots of transportation difficulties, people of the road corridors initiated to construct a road by using excavating machine through DDC from FY 062/063.

The Foremost benefit of this road is that it takes the people of Sindhupalchok to reach Melamchi faster and in more economical way. This alignment is 35Km shorter than the other way which was effective before this alignment was in operation. The rehabilitation of road will mainly enhance the transportation of vegetables produced in remote areas of road corridor, and other adjacent VDCs and it will also extend physical and economical access to the people within the immediate zone of influence. For the road construction, use of local labour will generate immediate employment to local people and minimise migration to Kathmandu city in search of work. Consequently, local people will get long-term benefit which will enhance their economic status within the Zol of road corridor and adjoining area of Sindhupalchok district.

This road is identified as a priority road in the District Transport Master Plan (DTMP). Rehabilitation of this road with gravelling will provide physical and economical access to the people of north-eastern part of the district with Kathmandu city.

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

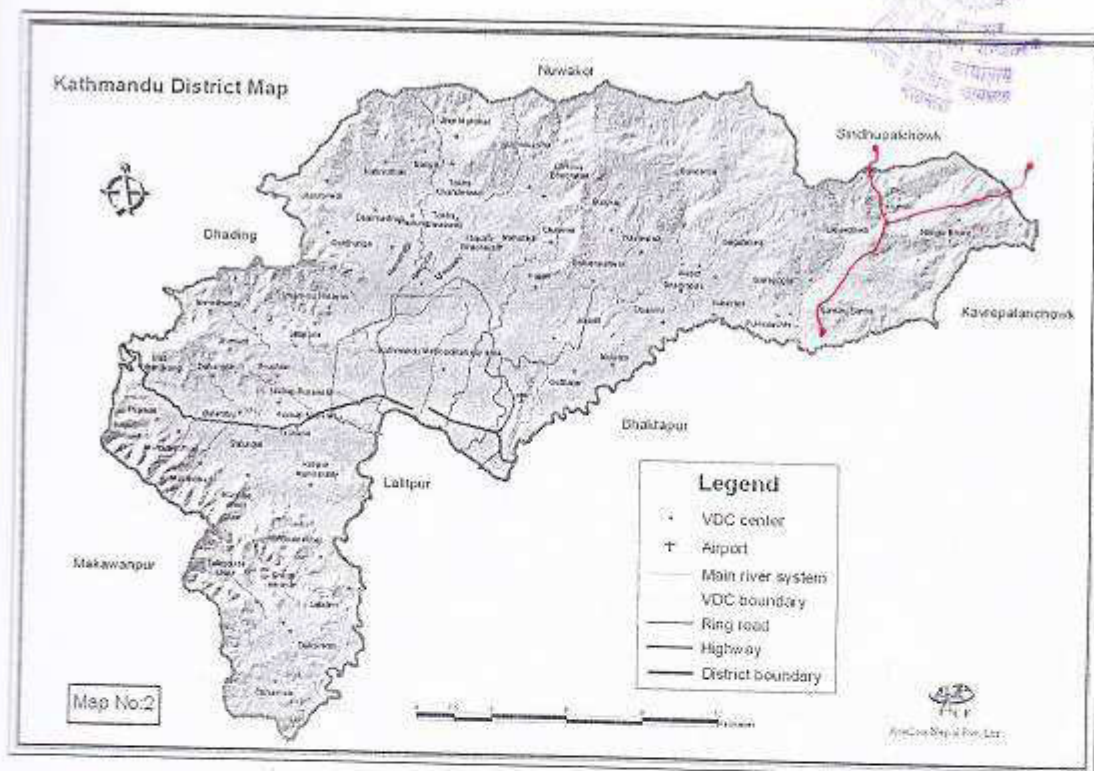


Figure 1. Map of Kathmandu District.

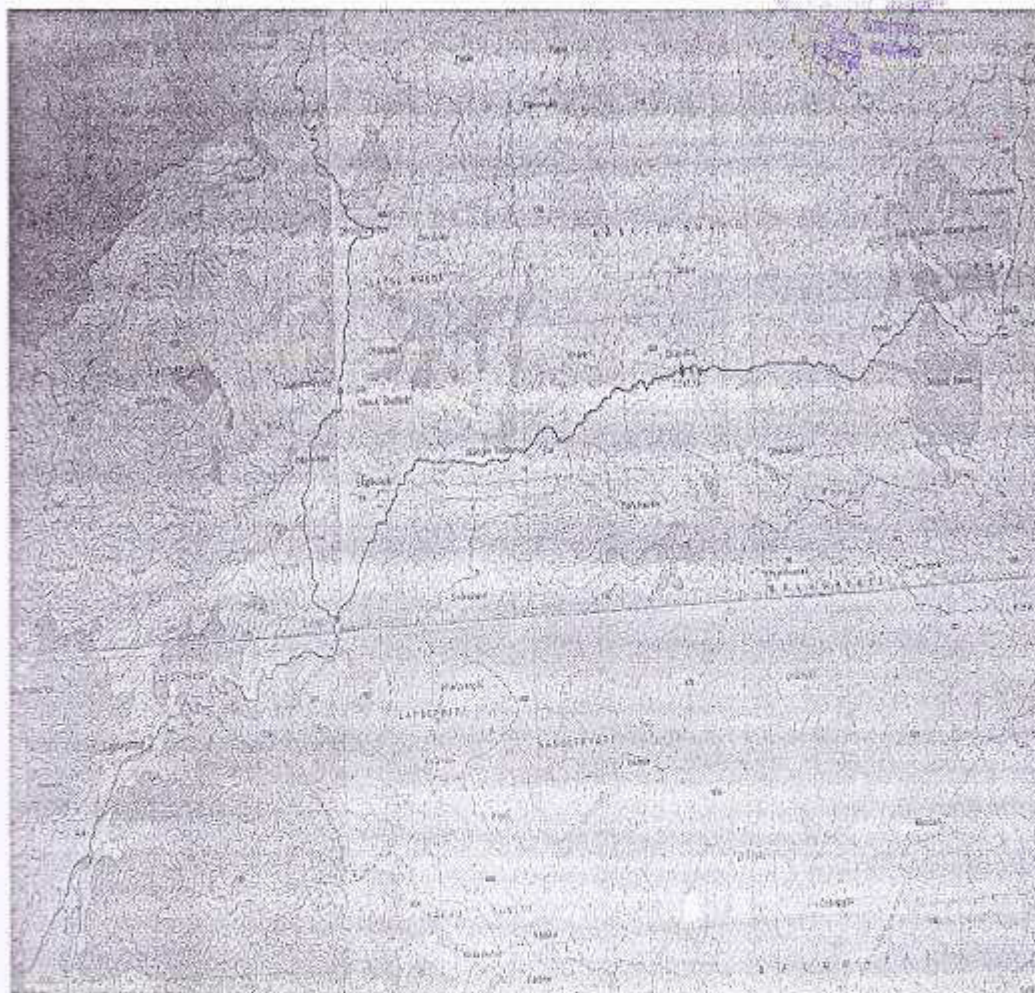


Figure 2. Topographical Map of Sankhu -Jarsinghpauwa- Fatkeshwor, Jarsinghpauwa- Bhotechaur road sub-project.

2.3 OBJECTIVES

The objectives of the proposed IEE study includes to:

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

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2.4 RELEVANCY OF THE SUB-PROJECT

The proposed road will connect Sankhu, Lapsefedi, Bhotechaur, Naglebhare and Fatakshila VDCs with other main access road to Sindhupalchok District and which is on the way to be black topped. The people of Kathmandu district in remote part will also be benefiting from this road. Most of the small settlements are likely to be changed to a bazaar area due to economical growth. Among the two bifurcation one leads to the Fatkeshwor which is a point on the old way which lead to major center of Sindhupalchok District Melamchi. On this way to Fatkeshwor the people of Naglebhare, Chapabot, Chhapbhanjyang, and Fatakshila and Fatkeshwor. This particular bifurcation is the one which is shorter by 35Km than the way in use previously. The other bifurcation connects the Kathmandu valley to the Bhotechaur which connects the adjoining VDC of Sindhupalchok as well as the places along the corridor.

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

3.0 REVIEW OF RELEVANT LAWS, RULES AND GUIDELINES

Government of Nepal has adopted various acts, regulations and guidelines to ensure the integration of development and conservation of environment. The IEE study will be guided by the requirements and provisions of the following acts, rules and guidelines as applicable.

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

- Three Years Interim Plan, 2007/08-2009/10

4.0 PROCEDURE TO BE ADOPTED WHILE PREPARING THE REPORT

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

4.1 DESK REVIEW

The following steps will be followed during the desk review:

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

4.2 PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

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

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

4.3 FIELD WORK

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

5.0 ALTERNATIVES FOR THE IMPLEMENTATION OF THE PROPOSAL

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

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

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

6.0 REQUIREMENT OF THE IEE STUDY

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

6.1 TIME SCHEDULE

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

Table 1. Proposed work schedule for conducting IEE study

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

6.2 ESTIMATED BUDGET AND STUDY TEAM

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

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

The IEE will be carried out and prepared by DIST Environmental Specialist, with support from DIST team Kathmandu, Environmental Specialist from CISC and District Project Office (DPO). CISC Environmental Specialist will provide necessary training to DIST for the environmental assessment procedures. The activity of IEE preparation will be

supervised by DPO office. Since, the IEE report will be prepared by the DIST team with the support of the CISC, no separate budget and manpower is required. However, specific subject matter experts will be hired for short term basis if needed.

7.0 ENVIRONMENTAL BASELINE

This will describe environmental setting of the project location and surrounding areas and will contain information on relevant bio-physical, socio-economic and cultural factors and features. The updated, processed and analyzed information and data on each of the relevant bio-physical, socio-economic and cultural aspects will be presented in the IEE study. As far as possible, other environmental features such as, sensitive area, population and settlements, forests, geological features will be shown in the map.

