

- 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
- Project alternative
 - Alternative routes
 - Alternative design and construction approach
 - Alternative schedule and process
 - Alternate resources
 - 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:
- Physical Impacts:** such as land, air, water, noise, infrastructure impacts and other factors
 - Biological Impacts:** such as flora, and fauna, population, and natural habitats and ecosystems
 - 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

ToR for IEE of
Sildhunga-Jethal-Thauthali-Tekanpur Road Subproject

April 2009

- Recommendation letters from municipality and VDC's
- Existing condition
 - a. Distribution of household by major occupation
 - b. Summary of public services and infrastructures according to settlement
 - c. Land holding pattern of settlements within ZoI
 - d. Number of households belonging to different food security category
- List of trees
- Maximization of slope cutting and preservation of vegetation cover
- Photographs

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Annex II: Rapid Environmental Assessment (REA) Checklist

Rapid Environmental Assessment (REA) Checklist

Instructions:

- This checklist is to be completed with the assistance of an Environment Specialist.
- This checklist focuses on environmental issues and concerns.
- 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.

Project Title:

Rural Reconstruction and Rehabilitation Sector Development Project
(RRRSDPP)

Subproject:

Sildhunga-Jethal-Tauthali-Tekanpur Road Sub-Project in Sindhupalchowk
District

SCREENING QUESTIONS	Yes	No	REMARKS
A. Project Siting 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
■ alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site?		√	
■ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		√	
■ increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing?		√	
■ noise and vibration due to blasting and other civil works? ■ dislocation or involuntary resettlement of people	√	√	
■ other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress?		√	
■ hazardous driving conditions where construction interferes with pre-existing roads?		√	
■ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations?		√	
■ creation of temporary breeding habitats for mosquito vectors of disease?		√	
■ dislocation and compulsory resettlement of people living in right-of-way?	√		houses will be severely affected
■ accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials and loss of life?	√		Due to road situation, geography and its stander, accident can happen but till date its frequency is very less.
■ increased noise and air pollution resulting from traffic volume?	√		Very less as because of the earthen surface
■ increased risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road?		√	

Annex III: Photographs



Starting point of the road at Sildhunga.



Bhangeli Chapp CF at Ch1+700



Pahere Kholsa (Ch 2+660): one of the stone quarry site in Jethal.



Vertical cliff (Ch 6+950):
Betase in Tauthali VDC



Public consultation meeting at Tekanpur



Jethal Khola (Ch 4+750) :
Minor slide area along the alignment



Alignment through Tauthali Settlement
Ch 8+700



Alignment passing through agriculture
land in Jethal VDC (Ch 3+990)



Exposed rock along the alignment at Ch 4+980



End point of the alignment at Damsite,
Balka (Ch 22+921).

Annex IV: RRRSDP Environmental Checklist

A. GENERAL SOCIO-ECONOMIC SITUATION OF THE INFLUENCE AREA

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

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

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

2. Economic activities/main occupation

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

3. Existing services and infrastructures

S. N.	Service/Infrastructure	Settlement Code									
		A	B	C	D	E	F	G	H	I	J
1	Category										
1.1	EDUCATION										
1.2	Campus (no.) Students (no.)										
1.3	High School (no.) Students (no.)										
2	Primary School (no.) Students (no.)										
2.1	HEALTH										
2.2	Hospital /health centre (no.)										

	Capacity (beds)												
3	Health Post (no.) Sub-Health Post (no.)												
3.1	COMMUNICATION												
3.2	Telephone/fax												
3.3	Mobile/CDMA												
4	Post Office												
4.1	ELECTRICITY SUPPLY (no. of Hhs)												
4.2	from Micro-hydro												
4.3	from Mini-hydro												
4.4	from National Grid												
4.5	from Solar System												
5	from Diesel Generator												
5.1	BUSINESS & COMMERCE												
5.2	Hotels & Lodges (no.)												
5.3	Restaurants & Tea Stalls (no.)												
5.4	Grocery Shops (no.)												
6	Other Shops (no.) (e.g. stationery, medicine, tailoring, fancy/cloth etc.)												
6.1	DRINKING WATER SUPPLY SCHEMES												
6.2	Gravity-Flow Scheme (capacity)												
6.3	Tube-wells (no.)												
7	Spring/Dug-wells (no.)												
7.1	IRRIGATION SCHEMES												
7.2	Surface Irrigation (ha.)												
8	Groundwater (ha.)												
8.1	OTHER INFRASTRUCTURES												
8.2	Micro-hydro scheme (no. & capacity.....kw)												
8.3	Water Mill (no.)												
8.4	Suspension Bridges (no.)												
8.5	Wooden Bridges (no.)												
9	Other Bridges (specify)												
9.1	INDUSTRY												
9.2	Weaving Industry (no.)												
9.3	Rice & flour Mills (no.)												
10	Other Industries												
10.1	FINANCIAL INSTITUTIONS												
10.2	Bank (no.)												
11	Cooperative												
11.1	COMMUNITY USE												
11.2	Ghat (no.)												
11.3	Hatia/Bazaar (no.)												
11.4	Playground (no.)												
11.5	Community Centre (no.)												
11.6	Community Organisation												
1	Others (specify)												