8.0 ANALYSIS AND INTERPRETATION

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

9.0 IDENTIFICATION, PREDICTION AND EVALUATION OF IMPACT

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

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

9.1 BENEFICIAL IMPACTS

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

9.1.1 Construction Stage

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

9.1.2 Operation Stage

- Access to Inputs and Services
- Development of Market centers
- Appreciation of Land Value
- Increased Crop Productivity and Sale of Farm Products
- Enhancement of Community Development Services
- Promotion of Tourism Activity
- Women and Indigenous People Empowerment

9.2 ADVERSE IMPACTS

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

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

Physical environment

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

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

Biological environment

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

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

Socio-economic and cultural environment

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

- Loss or degradation of farm land and productivity
- Loss or degradation of private properties such as houses, farm sheds, and other structures, crops and fodder/ fruit trees

- Impact on community infrastructure such as irrigation, water supply, schools, health post, trail and trail bridges
- Impacts on cultural, religious and archeological sites
- Impacts on health and safety matters.

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

Physical environment

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

Biological environment

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

Socio-economic and cultural environment

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

10.0 BENEFIT AUGUMENTATION/MITIGATION MEASURES

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

11.0 ENVIRONMENTAL MANAGEMENT PLAN

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

12.0 IEE report format

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

- Cover page with name of the proposal and proponent and address
- Table of content
- List of Abbreviation (acronyms)
- Executive Summary that includes:
 - Background

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

v. Salient Features of the Project

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

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

vii. Public Consultation and Information Disclosure

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

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

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

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

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

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

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

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

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

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

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

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

xv. **Annex**

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

Annex II: Rapid Environmental Assessment (REA) Checklist

Rapid Environmental Assessment (REA) Checklist

Instructions:

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

Country/Project Title:

Nepal / RRRSDP

Name of the sub Project:

Sankhu-Jarsingpauwa-Fatkeshor Road Upgrading Sub Project

SCREENING QUESTIONS	Yes	No	REMARKS
A. Project Sitting			
Is the Project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site		✓	
▪ Protected Area		✓	
▪ Wetland		✓	
▪ Mangrove		✓	
▪ Estuarine		✓	
▪ Buffer zone of protected area		✓	
▪ Special area for protecting biodiversity		✓	
B. Potential Environmental Impacts			
Will the Project cause...			
▪ Encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?		✓	
▪ Encroachment on precious ecology (e.g. sensitive or protected areas)?		✓	

SCREENING QUESTIONS	Yes	No	REMARKS
<ul style="list-style-type: none"> Alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site? 		✓	
<ul style="list-style-type: none"> Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction? 		✓	
<ul style="list-style-type: none"> Increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing? 		✓	
<ul style="list-style-type: none"> Noise and vibration due to blasting and other civil works? dislocation or involuntary resettlement of people 		✓	
<ul style="list-style-type: none"> Other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress? 		✓	
<ul style="list-style-type: none"> Hazardous driving conditions where construction interferes with pre-existing roads? 		✓	
<ul style="list-style-type: none"> Poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations? 		✓	
<ul style="list-style-type: none"> Creation of temporary breeding habitats for mosquito vectors of disease? 		✓	
<ul style="list-style-type: none"> Dislocation and compulsory resettlement of people living in right-of-way? 		✓	
<ul style="list-style-type: none"> Accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials and loss of life? 		✓	
<ul style="list-style-type: none"> Increased noise and air pollution resulting from traffic volume? 		✓	
<ul style="list-style-type: none"> Increased risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road? 		✓	

Source: Field survey, July, 2009

Annex III: Abstract of Cost

Road: Sankhu-Jarsingpauwa-Fatkeshwar Road Upgrading Sub Project

Chainage: 0+000-13+530

Summary of Total Cost (Item-wise)

SN	Description of works	Unit	Estimated Quantity	Rate(NRs) In Figure	Amount (NRs)
1	General				
1.1	Provision for Insurances as specified in the[General Conditions of Contract, Clause-13)	LS	1 % of total cost		912,000.00
1.2	Carry out Laboratory testing of material and quality control tests as per requirement of site and specification and Engineers instruction	LS	0.3% of total cost		275,000.00
1.3	Providing site office (s) for supervision team	LS	0.15 % of total cost		140,000.00
1.2.a	Provide and maintain Traffic safety, control measures and temporary diversions during construction as instructed by engineer,	Nos	27.00	1745.90	47,139.43
1.2.b	Supply and place permanent traffic sign , Supply and place kilometer post for contract information as per drawing & engineers instructions .	Nos	14.00	2452.02	34,328.24
	Sub Total of General Item				1,408,467.67
2	Earthwork				
2.1	Site Clearance including Clearing and grubbing as per specification (DoLIDAR'-1-1)	Sq.m	6765.00	12.65	85,577.25
2.2	Earth work excavation in Boulder mix soil or related material for road way formation and foundation of retaining and drainage structures including removal and disposal by Dozer	Cu.m	69842.19	64.20	4483932.14
2.3	Earth work excavation in hard soil for road way formation and foundation of retaining and drainage structures including removal and disposal as per specification (DoLIDAR SN 5, Clause 2-1.2.2, 2-1.8, 2-1.9)	Cu.m	6059.23	189.75	1149738.89
2.4	Earth work excavation in medium rock for road way formation and foundation of retaining and drainage structures including removal and disposal as per specification (DoLIDAR SN 5, Clause 2-1.2.2, 2-1.8, 2-1.9)	Cu.m	113.09	1302.95	147348.01
2.5	Construction of roadway in embankment and miscellaneous backfilling areas with approved suitable material obtained from roadway excavation including haulage , spreading in layers, watering and compaction all complete as per design, drawing, specification and engineer's Instruction; (DoLIDAR clause 2-5)	Cum.	5775.92	79.06	456658.68
	Sub Total of Earthwork Items				6,323,254.97
3	Structural work				
3.1	Supply, fabrication and assembling of gabion boxes (weaved with heavily Zinc coated wires) of hexagonal mesh with size 100 mm x 120 mm, with mesh wire 10 swg, selvedge wire 7 swg, binding wire 12 swg and stone filling in gabion boxes including transportation and fixing of gabions in position. (DoLIDAR SN-44.1, 44.2, 45, Clause 17-1.4, 17-5, 17-6)				
3.1(a)	Box size (2*1*1)	Box	362.00	6568.69	2,377,867.30
3.1(b)	Box size (1.5*1*1)	Box	304.00	4753.30	1,445,003.70
3.2	Geo-textile work inside of gabion wall	Sq.m	872.00	98.00	85,456.00
3.3	RCC Hume Pipe Culvert all complete work				
3.3.1	Earth work excavation in hard soil for road way formation and foundation of retaining and drainage structures including removal and disposal as per specification (DoLIDAR SN 5, Clause 2-1.2.2, 2-1.8, 2-1.9)	Cu.m	219.38	189.75	41,627.54
3.3.2	Dry stone soling works in foundation and leveling including haulage distance up to 30 m. (Building Norms Clause 6-5)	Cu.m	35.27	2263.60	79825.86105
3.3.3	Plain cement concrete work (1 : 3 : 6) mix by volume. It includes all labour and material required for mixing placing in position, vibrating, compacting, finishing, curing and all incidentals required to produce concrete of specified strength as per the specifications.(DoLIDAR SN-41 Clause-11-a)	Cu.m	9.84	6950.63	68408.11985
3.3.4	Un-coursed stone rubble masonry works(1:4 cement sand mortar) including full compensation for labour, materials and other incidentals required using dressed stone on the face of wall with batter all complete as mentioned in specification and directed by the Engineer (DoLIDAR SN 38A-c, Clause-8).	Cu.m	50.28	5707.83	286,998.21
3.3.5	12.5 mm th. Plastering with (1:4 cement sand mortar) on concrete surfaces with all necessary operations including full compensation for all labours, materials scaffolding and other incidentals required to complete the work as per the specifications (DoLIDAR Clause-7-9.4,7-12,7-13.2)	Sq.m	62.36	189.31	11804.5421

3.3.6	Construction of roadway in embankment and miscellaneous backfilling works with approved suitable material obtained from roadway excavation including haulage , spreading in layers, watering and compaction all complete as per specification and engineer's Instruction; (DoLIDAR clause 2-5)	Cum.	47.62	79.06	3,764.64
3.3.7	Providing and fixing NP3 RCC Pipes of different dia for . RCC Pipe Culvert with joint sealing works all complete as mentioned in specification and directed by the Engineer (DoLIDAR SN-47, Clause-15-5, 15-6)				
	(a) 450mm Dia (NP3).	Rm	52.50	4558.15	239,302.72
	(b) 600mm Dia (NP3).	Rm	67.50	6126.95	413,568.88
3.4	Concrete slab causeway M 15 grade Reinforced Cement Concrete (1 : 2 : 4) mix by volume. It including all labour and material required for mixing placing in position, vibrating, compacting, finishing, curing and all incidentals required to product concrete of specified strength as per the specifications. (DoLIDAR SN 41- Clause-11-b)	Cu.m	6.00	7949.49	47,696.97
3.4.1	Dry stone soling works in foundation and leveling including haulage distance up to 30 m(Building norms Clause 6-5)	Cu.m	4.50	2263.60	10,186.20
3.4.2	Reinforcement for RCC work. It includes procuring steel, its bending, placing, binding and fixing in position as shown on the drawings and as directed by the Engineer (DoLIDAR SN-40 Clause-10)	Kg	376.80	83.19	31,346.20
3.5	Supply and Lay Stone masonry for drain and structural works in 1:4 cement sand mortar all complete works as mentioned in specification and directed by the Engineer (DoLIDAR SN 38A-c, Clause-8) :	Cu.m	2906.45	5707.83	16,589,507.89
3.5.1	Dry stone soling works in foundation and leveling including haulage distance up to 30 m (Building. Norms Clause 6-5)	Cu.m	1202.63	2263.60	2,722,262.19
3.5.2	Plain cement concrete work (1 : 3 : 6) mix by volume. It includes all labour and material required for mixing placing in position, vibrating , compacting , finishing , curing and all incidentals required to produce concrete of specified strength as per the specifications.(DoLIDAR SN-41 Clause-11-a)	Cu.m	380.83	6950.63	2,647,017.86
3.6	Un-coursed stone rubble masonry (1:4 cement sand mortar) works including full compensation for labour, materials and other incidentals required using dressed stone on the face of wall with batter all complete as mentioned in specification and directed by the Engineer (DoLIDAR SN 38A-c, Clause-8).	Cu.m	80.27	5707.83	458,179.31
3.6.1	Dry stone soling works in the foundation and levelling including haulage distance up to 30 m(Buliding Norms Clause 6-5)	Cu.m	6.84	2263.60	15,483.03
	Sub Total of Structural works Items				27,575,307.16
4	Pavement work				
4.1	Preparation of sub grade as mentioned in the specification and directed by the engineer. (DOR Specification, 10.03, clause-1003)	Sq.m	59,632.50	12.65	754,351.13
4.2	Supply, Place & compact gravel sub base 150mm thick (passing sieve of 63 mm and down) over prepared sub grade according to the designed camber all complete as mentioned in the specification and directed by the engineer. (DoLIDAR SN 26, Clause-3,1)	Cu.m	9845.36	2086.72	20,544,462.85
4.3	Supply ,place and compact crusher run materials (passing sieve of 40 mm and down) for base course(WBM) over sub base according to the designed camber all complete as mentioned in the specification and directed by the engineer. (DoLIDAR SN 27, Clause-3,2)	Cu.m	6987.55	2847.09	19,894,145.18
4.4	Providing and spraying Bituminous prime coat MC30/MC70 at spray rate of 1ltr/m ² including cleaning the road surface using wire, brushes, broom etc. before application as mentioned in the specification and directed by the engineer. (DOR new Specification, clause-1301,1302)	Sq.m	46583.65	106.12	4,943,501.20
4.5	Providing and spraying Bituminous tack coat at spray rate of 0.5ltr/m ² as mentioned in the specification and directed by the engineer. (DoLIDAR SN 30, Clause-4-2)	Sq.m	46583.65	57.53	2,679,898.99
4.6	Providing, mixing, laying and compaction of 20mm thick premixed carpet all complete as mentioned in the specification and directed by the engineer. (DOR new Specification, Clause-1307,1308)	Cu.m	931.67	10103.52	9,413,174.04
	Sub Total of Pavement Items				58,229,533.39
	Grand Total of all Items (A)				93,536,563.20
			VAT @13% of (A)		12,159,753.22
		B	Sub Total		05,696,316.42
		C	Provision for contingencies @ 5% of (A)		4,676,828.16
			Grand Total = [(B)+(C)]		110,373,144.58
			Cost Per Kilometer		8,157,660.35

Annex IV: RRRSDP Environmental Field Checklist

A. GENERAL SOCIO-ECONOMIC SITUATION OF THE INFLUENCE AREA²

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

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

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

2. Economic activities/main occupation

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

3. Existing services and infrastructures

[illegible]

[illegible]

2.3	Tobacco										
2.4	Potato										
2.5	Vegetables										
2.6	Fruits										
2.7	Tea/Coffee										
2.8	Amliso										
2.9	Sericulture										
2.10	Others (list)										
3.0	LIVESTOCK & FISHERIES										
3.1	Cattle (cows & buffaloes)										
3.2	Horses, Mules										
3.3	Yak										
3.4	Goat										
3.5	Sheep										
3.6	Rabbit										
3.7	Pig										
3.8	Fisheries										
3.9	Poultry										
3.10	Bee-keeping										
3.11	Others										

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

7. Migration for employment

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

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

- (b) Seasonal migration in search of work.

Month	No. of Total HH	Destination	Purpose

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

B. DEVELOPMENT POTENTIAL ACCORDING TO SETTLEMENT

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

S. N.	Name of Area	Description of Development Potential

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

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

C. Historic and Cultural Resources Within The Settlement

Type of Resource	Name/specification	Affecting activities	Location from project

Annex V: Public Notice



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

०१-४४९४३२९
०१-४४८४००५
फ्याक्स ०१-४४९४३२९

ग्रामीण पुनःनिर्माण तथा पुनर्स्थापना आयोजना
जिल्ला आयोजना कार्यालय
काठमाण्डौ

तारिख २९/०३/१९

प्रारम्भिक वातावरणीय परीक्षण (IEE) सम्बन्धी राय २०६६

सुझावकालागि सार्वजनिक सूचना ।

(सूचना प्रकाशन मिति : २०६६/०३/१९)

यस जिल्ला विकास समितिको कार्यालय/जिल्ला प्राविधिक कार्यालय, ग्रामीण पुनःनिर्माण तथा पुनर्स्थापना आयोजना, जिल्ला आयोजना कार्यालय, काठमाण्डौद्वारा निर्माण गर्न प्रस्ताव गरिएका निम्न सडकहरूको प्रारम्भिक वातावरणीय परीक्षण(IEE) प्रतिवेदन कार्यान्वयन गर्ने शिलशिलामा वातावरणीय संरक्षण नियमावली २०५४, (पहिलो संशोधन २०५५ समेत)को नियम ७२ (२) अनुसार यो सार्वजनिक सूचना प्रकाशित गरिएको छ।

प्रस्तावकको नाम : -जिल्ला प्राविधिक कार्यालय/जिल्ला आयोजना कार्यालय, काठमाण्डौ

सि.नं.	आयोजनाको नाम	आयोजनाले प्रभावित गर्ने गा.वि.स.हरू
१	साँखु - जर्सिपौवा - फट्केश्वर, जर्सिपौवा-भोटेचौर सडक	सुन्टोल, वज्रयोगिनी, लप्सेफेदी, नाङ्गेभारे र फट्केशिला
२	कलकी-घ्याम्पेडोल -बाडभञ्ज्याङ्ग सडक	का. म. न. पा. -१४,स्यूचाटार, पुरानो नैकाप, नयाँ नैकाप, दहचोक र बाडभञ्ज्याङ्ग
३	कागेश्वरी चक्रपथ	डाँछी, भद्रबास, आलापोट गागलफेदी र इन्द्रायणी

उक्त प्रस्तावको कार्यान्वयनबाट वातावरणमा पर्ने सम्बन्धित प्रभावका बारेमा सम्बन्धित गा.वि.स., विद्यालय, स्वास्थ्य चौकी, वन उपभोक्ता समिति तथा अन्य सरोकारवाला व्यक्ति वा संस्थाले यो सूचना प्रकाशित भएको मितिले १५ (पन्ध्र) दिन भित्र निम्न ठेगानामा आफ्नो सुझाव पठाईसहायोग गरिदिनु हुन अनुरोध गरिन्छ।

राय सुझाव पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, मध्यबानेश्वर काठमाण्डौ
ग्रामीण पुनःनिर्माण तथा पुनर्स्थापना आयोजना
जिल्ला आयोजना कार्यालय, काठमाण्डौ

टेलिफोन नं. : ०१ ४४८४००५

फ्याक्स नं. : ०१ ४४९४३२९

Annex VI: Deed of Enquiry (Muchulka)/Recommendation letters

श्री जिल्ला विकास कार्यालय ले निम्नानुसारको सूचना यस
क्षेत्रीय सामुदायिक विकास कार्यालयको सूचना पाटीमा टाँसेको व्योहोरा प्रमाणित गरिन्छ ।

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय
काठमाण्डौ

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६।०३।०९)

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

प्रस्तावकको नाम : जिल्ला प्राविधिक कार्यालय, काठमाण्डौ ।

प्रस्तावित सडकले प्रभाव पार्ने गा.वि.स.हरु : सुन्टोल, बज्रयोगिनी, लप्सेफेदी, नाङ्गलेभारे र फट्केशिला

प्रस्तावको विवरण : प्रस्तावित सुन्टोल - जर्सिपौवा - फट्केश्वर सडक उपआयोजना सुन्टोल गा.वि.स. को साल्खाबाट शुरु भई फट्केशिला गा.वि.स.को फट्केश्वर गएर टुगिन्छ । त्यस्तै जर्सिपौवा - भोटेचौर सडक लप्सेफेदी गा.वि.स.को जर्सिपौवाबाट शुरु भई जर्केखोलामा टुगिन्छ । यो सडक साल्खा, लप्सेफेदी, जर्सिपौवा, चौकीभञ्ज्याङ्ग, नाङ्गलेभारे, पांगेबास, चापबोट, छापभञ्ज्याङ्ग र फट्केश्वर वस्तीहरु भएर जान्छ । यस सडकको जम्मा लम्बाई २६.८ कि.मि. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्तावित गरिएको छ ।

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

राय सुझाव पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, काठमाण्डौ
टेलिफोन नं.: ०१ ४४८००४, ४४९००८४
फ्याक्स नं.: ०१ ४४९४३२९

सूचना टाँसेको प्रमाणित गर्ने कर्मचारीको नाम
पद सहायक प्राविधिक
कार्यालयको छाप:

हस्ताक्षर:

कार्यालयको नाम:

मिति:

२०६६।०३।०९

श्री विष्णु बराल ले निम्नानुसारको सूचना यस
क्षेत्रीय विकास समिति कार्यालयको सूचना पाटीमा टाँसेको ब्योहोरा प्रमाणित गरिन्छ ।

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय
काठमाण्डौ

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६९/०३/०९)

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

प्रस्तावकको नाम : जिल्ला प्राविधिक कार्यालय, काठमाण्डौ ।

प्रस्तावीत सडकले प्रभाव पार्ने गा.वि.स.हरु : सुन्टोल, बज्रयोगिनी, लप्सेफेदी, नाइलेभारे र फटकशिला

प्रस्तावको विवरण : प्रस्तावित साँखु - जर्सिपौवा - फटकेश्वर सडक उपआयोजना सुन्टोल गा.वि.स. को साल्खाबाट शुरु भई फटकशिला गा.वि.स.को फटकेश्वर गएर टुगिन्छ । त्यस्तै जर्सिपौवा - भोटेचौर सडक लप्सेफेदी गा.वि.स.को जर्सिपौवाबाट शुरु भई जर्केखोलामा टुगिन्छ । यो सडक साल्खा, लप्सेफेदी, जर्सिपौवा, चौकीभञ्ज्याङ्ग, नाइलेभारे, पांगेवास, चापबोट, छापभञ्ज्याङ्ग र फटकेश्वर बस्तीहरु भएर जान्छ । यस सडकको जम्मा लम्बाई २६.८ कि.मि. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्तावित गरिएको छ ।