4. Land holding pattern

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

5. Food grain availability (HH no.)

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

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

S. No.	Type of Agriculture Production	Settlements									
		A	B	C	D	E	F	G	H	I	J
1.0	CEREALS										
1.1	Rice										
1.2	Wheat										
1.3	Maize										
1.4	Millet										
1.5	Junelo										
1.6	Phaper										
1.7	Others (list)										
2.0	CASH CROPS										
2.1	Oil Seeds										
2.2	Beans/Dal										
2.3	Tobacco										
2.4	Potato										
2.5	Vegetables										
2.6	Fruits										
2.7	Tea/Coffee										

2.8	Amliso												
2.9	Sericulture												
2.10	Others (list)												
3.0	LIVESTOCK & FISHERIES												
3.1	Cattle (cows & buffaloes)												
3.2	Horses, Mules												
3.3	Yak												
3.4	Goat												
3.5	Sheep												
3.6	Rabbit												
3.7	Pig												
3.8	Fisheries												
3.9	Poultry												
3.10	Bee-keeping												
3.11	Others												

7. Migration for employment

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

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

8. Name of settlement:

Address:

A. Seasonal migration in search of work

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

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

- 1.....
- 2.....
- 3.....

C. DEVELOPMENT POTENTIAL OF THE INFLUENCE AREA

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

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

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

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

D. Historic and Cultural Resources

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

E. Name of Existing Community Organisation

F. Trading pattern - Imported items and Exported Items


G.a. Travel time from starting point - By Walking, By Vehicle

G.b. Transportation cost - Porter, Mule, Vehicle

Annex V Abstract of Cost

Abstract of cost				
Name of Subproject: Sildhunga Tauthali Tekanpur Road			Chainage: CH 0+000 - CH 22+921	
Item No	Description	Unit	Quantity	Total Cost (NRs.)
1	General			
1.1	Insurance of Works, Plants and Materials			400,000.00
1.2	Insurance for worker	L.S.		400,000.00
1.2	Occupational health safety	L.S.		250,000.00
1.3	Providing Site Office For Supervising Team	L.S.		192,000.00
1.4	VICC Operation and Management Cost	L.S.		600,000.00
1.5	Environmental Monitoring Cost	L.S.		280,000.00
1.6	Transportation Means for Supervisors	L.S.		400,000.00
2	Site Clearance	m ²	13,603.57	113,774.78
3	Earthworks	m ³	217286.190	62,017,268.04
4.00	Stone masonry work including full compensation for all labour, materials and other incidentals required to complete the work. It includes full compensation for using specially dressed stones on the face of walls with batter.			
4.10	Dry stone masonry (For Dry wall)	m3	1,258.95	1,588,278.90
4.20	Stone Masonry Wall	m3	2,742.44	10,984,880.91
5.00	Gabion Masonry Work			
5.10	Supply and delivery of gabion (all heavy coated)	Mt.	189.26	13,910,896.65
5.20	Fabrication of gabion boxes including rolling, cutting, weaving (Hexagonal Mesh Size:	Nos.	7,765.00	1,308,618.68
5.30	Stone packing in gabion Box, with face stone dressed	m3	14,115.00	12,350,398.64
5.40	Transportation of gabion wires to the site	Kg	189,263.90	304,551.88
6.00	Cross Drainage Structures	Nos.	61.00	4,868,318.12
6.10	Irrigation Crossings	m2	510.00	219,235.07
	Sub Total			219,235.07
			Excluding Bio-Engine	110,188,221.68
7.00	Bio Engineering works(3% of Total)			
	TOTAL			113,493,868.33
	A. Abstract of cost carried out through RBGs			
	Cost of works			27,504,339.22
	Work Charge Establishment (Staff)(2.5% of Total)			687,608.48
	Operational Petty Expenses(2.5% of total)			687,608.48
	Total cost for RBGs works			28,879,556.18
	B. Works carried out through contractor			
	Cost of works			85,989,529.11
	Provision for contractor's overhead expense (15% of I)			12,898,429.37
	II.Sub Total			98,887,958.48
	VAT 13% on contractor work			12,855,434.60
	III.Sub Total			111,743,393.08
	Work Charge Establishment (Staff)(2.5% of Total)			2,793,584.83
	Operational Petty Expenses(2.5% of total)			2,793,584.83
	Total cost for contract works			117,330,562.74
	Grand Total for the project construction			146,210,118.92
	Cost per Km by Contract			6,378,754.85