उक्त प्रस्तावकको कार्यान्वयनबाट वातावरणमा पर्नसक्ने प्रभावको बारेमा सम्बन्धित गा.वि.स., विद्यालय, स्वास्थ्य चौकी, वन उपभोक्ता समिति तथा अन्य सरोकारवाला व्यक्ति वा संस्थाले यो सूचना नागरिक राष्ट्रिय दैनिकमा प्रकाशित भएको मितिले १५ (पन्ध्र) दिन भित्र आफ्नो राय सुझाव पठाई सहयोग गरिदिनुहुन अनुरोध गरिन्छ । साथै यसै बमोजिमको राय सुझाव स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग, जाबलाखेल तथा स्थानीय विकास मन्त्रालय पुल्चोक, ललितपुरमा पनि पठाउन सकिनेछ ।

राय सुझाव पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, काठमाण्डौ
टेलिफोन नं.: ०१ ४४८००५, ४४९००८५
फ्याक्स नं.: ०१ ४४९४३२९

सूचना टाँसेको प्रमाणित गर्ने कर्मचारीको नाम: राम बज्र
पद: प्र.अ.
कार्यालयको छाप:

हस्ताक्षर: जोहनि
कार्यालयको नाम: क्षेत्रीय विकास समिति
मिति: २०६९/०३/०९

श्री सुर्खेत नेपाल
जिल्ला विकास समिति

ले निम्नानुसारको सूचना यस
कार्यालयको सूचना पाटीमा टाँसेको ब्योहोरा प्रमाणित गरिन्छ ।

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय
काठमाण्डौ

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६/०३/०९)

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

प्रस्तावको नाम : जिल्ला प्राविधिक कार्यालय, काठमाण्डौ ।

प्रस्तावीत सडकले प्रभाव पार्ने गा.वि.स.हरु : सुन्टोल, वज्रयोगिनी, लप्सेफेदी, नाङ्गलेभारे र फटकशिला

प्रस्तावको विवरण : प्रस्तावित साँखु - जर्सिपौवा - फटकेश्वर सडक उपआयोजना सुन्टोल गा.वि.स. को साल्खाबाट शुरू भई फटकशिला गा.वि.स.को फटकेश्वर गएर टुगिन्छ । त्यस्तै जर्सिपौवा - भोटेचौर सडक लप्सेफेदी गा.वि.स.को जर्सिपौवाबाट शुरू भई जर्केखोलामा टुगिन्छ । यो सडक साल्खा, लप्सेफेदी, जर्सिपौवा, चौकीभञ्ज्याङ्ग, नाङ्गलेभारे, पांग्रेवास, चापवोट, छापभञ्ज्याङ्ग र फटकेश्वर बस्तीहरु भएर जान्छ । यस सडकको जम्मा लम्बाई २६.८ कि.मि. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्तावित गरिएको छ ।

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

राय सुझाव पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, काठमाण्डौ
टेलिफोन नं.: ०१-४४८००५, ४४९००८५
फ्याक्स नं.: ०१-४४९४३२९

सूचना टाँसेको प्रमाणित गर्ने कर्मचारीको नाम: माइने
पद: ज.वि.स.को अध्यक्ष
कार्यालयको छाप:



हस्ताक्षर: [Signature]
कार्यालयको नाम: ज.वि.स.को कार्यालय लप्सेफेदी
मिति: ०६६/८/२८

श्री विमला बराल ले निम्नानुसारको सूचना यस
श्री भद्रज्योदय फ्याक्टर्स कार्यालयको सूचना पाटीमा टाँसेको व्योहोरा प्रमाणित गरिन्छ ।

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय
काठमाण्डौ

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुभाबका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६।०३।०१)

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

प्रस्तावकको नाम : जिल्ला प्राविधिक कार्यालय, काठमाण्डौ ।

प्रस्तावीत सडकले प्रभाव पार्ने गा.वि.स.हरु : सुन्टोल, बज्रयोगिनी, लप्सेफेदी, नाङ्गलेभारे र फट्केशिला

प्रस्तावको विवरण : प्रस्तावित साँखु - जर्सिपौवा - फट्केश्वर सडक उपआयोजना सुन्टोल गा.वि.स. को साल्खाबाट शुरु भई फट्केशिला गा.वि.स.को फट्केश्वर गएर टुगिन्छ । त्यस्तै जर्सिपौवा - भोटेचौर सडक लप्सेफेदी गा.वि.स.को जर्सिपौवाबाट शुरु भई जर्केखोलामा टुगिन्छ । यो सडक साल्खा, लप्सेफेदी, जर्सिपौवा, चौकीभञ्ज्याङ्ग, नाङ्गलेभारे, पांग्रेबास, चापबोट, छापभञ्ज्याङ्ग र फट्केश्वर बस्तीहरु भएर जान्छ । यस सडकको जम्मा लम्बाई २६.८ कि.मि. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्तावित गरिएको छ ।

उक्त प्रस्तावकको कार्यान्वयनबाट वातावरणमा पर्नसक्ने प्रभावको बारेमा सम्बन्धित गा.वि.स., विद्यालय, स्वास्थ्य चौकी, वन उपभोक्ता समिति तथा अन्य सरोकारवाला व्यक्ति वा संस्थाले यो सूचना नागरिक राष्ट्रिय दैनिकमा प्रकाशित भएको मितिले १५ (पन्ध्र) दिन भित्र आफ्नो राय सुभाब पठाई सहयोग गरिदिनुहुन अनुरोध गरिन्छ । साथै यसै बमोजिमको राय सुभाब स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग, जावलाखेल तथा स्थानीय विकास मन्त्रालय पुल्चोक, ललितपुरमा पनि पठाउन सकिनेछ ।

राय सुभाब पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, काठमाण्डौ
टेलिफोन नं.: ०१-४४८००५, ४४९००८५
फ्याक्स नं.: ०१-४४९४३२९

सूचना टाँसेको प्रमाणित गर्ने कर्मचारीको नाम: भूषण वस्ती
पद: सहायक प्रमुख प्राविधिक
कार्यालयको छाप:



हस्ताक्षर: भद्रज्योदय फ्याक्टर्स
कार्यालयको नाम: श्री भद्रज्योदय फ्याक्टर्स प्रा. लि.
मिति: २०८२.४.२७

श्री ~~विष्णु~~ किरा नापीत
सुन्टोल गा. वि. स.

ले निम्नानुसारको सूचना यस
कार्यालयको सूचना पाटीमा टाँसेको व्योहोरा प्रमाणित गरिन्छ।

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय
काठमाण्डौ

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६।०३।०१)

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

प्रस्तावकको नाम : जिल्ला प्राविधिक कार्यालय, काठमाण्डौ।

प्रस्तावीत सडकले प्रभाव पार्ने गा.वि.स.हरु : सुन्टोल, बज्रयोगिनी, लप्सेफेदी, नाङ्गलेभारे र फट्केशिला

प्रस्तावको विवरण : प्रस्तावित साँखु - जर्सिपौवा - फट्केश्वर सडक उपआयोजना सुन्टोल गा.वि.स. को साल्खाबाट शुरु भई फट्केशिला गा.वि.स.को फट्केश्वर गएर टुगिन्छ। त्यस्तै जर्सिपौवा - भोटेचौर सडक लप्सेफेदी गा.वि.स.को जर्सिपौवाबाट शुरु भई जर्केखोलामा टुगिन्छ। यो सडक साल्खा, लप्सेफेदी, जर्सिपौवा, चौकीभञ्ज्याङ्ग, नाङ्गलेभारे, पांग्रेबास, चापबोट, छापभञ्ज्याङ्ग र फट्केश्वर बस्तीहरु भएर जान्छ। यस सडकको जम्मा लम्बाई २६.८ कि.मि. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्तावित गरिएको छ।

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

राय सुझाव पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, काठमाण्डौ
टेलिफोन नं.: ०१ ४४८००५, ४४९००८५
फ्याक्स नं.: ०१ ४४९४३२९

सूचना टाँसेको प्रमाणित गर्ने कर्मचारीको नाम:

पद: क्रि. वि.
कार्यालयको छाप:



हस्ताक्षर:

कार्यालयको नाम:

मिति:

सुन्टोल गा. वि. स.
२०६६।०३।०१

श्री विमला क्वाल ले निम्नानुसारको सूचना यस
गा.वि.ले प्रकाशित गरेको कार्यालयको सूचना पाटीमा टाँसेको ब्योहोरा प्रमाणित गरिन्छ ।

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय
काठमाण्डौ

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुभाषका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६/०३/०१)

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

प्रस्तावकको नाम : जिल्ला प्राविधिक कार्यालय, काठमाण्डौ ।

प्रस्तावीत सडकले प्रभाव पार्ने गा.वि.स.हरु : सुन्टोल, बज्रयोगिनी, लप्सेफेदी, नाङ्गलेभारे र फटकशिला

प्रस्तावको विवरण : प्रस्तावित साँखु - जर्सिपौवा - फट्केश्वर सडक उपआयोजना सुन्टोल गा.वि.स. को साल्खाबाट शुरु भई फटकशिला गा.वि.स.को फट्केश्वर गएर टुगिन्छ । त्यस्तै जर्सिपौवा - भोटेचौर सडक लप्सेफेदी गा.वि.स.को जर्सिपौवाबाट शुरु भई जर्केखोलामा टुगिन्छ । यो सडक साल्खा, लप्सेफेदी, जर्सिपौवा, चौकीभञ्ज्याङ्ग, नाङ्गलेभारे, पांग्रेबास, चापबोट, छापभञ्ज्याङ्ग र फट्केश्वर बस्तीहरु भएर जान्छ । यस सडकको जम्मा लम्बाई २६.८ कि.मि. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्तावित गरिएको छ ।

उक्त प्रस्तावकको कार्यान्वयनबाट वातावरणमा पर्नसक्ने प्रभावको बारेमा सम्बन्धित गा.वि.स., विद्यालय, स्वास्थ्य चौकी, वन उपभोक्ता समिति तथा अन्य सरोकारवाला व्यक्ति वा संस्थाले यो सूचना नागरिक राष्ट्रिय दैनिकमा प्रकाशित भएको मितिले १५ (पन्ध्र) दिन भित्र आफ्नो राय सुभाष पठाई सहयोग गरिदिनुहुन अनुरोध गरिन्छ । साथै यसै बमोजिमको राय सुभाष स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग, जावलाखेल तथा स्थानीय विकास मन्त्रालय पुल्चोक, ललितपुरमा पनि पठाउन सकिनेछ ।

राय सुभाष पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, काठमाण्डौ
टेलिफोन नं.: ०१ ४४८००५, ४४९००८५
फ्याक्स नं.: ०१ ४४९४३२९

सूचना टाँसेको प्रमाणित गर्ने कर्मचारीको नाम:
पद: स्थानीय शाखा प्रमुख
कार्यालयको छाप:

हस्ताक्षर:
कार्यालयको नाम:
मिति: २०६६/४/२२

श्री विमला काल ले निम्नानुसारको सूचना यस
प्रहरी चौकी नाङ्गलेभारे कार्यालयको सूचना पाटीमा टाँसेको ब्योहोरा प्रमाणित गरिन्छ ।

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय
काठमाण्डौ

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६।०३।०१)

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

प्रस्तावकको नाम : जिल्ला प्राविधिक कार्यालय, काठमाण्डौ ।

प्रस्तावीत सडकले प्रभाव पार्ने गा.वि.स.हरु : सुन्टोल, बज्रयोगिनी, लप्सेफेदी, नाङ्गलेभारे र फटकशिला

प्रस्तावको विवरण : प्रस्तावित साखु - जर्सिपौवा - फट्केश्वर सडक उपआयोजना सुन्टोल गा.वि.स. को साल्खाबाट शुरु भई फटकशिला गा.वि.स.को फट्केश्वर गएर टुगिन्छ । त्यस्तै जर्सिपौवा - भोटेचौर सडक लप्सेफेदी गाविसको जर्सिपौवाबाट शुरु भई जर्कखोलामा टुगिन्छ । यो सडक साल्खा, लप्सेफेदी, जर्सिपौवा, चौकीभञ्ज्याङ्ग, नाङ्गलेभारे, पांग्रेवास, चापबोट, छापभञ्ज्याङ्ग र फट्केश्वर बस्तीहरु भएर जान्छ । यस सडकको जम्मा लम्बाई २६.८ कि.मि. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्तावित गरिएको छ ।

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

राय सुझाव पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, काठमाण्डौ
टेलिफोन नं.: ०१ ४४८००५, ४४९००८५
फ्याक्स नं.: ०१ ४४९४३२९

सूचना टाँसेको प्रमाणित गर्ने कर्मचारीको नाम: मुफ्ता खरे
पद: प्र.र.
कार्यालयको छाप:



हस्ताक्षर: प्र.र.
कार्यालयको नाम: प्र.र. चौकी नाङ्गलेभारे
मिति: २०६६।०३।२५

श्री श्रीमती विमला वरुण, ले निम्नानुसारको सूचना यस
श्रीमती श्रीमती विमला वरुण, ले निम्नानुसारको सूचना यस
कार्यालयको सूचना पाटीमा टाँसेको ब्योहोरा प्रमाणित गरिन्छ।

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय
काठमाण्डौ

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६।०३।०१)

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

प्रस्तावकको नाम : जिल्ला प्राविधिक कार्यालय, काठमाण्डौ।

प्रस्तावित सडकले प्रभाव पार्ने गा.वि.स.हरु : सुन्टोल, बज्रयोगिनी, लप्सेफेदी, नाङ्गलेभारे र फटकशिला

प्रस्तावको विवरण : प्रस्तावित साँखु - जर्सिपौवा - फट्केश्वर सडक उपआयोजना सुन्टोल गा.वि.स. को साल्खाबाट शुरु भई फटकशिला गा.वि.स.को फट्केश्वर गएर टुगिन्छ। त्यस्तै जर्सिपौवा - भोटेचौर सडक लप्सेफेदी गा.वि.स.को जर्सिपौवाबाट शुरु भई जर्केखोलामा टुगिन्छ। यो सडक साल्खा, लप्सेफेदी, जर्सिपौवा, चौकीभञ्ज्याङ्ग, नाङ्गलेभारे, पांगेवास, चापबोट, छापभञ्ज्याङ्ग र फट्केश्वर बस्तीहरु भएर जान्छ। यस सडकको जम्मा लम्बाई २६.८ कि.मि. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्तावित गरिएको छ।

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

राय सुझाव पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, काठमाण्डौ
टेलिफोन नं.: ०१ ४४८००५, ४४९००८५
फ्याक्स नं.: ०१ ४४९४३२९

सूचना टाँसेको प्रमाणित गर्ने कर्मचारीको नाम :
पद : प्रधानाध्यापक
कार्यालयको छाप :
मिति : २०७७



हस्ताक्षर :
कार्यालयको नाम : श्रीमती श्रीमती विमला वरुण
मिति : २०६६।०३।२५

श्री सिमला खोल ले निम्नानुसारको सूचना यस
गाउँको भित्र रहेको फटकेश्वर सडकको कार्यालयको सूचना पाटीमा टाँसेको ब्योहोरा प्रमाणित गरिन्छ ।

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय
काठमाण्डौ

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६।०३।०९)

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

प्रस्तावकको नाम : जिल्ला प्राविधिक कार्यालय, काठमाण्डौ ।

प्रस्तावीत सडकले प्रभाव पार्ने गा.वि.स.हरु : सुन्टोल, बज्रयोगिनी, लप्सेफेदी, नाङ्गलेभारे र फटकशिला

प्रस्तावको विवरण : प्रस्तावित साँखु - जर्सिपौवा - फटकेश्वर सडक उपआयोजना सुन्टोल गा.वि.स. को साल्खाबाट शुरु भई फटकशिला गा.वि.स.को फटकेश्वर गएर टुगिन्छ । त्यस्तै जर्सिपौवा - भोटेचौर सडक लप्सेफेदी गाविसको जर्सिपौवाबाट शुरु भई जर्केखोलामा टुगिन्छ । यो सडक साल्खा, लप्सेफेदी, जर्सिपौवा, चौकीभञ्ज्याङ्ग, नाङ्गलेभारे, पांग्रेबास, चापबोट, छापभञ्ज्याङ्ग र फटकेश्वर बस्तीहरु भएर जान्छ । यस सडकको जम्मा लम्बाई २६.८ कि.मि. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्तावित गरिएको छ ।

उक्त प्रस्तावकको कार्यान्वयनबाट वातावरणमा पर्नसक्ने प्रभावको बारेमा सम्बन्धित गा.वि.स., विद्यालय, स्वास्थ्य चौकी, वन उपभोक्ता समिति तथा अन्य सरोकारवाला व्यक्ति वा संस्थाले यो सूचना नागरिक राष्ट्रिय दैनिकमा प्रकाशित भएको मितिले १५ (पन्ध्र) दिन भित्र आफ्नो राय सुझाव पठाई सहयोग गरिदिनुहुन अनुरोध गरिन्छ । साथै यसै बमोजिमको राय सुझाव स्थानीय पूर्वाधार विकास तथा कृषि सडक विभाग, जाबलाखेल तथा स्थानीय विकास मन्त्रालय पुल्चोक, ललितपुरमा पनि पठाउन सकिनेछ ।

राय सुझाव पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, काठमाण्डौ
टेलिफोन नं.: ०१-४४८००५, ४४९००८५
फ्याक्स नं.: ०१-४४९४३२९

सूचना टाँसेको प्रमाणित गर्ने कर्मचारीको नाम: श्रीव.ताम
पद: स्थानीय वासिन्दा
कार्यालयको छाप:

हस्ताक्षर: सुप्रब
कार्यालयको नाम: नाङ्गले को भित्र
मिति: २०६६।०३।२५
पसल

श्री विमला खनाल
फटकशिला ठा. वि. स.

ले निम्नानुसारको सूचना यस
कार्यालयको सूचना पाटीमा टाँसेको व्योहोरा प्रमाणित गरिन्छ।

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय
काठमाण्डौ

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६।०३।०१)

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

प्रस्तावको नाम : जिल्ला प्राविधिक कार्यालय, काठमाण्डौ।

प्रस्तावीत सडकले प्रभाव पार्ने गा.वि.स.हरु : सुन्टोल, बज्रयोगिनी, लप्सेफेदी, नाइलेभारे र फटकशिला

प्रस्तावको विवरण : प्रस्तावित साँखु - जर्सिपौवा - फटकेश्वर सडक उपआयोजना सुन्टोल गा.वि.स. को साल्खाबाट शुरु भई फटकशिला गा.वि.स.को फटकेश्वर गएर टुगिन्छ। त्यस्तै जर्सिपौवा - भोटेचौर सडक लप्सेफेदी गा.वि.स.को जर्सिपौवाबाट शुरु भई जर्केखोलामा टुगिन्छ। यो सडक साल्खा, लप्सेफेदी, जर्सिपौवा, चौकीभञ्ज्याङ्ग, नाइलेभारे, पांग्रेबास, चापबोट, छापभञ्ज्याङ्ग र फटकेश्वर बस्तीहरु भएर जान्छ। यस सडकको जम्मा लम्बाई २६.८ कि.मि. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्तावित गरिएको छ।

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

राय सुझाव पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, काठमाण्डौ
टेलिफोन नं.: ०१ ४४८००५, ४४९००८५
फ्याक्स नं.: ०१ ४४९४३२९

सूचना टाँसेको प्रमाणित गर्ने कर्मचारीको नाम: उमेश कुमार
पद: कार्यालय सहायक
कार्यालयको छाप:

हस्ताक्षर: [हस्ताक्षर]
कार्यालयको नाम: जिल्ला विकास समिति
मिति: २०६६।०४।२६



श्री ... विद्यालय ... ले निम्नानुसारको सूचना यस
लप्सेफेदी उप-स्वास्थ्य क्षेत्रको काठमाण्डौ कार्यालयको सूचना पाटीमा टाँसेको ब्योहोरा प्रमाणित गरिन्छ ।

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय
काठमाण्डौ

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६।०३।०१)

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

प्रस्तावकको नाम : जिल्ला प्राविधिक कार्यालय, काठमाण्डौ ।

प्रस्तावीत सडकले प्रभाव पार्ने गा.वि.स.हरु : सुन्टोल, बज्रयोगिनी, लप्सेफेदी, नाङ्गलेभारे र फट्केशिला