Annex VI: Public Notice



जनदिशा

Janadisha National Daily राष्ट्रिय दैनिक

www.krishnasenonline.org

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

ग्रामीण पुननिर्माण तथा पुनस्थापना आयोजना
जिल्ला आयोजना कार्यालय, सिन्धुपाल्चोक, चौतारा
प्रारम्भिक वातावरणीय परीक्षण (IEE) सम्बन्धी राय सुझावका लागि
सार्वजनिक सूचना

(सूचना प्रकाशित मिति: २०६६/०२/२२)

ग्रामीण पुननिर्माण तथा पुनस्थापना आयोजना (RRRSDP) अन्तर्गत एशियाली विकास बैंक, ट्रिफिड तथा स्वीस सरकार विकास नियोगको अनुदान सहयोग तथा ओफिडको ऋण सहयोग तथा नेपाल सरकार, जिल्ला विकास समिति र लाभग्राही समेतको सगानीमा स्तरोन्नती गर्नको लागि प्रस्ताव गरिएको नौबिसे-चौतारा- मेलम्ची सडक उप आयोजना र सिलबुङ्गा - जेठल-तीर्थली -टेकानपुर सडक उप आयोजनाको प्रारम्भिक वातावरणीय परीक्षण (IEE) प्रतिवेदन कार्यान्वयन गर्न सिलसिलामा वातावरणीय संरक्षण नियमावली २०५४ (पहिलो संसोधन २०५५ समेत) को नियम ७२(२) अनुसार यो सार्वजनिक सूचना प्रकाशित गरिएको छ।

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

प्रस्तावित सडक उपआयोजनाहरूको विवरण:-

क्र.सं.	सडकको नाम:	प्रभाव पार्ने गा.वि.स.हरू	प्रस्तावको विवरण	सम्बाई
१	नौबिसे-चौतारा- मेलम्ची सडक उप आयोजना	फुलिपडकोट, वतासे, कुविण्डे, चौतारा, पिपलडाँडा, कुन्चोक, नवलपुर र शिखरपुर	यो उप आयोजना फुलिपडकोट गा.वि.स.को नौबिसे बजारबाट शुरु भई शिखरपुर गा.वि.स.को सिम्लेमा गई टुङ्गिन्छ। यो सडकमा नौबिसे बजार, कुविण्डे बजार, चौतारा बजार, पिपलडाँडा, कुन्चोक डाँडा, नवलपुर बजार, शिखरपुर बजार र मेलम्ची बजार आदि बस्तीहरू पर्दछन्।	३७.९ कि.मि.
२	सिलबुङ्गा-जेठल-तीर्थली-टेकानपुर सडक उप आयोजना	जेठल, तीर्थली र टेकानपुर	यो उप आयोजना जेठल गा.वि.स.को सिलबुङ्गाबाट शुरु भई टेकानपुर गा.वि.स.को सुनकोशी ड्यामसाईडमा गई टुङ्गिन्छ। यो सडकमा सिलबुङ्गा, कार्की टोल, माफ टोल, गणेशथान टोल, साउनेपानी टोल र बाल्का आदि बस्तीहरू पर्दछन्।	२३.५ कि.मि.