प्रस्तावको विवरण : प्रस्तावित साँखु - जर्सिपौवा - फट्केश्वर सडक उपआयोजना सुन्टोल गा.वि.स. को साल्खाबाट शुरु भई फट्केशिला गा.वि.स.को फट्केश्वर गएर टुगिन्छ । त्यस्तै जर्सिपौवा - भोटेचौर सडक लप्सेफेदी गा.वि.स.को जर्सिपौवाबाट शुरु भई जर्कखोलामा टुगिन्छ । यो सडक साल्खा, लप्सेफेदी, जर्सिपौवा, चौकीभञ्ज्याङ्ग, नाङ्गलेभारे, पांगेबास, चापबोट, छापभञ्ज्याङ्ग र फट्केश्वर बस्तीहरु भएर जान्छ । यस सडकको जम्मा लम्बाई २६.८ कि.मि. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्तावित गरिएको छ ।

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

राय सुझाव पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, काठमाण्डौ
टेलिफोन नं.: ०१ ४४८००५, ४४९००८५
फ्याक्स नं.: ०१ ४४९४३२९

सूचना टाँसेको प्रमाणित गर्ने कर्मचारीको नाम: प्रकाश
पद: रा.वि.स. अधिकारी
कार्यालयको छाप:

हस्ताक्षर: [सुचिता]
कार्यालयको नाम:
मिति: २०६६।०३।२५

श्री विमला खरेल
ले निम्नानुसारको सूचना यस
कार्यालयको सूचना पाटीमा टाँसेको ब्योहोरा प्रमाणित गरिन्छ ।

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय
काठमाण्डौ

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६।०३।०१)

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

प्रस्तावकको नाम : जिल्ला प्राविधिक कार्यालय, काठमाण्डौ ।

प्रस्तावीत सडकले प्रभाव पार्ने गा.वि.स.हरु : सुन्टोल, वज्रयोगिनी, लप्सेफेदी, नाङ्गलेभारे र फट्केशिला

प्रस्तावको विवरण : प्रस्तावित साँखु - जर्सिपौवा - फट्केश्वर सडक उपआयोजना सुन्टोल गा.वि.स. को साल्खाबाट शुरु भई फट्केशिला गा.वि.स.को फट्केश्वर गएर टुगिन्छ । त्यस्तै जर्सिपौवा - भोटेचौर सडक लप्सेफेदी गा.वि.स.को जर्सिपौवाबाट शुरु भई जर्केखोलामा टुगिन्छ । यो सडक साल्खा, लप्सेफेदी, जर्सिपौवा, चौकीभञ्ज्याङ्ग, नाङ्गलेभारे, पांगेबास, चापबोट, छापभञ्ज्याङ्ग र फट्केश्वर बस्तीहरु भएर जान्छ । यस सडकको जम्मा लम्बाई २६.८ कि.मि. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्तावित गरिएको छ ।

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

राय सुझाव पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, काठमाण्डौ
टेलिफोन नं.: ०१ ४४८००५, ४४९००८५
फ्याक्स नं.: ०१ ४४९४३२९

सूचना टाँसेको प्रमाणित गर्ने कर्मचारीको नाम: प्रकाश गौतम

पद: ज.प.सी.डी.ओ. (अ.स.स.)

कार्यालयको छाप:

हस्ताक्षर:

कार्यालयको नाम:

ज.प.सी.डी.ओ.स.

मिति: २०६६/०३/०५

श्री कालिका शरण देवी मा. वि. विभला घराना ले निम्नानुसारको सूचना यस
कार्यालयको सूचना पाटीमा टाँसेको व्योहोरा प्रमाणित गरिन्छ ।

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय
काठमाण्डौ

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६/०३/०१)

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

प्रस्तावकको नाम : जिल्ला प्राविधिक कार्यालय, काठमाण्डौ ।

प्रस्तावीत सडकले प्रभाव पार्ने गा.वि.स.हरु : सुन्दोल, बज्रयोगिनी, लप्सेफेदी, नाङ्गलेभारे र फटकशिला

प्रस्तावको विवरण : प्रस्तावित साँखु - जर्सिपौवा - फटकेश्वर सडक उपआयोजना सुन्दोल गा.वि.स. को साल्खावाट शुरु भई फटकशिला गा.वि.स.को फटकेश्वर गएर टुगिन्छ । त्यस्तै जर्सिपौवा - भोटेचौर सडक लप्सेफेदी गा.वि.स.को जर्सिपौवावाट शुरु भई जर्केखोलामा टुगिन्छ । यो सडक साल्खा, लप्सेफेदी, जर्सिपौवा, चौकीभञ्ज्याङ्ग, नाङ्गलेभारे, पांग्रेवास, चापबोट, छापभञ्ज्याङ्ग र फटकेश्वर बस्तीहरु भएर जान्छ । यस सडकको जम्मा लम्बाई २६.८ कि.मि. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्तावित गरिएको छ ।

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

राय सुझाव पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, काठमाण्डौ
टेलिफोन नं.: ०१ ४४८००५, ४४९००८५
फ्याक्स नं.: ०१ ४४९४३२९

सूचना टाँसेको प्रमाणित गर्ने कर्मचारीको नाम:

पद:

कार्यालयको छाप



मिति, २०७०
जर्सिपौवा, लप्सेफेदी
काठमाण्डौ

हस्ताक्षर:

कार्यालयको नाम:

मिति:

श्री कालिका शरण देवी मा. वि.
२०६६/०३/२५

श्री राम कृष्ण शर्मा ले निम्नानुसारको सूचना यस
कार्यालयको सूचना पाटीमा टाँसेको ब्योहोरा प्रमाणित गरिन्छ ।
बज्रयोगिनी २०. बि. ९.

नेपाल सरकार
स्थानीय विकास मन्त्रालय
जिल्ला विकास समितिको कार्यालय
जिल्ला प्राविधिक कार्यालय
जिल्ला आयोजना कार्यालय
काठमाण्डौ

प्रारम्भिक वातावरणीय परीक्षण सम्बन्धी राय सुझावका लागि सार्वजनिक सूचना
(प्रकाशित मिति २०६६।०३।०९)

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

प्रस्तावको नाम : जिल्ला प्राविधिक कार्यालय, काठमाण्डौ ।

प्रस्तावीत सडकले प्रभाव पार्ने गा.वि.स.हरु : सुन्टोल, बज्रयोगिनी, लप्सेफेदी, नाङ्गलेभारे र फटकशिला

प्रस्तावको विवरण : प्रस्तावित साँखु - जर्सिपौवा - फटकेश्वर सडक उपआयोजना सुन्टोल गा.वि.स. को साल्खाबाट शुरु भई फटकशिला गा.वि.स.को फटकेश्वर गएर टुगिन्छ । त्यस्तै जर्सिपौवा - भोटेचौर सडक लप्सेफेदी गा.वि.स.को जर्सिपौवाबाट शुरु भई जर्केखोलामा टुगिन्छ । यो सडक साल्खा, लप्सेफेदी, जर्सिपौवा, चौकीभञ्ज्याङ्ग, नाङ्गलेभारे, पांगेबास, चापबोट, छापभञ्ज्याङ्ग र फटकेश्वर बस्तीहरु भएर जान्छ । यस सडकको जम्मा लम्बाई २६.८ कि.मि. रहेको छ र यसलाई स्तरोन्नति गर्नका लागि प्रस्तावित गरिएको छ ।

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

राय सुझाव पठाउने ठेगाना :

जिल्ला प्राविधिक कार्यालय, काठमाण्डौ
टेलिफोन नं.: ०१ ४४८००५, ४४९००८५
फ्याक्स नं.: ०१ ४४९४३२९

सूचना टाँसेको प्रमाणित गर्ने कर्मचारीको नाम:



राम कृष्ण शर्मा

हस्ताक्षर:

कार्यालयको नाम:

मिति:

राम कृष्ण शर्मा
२०६६/०३/१९

Annex VII: Name of the Organizations

Name of the Organizations (notice pasted and deed of inquiry obtained)

SN	Name or Organization	Address	Remarks
1.	Office of Village Development Committee, Bajrayogini	Bajrayogini	
2.	Office of Village Development Committee, Suntola	Suntola	
3.	Office of Village Development Committee, Lapsephedi	Lapsephedi	
4.	Office of Village Development Committee, Nanglebhare	Nanglebhare	
5.	Office of Village Development Committee, Fatakshila	Fatakshila	
6.	Kalika Saran Higher Secondary School	Jarsingpauwa	
7.	Sankhu Primary School, Bajrayogini	Sankhu	
6.	Jagriti Primary School, Lapsephedi	Lapsephedi, ward no.2	
7.	Bhagyodaya Higher Secondary School	Sankhu, Shankharapur	
8.	Bhim Bahadur Tamang, Grocery Shop, Nangle	Nangle	
9.	Nabeen Gram Shiksha Mandir Lower Secondary School	Nanglebhare	
10.	Lapsephedi Sub-Healthpost Jarsingpauwa	Jarsingpauwa	
11.	Jarsingpauwa Community Forest and Users' Committee	Jarsingpauwa	
12.	Police Chauki Nanglebhare	Nanglebhare	

Source: Field Survey, July, 2009



Annex VIII: List of Persons Consulted

List of persons consulted

S.N.	Name	Address	Occupation
1	Navaraj Kafle	District Forest Office	District Forest Officer
2	Achyut Prasad Dhakal	District Agricultural Development Office	District Agricultural Development Officer
3	Shyam Sundar Shrestha	District Soil Conservation Office	District Soil Conservation Officer
Lapsephedi VDC			
1	Gopilal Shrestha	Lapsephedi	Social worker
2	Ram Lal Subedi	Lapsephedi	Business
3	Saroj Kumar Subedi	Lapsephedi	Farmer
Nanglebhare VDC			
1	Nima Subedi	Nanglebhare	Business
2	Chitra Lama	Nanglebhare	Social Worker
Fatakshila VDC			
1	Dev Raj Jhakri	Fatakshila	Teacher
2	Bhai Raj budhathoki	Fatakshila	Social Worker
3	Dal Pd. Timalsina	Fatakshila	Farmer

Source: Field Survey, July, 2009

Annex IX: Recommendation Letters from VDCs

 **गाउँ विकास समितिको कार्यालय**
 **सुनसरी जिल्ला**


पत्र संख्या : ०६६/०६७
चलानी नं. : १४५

मिति : २०६९/०७/१५

विषय : बायलु माव सम्बन्धमा ।

✓ श्री जिल्ला प्राविधिक कार्यालय,
मध्यवातेखोला, काठमाडौं /

उपरोक्त विषयमा सांखु, जर्जिपौवा, फर्लेखोला, जर्जिपौवा र भोटेचौर सडक आयोजना को लागि तथा प्राविधिक कार्यालयबाट नागरिक सहिदय दैनिक अर्थात् १/२०६६ मा प्रकाशित प्रारम्भिक वातावरणीय परिक्षण सम्बन्धि सार्वजनिक सुनता यस ठाउँलेमा गा. वि. स. को कार्यालय तथा गा. वि. स. को विभिन्न ठाउँ मा छाप गरिएको हो सम्बन्धमा हाम्रो सम्बन्धित ठाउँबाट केही प्रतिकृति नब्याहोले आयोजना सम्बन्धित जहाँ कुनै पनि वातावरणीय नकारात्मक प्रभाव नपरेको छ भन्ने जानकारी को लागि अनुरोध हो ।



गा. वि. स. सचिव



Lapsephadi, Kathmandu

9089

मिति/Date: ०६/०७/२०१९

368

विषय / Subject: राधा कृष्ण राधा कृष्ण

मिलता फुल्लिक का धूल
मध्य का २५ का ५५

[illegible]

~~028/6/96~~
ब.स.स. सचिव



श्री फटकशिला गाउँ विकास समितिको कार्यालय फटकशिला, सिन्धुपाल्चोक

Office of the Phatakshila Village Development Committee

Phatakshila, Sindhupalchok

स्था. २०४७, Estd.: 2047

फोन: ९७५१००८७०६

९८०३५४५३५४

९८०३३६४३५५

मिति: २०६७/०३/०५

प.सं: ०६७/०६८


च.नं: ७६

विषय: सिफारिस ।

श्री जिल्ला आयोजना कार्यालय

ग्रामिण पुननिर्माण तथा पुनर्स्थापना आयोजना,
काठमाण्डौ, नेपाल

उपर्युक्त सम्बन्धमा त्यस जिल्ला आयोजनाको कार्यालय बाट यस गा.वि.स.मा प्राप्त प.सं. ०६७/०६८ च.नं. ४५ मिति २०६७/०६/१७ को पत्र प्राप्त भई व्यहोरा अवगत भयो तत् सम्बन्धमा उक्त वातावरणिय प्रस्ताव कार्यान्वयनको लागी यस गा.वि.स.मा गठन भएको गाउँ स्तरिय पूर्वाधार निर्माण समन्वय समिति अन्य व्यवस्था नभए सम्म श्री देवेन्द्र घोरासैनी अध्यक्षतामा गठित समिति कायम रहनु का साथै त्यस आयोजना र यस गा.वि.स.का राजनैतिक दलका प्रतिनिधी समेतको सहभागितामा मिति २०६६/०९/३० गते त्यस आयोजनाको कार्यालयमा भएको बैठक र सो को सहमतिका आधारमा यस गा.वि.स.बडा नं.१ भन्ज्याङ्गदेखी बडा नं.२ फटकेश्वर सडकको प्रारम्भिक वातावरणिय परिक्षण प्रतिवेदन का सम्बन्धमा सो प्रस्तावको प्रारम्भिक वातावरणिय परिक्षण प्रतिवेदनमा उल्लेख भएका विषय तथा वातावरणिय प्रभाव र संरक्षणका उपाय हरुको यस कार्यालयलाई जानकारी भएकाले सो प्रस्ताव कार्यान्वयनका लागी यस फटकशिला गा.वि.स. अनुरोध गर्दछ ।


कृष्ण प्रसाद घोरासैनी
गा.वि.स. सचिव



श्री फटकशिला गाउँ विकास समितिको कार्यालय

Office of the Phatakashila Village Development Committee

फटकशिला सिन्धुपाल्चोक

Phatakashila Sindhupalchok

संस्थापित: 2047

पत्र संख्या: ०३६०६८

चलानी नं: ८८

मो. ९८०३५४५३५४, ९८०३३६४३५५

मिति २०७८.१०.१०

विषय: जातकारी सम्बन्धमा।

श्री जिल्ला आयोजना कार्यालय,
ग्रामिण पुनर्निर्माण तथा पुनर्स्थापना आयोजना,
बोल्हेतर, काठमाडौं।

प्रहरी पोता

अपेक्षित विषयमा सम्बन्धित फटकशिला सदर आगोज-
-तको तार प्रविधिकु कार्यालयबाट तारिख २०७८
-दतिब २०७८ असार १ गतेको प्रकाशित प्रारम्भिक
-सूचना फटकशिला गाउँ विकास समितिको कार्यालय तथा यस-
-अन्तर्गत विभिन्न गाउँमा राखेर गरिएकोमा यो -
-सम्बन्धमा हाल सम्म कुनै गाउँबाट कुनै निष्कर्ष
-राम सम्बन्धित आयोजना संचालन गर्दा कुनै
-पति वातावरणमा प्रभाव पर्ने छैन भन्ने जानकारी -
-तानी अनुसन्धान गरिएको।

सत्य बहादुर धोरासैकी
ग.वि.क. धोरासैकी
रवा काठमाडौं

Annex X

Annex X a: Distribution of households by major occupation

Annex X b: Summary of public services & infrastructures

Annex X c: Land holding pattern of settlements within ZoI

Annex X d: Number of households belonging to different food security category

Annex Xa: Distribution of Households by Major Occupation

S N	VDC	Settlement/ Code	Number of HH and Percentage of Population engaged in						
			HHs	Agriculture & Livestock	Labour & Porter	Business/Commerce	GO/NGO Employees	Cottage Industry	Others and students
1	Lapsephedi VDC	Jarsingpauwa, Bagdhara	359	160	11	19	18	1	150
2	Naglehare VDC	Nangle, Pangrebas, Chapabot, Chhap, Chhapbhanjyang	648	299	14	19	31	0	285
3	Fatakshila VDC	Chhapbhanjyang, Fatkeshor	102	48	2	4	5	5	38
			1109	507	27	42	54	6	473
	Percentage		100	45.7	2.4	3.8	4.9	0.5	42.7

Source: Field survey, July, 2009

Annex Xb: Summary of Public Services & Infrastructures

Annex XB: Summary of Public Services & Infrastructures

S N	Settlements	EDUCATION				HEALTH		COMMUNICATION (Post office)	ELECTRICITY SUPPLY (National Grid)	BUSINESS & COMMERCE				DRINKING (WSS)	INDUSTRY	INST. Fin	OTHER INFRASTRUCTURES			COMMUNITY USE			
		Higher secondary	secondary	Lower secondary	Primary School	Hospital	HP/SHP			Hotels & Lodges	Restaurant & Tea Stall	Grocery Shops	Other Shops				Spring/Dug-wells	Weaving Industry	Rice & flour Mills	Cooperative	Suspension Bridges	Wooden Bridges	Other Bridges
1	Lapsephedi VDC: Jarsingpauwa, Bagdhara	1	-	1	5	-	1	1	√	3	2	5	2	1	1	2	4	-	-	-	-	-	1
2	Nanglebhare VDC: Nangle, Pangrebas, Chapabot, Chhap, Chhapbhanjyang	1	-	2	3	-	1	1	√	1	3	7	3	1	1	3	2	-	-	-	-	-	1
3	Fatakshila VDC: Chhapbhanjyang, Fatkeshor	-	1	1	2	-	1	1	√	1	2	4	1	-	-	2	2	-	-	-	-	-	1
	Total	2	1	4	10	-	3	3	√	5	7	16	6	5	2	7	8	-	-	-	-	-	3

Source: Field survey, July, 2009 (HP: Health post, SHP: Sub Health Post, WSS: Water Supply Scheme)

Annec X c: Land Holding Pattern of Settlements within Zol

S. N.	Influenced VDCs	Ownership /land holdings						
		Distribution of HHs						
		Landless	Less than one ropani	1-5 ropani	5-10 ropani	10-20 ropani	20-50 ropani	More than 50 ropani
1	Lapsephedi VDC: Jarsingpauwa, Bagdhara	-	349	-	5	-	5	-
2	Naglehare VDC: Nangle, Pangrebas, Chapabot, Chhap, Chhapbhanjyang	-	25	618	5	-	-	-
3	Fatakshila VDC: Chhapbhanjyang, Fatkeshor	-	-	102	-	-	-	-
Total		-	374	720	10	0	5	-
Percentage		-	33.7	64.9	0.9	0	0.5	-

Source: Field survey, July 2009

Annex X d: Number of Households Belonging to Different Food Security Category

S.N	Settlement Name	Surplus	Sufficient for 9-12 months	Sufficient for 6-9 months	Sufficient for 3-6 months	Less than three months	Total
1	Lapsephedi VDC: Jarsingpauwa, Bagdhara	-	-	-	315	44	359
2	Naglehare VDC: Nangle, Pangrebas, Chapabot, Chhap, Chhapbhanjyang	-	145	161	224	118	648
3	Fatakshila VDC: Chhapbhanjyang, Fatkeshor	-	-	-	36	66	102
Total		-	145	161	575	228	1109
Percentage		-	13.1	14.5	51.8	20.6	100

Source: Field survey, July 2009

Annex XI :**Annex XI a: List of Affected Trees****Annex XI b: Vegetation Found in the Project Area****Annex XI c: Wild Animals Found in the Project Area****Annex XI a: List of Affected Trees**

SN	Chainage		Location	Type	Species	No	Girth (m)	Height
	From	To						
1	11+026	13+493	Bhasmebasurane community Forest Fatakshila -1	Timber	Chilaune	4	0.60	3.00
2	11+026	13+493	Bhasmebasurane community Forest Fatakshila -1	Timber	Uttis	3	0.50	3.00
3	13+493	13+583	Nepalthok Community Forest Fatakshila-2	Timber	Uttis	5	0.80	3.50
4	13+493	13+583	Nepalthok Community Forest Fatakshila-2	Timber	Uttis	3	0.45	3.00
5	13+493	13+583	Nepalthok Community Forest Fatakshila-2	Timber	Katus	4	0.50	3.00
Total						19		

Annex XI b: Vegetation Found in the Project Area

S.N.	Local Name	Scientific Name	Use
1	Uttis	<i>Alnus nepalensis</i>	Fodder
2	Chilaune	<i>Schima wallichii</i>	Fodder
3	Salla	<i>Pinus roxburghii</i>	Fodder
4	Katus	<i>Castanopsis indica</i>	Fodder
5	Aaru	<i>Pashia sp</i>	Food
6	Lapsi	<i>Choerospondias axillaries</i>	Food
7	Phalant	<i>Quercus lamellose</i>	

Annex XI c: Wild Animals Found in the Project Area

S.N	Local Name	Common Name	Scientific Name	Remark
Animals				
1		Common Mongoose	<i>Herpetes edwardsii</i>	
2	Syaal	Jackal	<i>Canis aureus</i>	
3	Badar	Monkey	<i>Macaca mulatta</i>	
4	Mirga	Barking Deer	<i>Muntiacus muntjak</i>	
5	Ban Biralo	Jungle Cat	<i>Felis chaus</i>	
6	Dumsi	Porcupine	<i>Hystrix indica</i>	
7	Lokharke	Squirrel	<i>Ratufa sp.</i>	
Birds				
7	Bhangera	Sparrow	<i>Passer domesticus</i>	
8	Kaag	Crow	<i>Corvus splendens</i>	
9	Kalij	Pheasant	<i>Lophura leucomelana</i>	
10	Parewa	Pegion	<i>Columba livia</i>	

Annex XII: Photographs



Road alignment area at starting point



Soil erosion due to road cutting and surface runoff at Ch. 3+700



Soil Erosion on exposed slope due to road cutting at Ch. 5+400



Soil Erosion on exposed slope due to road cutting at Ch. 6+900



Quarry Site at Ch. 2+500



End Point at Fatkeshor of Fataksila VDC



Affected Balcony of house at ch. 2+550 to 2+557



Affected Balcony of house at ch. 2+560 to 2+593



Affected Balcony of house at ch. 2+560 to 2+593



Affected Balcony of house at ch. 2+593 to 2+620



Affected Ganesh Temple at Ch. 2+560 to 2+593



Affected house at ch. 4+620 to 4+650

Annex XIII: Summary of Cross Drainage Structures

SN	Chainage	Name of the river	Terrain	Type of Cross Drainage	Width of Cross Drainage (m)	Soil type	Remarks
1	4+180		Hills	HPC	7.5	HS	Three Pipes of 2.5m
2	4+700		Hills	HPC	7.5	HS	Three Pipes of 2.5m
3	4+920		Hills	HPC	7.5	HS	Three Pipes of 2.5m
4	5+080		Hills	HPC	7.5	HS	Three Pipes of 2.5m
5	5+840		Hills	HPC	7.5	HS	Three Pipes of 2.5m
6	6+440		Hills	HPC	7.5	HS	Three Pipes of 2.5m
7	8+560		Hills	HPC	7.5	HS	Three Pipes of 2.5m
8	9+260		Hills	HPC	7.5	HS	Three Pipes of 2.5m
9	9+560		Hills	HPC	7.5	HS	Three Pipes of 2.5m
10	10+380		Hills	HPC	7.5	HS	Three Pipes of 2.5m
11	11+100		Hills	HPC	7.5	HS	Three Pipes of 2.5m
12	11+380		Hills	HPC	7.5	HS	Three Pipes of 2.5m
13	12+040		Hills	HPC	7.5	HS	Three Pipes of 2.5m
14	12+400		Hills	HPC	7.5	HS	Three Pipes of 2.5m
15	12+900		Hills	HPC	7.5	HS	Three Pipes of 2.5m

List of RCC Causeway

SN	Chainage	Span (m)	Width (m)	Thickness (m)
1	12+560	5	6.0	0.2

Source: Field survey, July, 2009

Note:- HPC-Hum Pipe Culvert

Annex XIV: Structure for Slope Stabilization

Chainage: 0+000-13+530					
SN	Chainage	Civil structures/Mitigation Measures	Bio-engineering Measures	Length (m)	Remarks
1	1+520	Gabion Retaining Wall		8.0	Right Side
2	2+680	Gabion Retaining Wall		8.0	Right Side
3	2+780	Gabion Retaining Wall		10.0	Left Side
4	2+820	Gabion Retaining Wall		8.0	Left Side
5	2+840	Gabion Retaining Wall		8.0	Left Side
6	4+620	Gabion Retaining Wall		8.0	Right Side
7	5+120	Gabion Retaining Wall		8.0	Right Side
8	5+160	Gabion Retaining Wall		8.0	Right Side
9	5+400	Gabion Retaining Wall		8.0	Left Side
10	6+160	Gabion Retaining Wall		8.0	Left Side
11	6+760	Gabion Retaining Wall		8.0	Left Side
12	7+600	Gabion Retaining Wall		10.0	Left Side
13	7+700	Gabion Retaining Wall		10.0	Left Side
14	8+000	Gabion Retaining Wall		8.0	Right Side
15	8+020	Gabion Retaining Wall		8.0	Right Side
16	8+040	Gabion Retaining Wall		10.0	Right Side
17	8+220	Gabion Retaining Wall		12.0	Right Side
18	8+720	Gabion Retaining Wall		8.0	Left Side

19	8+740	Gabion Retaining Wall		8.0	Left Side
20	8+760	Gabion Retaining Wall		8.0	Left Side
21	8+780	Gabion Retaining Wall		8.0	Left Side
22	9+180	Gabion Retaining Wall		10.0	Left Side
23	11+700	Gabion Retaining Wall		8.0	Left Side
24	0+560	Gabion Breast Wall		8.0	Left Side
25	0+720	Gabion Breast Wall		8.0	Left Side
26	1+280	Gabion Breast Wall		8.0	Left Side
27	1+300	Gabion Breast Wall		8.0	Left Side
28	0+960	Stone Masonry/Retaining Wall		8.0	
29	5+440	Stone Masonry/Retaining Wall		8.0	
30	8+360	Stone Masonry/Retaining Wall		8.0	
31	9+200	Stone Masonry/Retaining Wall		8.0	
32	11+440	Stone Masonry/Retaining Wall		8.0	

Source: Field Survey, July, 2009

Annex XV: Affected Public and Private Structures

S.N.	Chainage		Name of the owner	VDC	Structure Type	Distance from CL of Road	Materials used for construction
	From	To					
Private Structures							
1	2+550	2+557	Dil Kumari Lamichhane	Nagalabhara	Balcony of House	2.3	Wood, zinc sheet and stone, mud mortar
2	2+560	2+593	Seti Shrestha with four person	Nanglebhare	Balcony of House	2.4	Wood, zinc sheet and stone, mud mortar
3	2+560	2+593	Bharat Man Shrestha	Nanglebhare	Balcony of House	2.3	Wood, zinc sheet and stone, mud mortar
4	2+593	2+620	Saroj Raj Shrestha	Nanglebhare	Balcony of House	2.3	Wood, zinc sheet and stone, mud mortar
5	2+720	2+760	Krishna Bdr. (Thakur Rame) Shrestha	Nanglebhare	Balcony of House	2.3	Wood, zinc sheet and stone, mud mortar
6	4+620	4+650	Sukuram Tamang	Nanglebhare	House	2.1	Mud mortar
7	4+680	4+720	Khil Prasad Dangal	Nanglebhare	Balcony of House	2.1	Wood, zinc sheet and stone, mud mortar
8	5+690	5+695	Badri Dhakal	Nanglebhare	Balcony of House	2.3	Wood, zinc sheet and stone, mud mortar
Public Structures							
1	2+560	2+593		Nanglebhare	Ganesh Mandir (temple)	2.2	Mud mortar

Summary of Resettlement Plan Cost

Item		Unit	Total loss	Amount (NRs.)	Remarks
1. DIRECT COST					
1.1	Public structure (Ganesh Temple)	No.	1	51,549.90	
1.3	Private structure (house,& Bardali)	No.	4	1,033,211.79	
1.4	Trees (Community Forest)	No.	19	24,283.18	
1.5	Reserve fund for unavailable land owner	plots	129	1,500,000.00	
	Sub-total			2,609,044.87	
2. INDIRECT COST					
2.1	Transportation and dismantling allowance	LS	2hhs	20,814.41	
2.2	Rental Stipend	LS	1hh	12,000.00	for 3 months
2.3	Deed Transfer Assistance	Plots	193	482,500.00	@ 2500 per plot
2.4	Official Deed Transfer fees	LS		500,000.00	
	Sub-Total			1,015,314.41	
3	Income generation and Livelihood improvement programme	LS		526,000.00	
4	Appreciation Program for APs	LS		300,000.00	
	Sub-Total			826,000.00	
	Total			4,450,359.28	
5	Provisional Sum (5%)			130,452.24	
GRAND TOTAL				4,580,811.52	



नाङ्गलेभारे गाउँ विकास समितिको कार्यालय

नाङ्गलेभारे, काठमाडौं

फोन ०१६२१५७४०

पसं :

०६७/०६८

चनं :

३२५

मिति : ०६७/१२/२८

विषय : सिफारिसा पत्र पठाउनु ।

एजेन्सी को जो मल सेज पत्र पठाउनु २०८५९

उपरोक्त विषयमाथि नाङ्गलेभारे गाउँ विकास समिति
को ६ नम्बरी केदारमान खेडले प्रष्ट जानकारी
दिनु भएको विवेकानन्द मानव मौजिम विवरले विवरले आफ्ना
दुर्गति प्रष्टमाथि काममा भएको जग्गा भित्र जग्गा ल्याउन
मन्दीरलाई आवश्यक पर्ने जग्गा दिने भन्ने भन्ने भन्ने
नामा दिएरले सोही अनुसार सिफारिसा गरिदछु ।

(Signature)

मानवमौजिम विवरले

(Signature)

मा. वि. म. तन्त्रि