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

राय सुझाव पठाउने ठेगाना:-

जिल्ला विकास समितिको कार्यालय, सिन्धुपाल्चोक फोन नं ०११-६२०१०२ फ्याक्स ०११-६२००८७	जिल्ला प्राविधिक कार्यालय, सिन्धुपाल्चोक फोन नं ०११- ६२०३३८ फ्याक्स ०११-६२०३७७
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A Sample of Public Notice

Government of Nepal
Office of District Development Committee, Sindhupalchowk

Public notice for comments and suggestion on the Initial Environmental Examination

(Date of first publication: 5 June, 2009)

An Initial Environmental Examination (IEE) report is under preparation for the implementation of Sildhunga-Jethal-Tauthali-Tekanpur road sub-project in Jethal Tauthali and Tekanpur VDCs of Sindhupalchowk district by Rural Reconstruction and Rehabilitation Sector Development Programme (RRRSDP). In accordance with the provision of the Rule 7 (2) of the Environment Protection Rules 1997, this public notice has been published to solicit comments and suggestions, in writing, about the impacts of the sub-project on the environment and local people within 15 days from the first date of its publication in Janadisha, national daily newspaper in the following address. Comments and suggestions may be sent to Department of Local Infrastructure Development and Agricultural Roads, Jawalakhel and Ministry of Local Development, Pulchowk, Lalitpur.

Address:-

District Development Committee (DDC)
Chautara, Sindhupalchowk
Telephone No. – 011-620377
Fax No. – 011-620087

District Technical Office (DTO)
Chautara, Sindhupalchowk
Telephone No. –011-620338
Fax No. – 011-620087

A Sample of Deed of inquiry

This is to certify that District Project Office, Sindhupalchowk has affixed the following notice in the notice board of Jethal VDC, Sindhupalchowk.

Government of Nepal

Office of District Development Committee, Sindhupalchowk

Public notice for comments and suggestion on the Initial Environmental Examination

(Date of first publication: 5 June, 2009)

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Chautara, Sindhupalchowk

Telephone No. –011-620338

Fax No. – 011-620087

Name of person certifying the affix of notice: Mr.

Designation: Technical Assistant

Office: Village Development Committee,

Office Seal (stamp):

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

S.N	Name of the organization	Address	Remarks
1	Office of Jethal Village Development Committee.	Jethal, Sindhupalchowk District.	
2	Office of Tauthali Village Development Committee.	Tauthali Sindhupalchowk District.	
3	Office of Tekanpur Village Development Committee.	Tekanpu, Sindhupalchowk District.	
4	District Forest Office.	Chautara, Sindhupalchowk.	
5	Bhangali Chhap Community Forest User Group.	Jethal , Sindhupalchowk	
6	Mulkharka Community Forest User Group.	Jethal, Sindhupalchowk	
7	Dudhila Community Forest User Group.	Tauthali, Sindhupalchowk	
8	Bhumidevi Community Forest User Group.	Tauthali, Sindhupalchowk	
9	Dabibhirkharka Community Forest User Group.	Tekanpur, Sindhupalchowk	
10	Sanakishan Agriculture Co-operative Ltd.	Jethal-5, Sindhupalchowk	
11	Jaleshowery Lower Sec. School.	Jethal-2, Sindhupalchowk	
12	Tripurasundari Secondary School.	Tauthali-3, Sindhupalchowk	
13	Bhagbhairab Lower Sec. School.	Tauthali-7, Sindhupalchowk	
14	Kalika Secondary School.	Tekanpur-5, Sindhupalchowk	
15	Agriculture Development Committee.	Jethal, Sindhupalchowk	
16	Jethal Sub health post office.	Jethal, Sindhupalchowk	
17	Tauthali Sub health post office.	Tauthali, Sindhupalchowk	
18	District Agriculture Development Office	Chautara, Sindhupalchowk.	

Annex IX: List of persons consulted

SN	Name	Designation	Address
1.	Krishna P. Aryal	Local Development Officer	District Development Committee Chautara, Sindhupalchowk
2.	Ram Chandra Shrestha	DE	District Technical Office (DTO), Sindhupalchowk
3.	Pawan Kaji Shrestha	DPO-Engineer	District Project Office, Sindhupalchowk
4.	Shiva Aryal	Engineer	DDC, Sindhupalchowk
5.	Buddhi Baral	Engineer	DIST, Sindhupalchowk
6.	Niranjan Shrestha	District Forest and Soil Conservation Officer	District Forest and Soil Conservation office, Chautara, Sindhupalchowk
7.	Sukman Bamjan	Assistant Forest Officer	District Forest office, Sindhupalchowk
8.	Lokendra Bohora	Chief - DADO	District Agriculture Development office(DADO), Sindhupalchowk
9.	Roshan Tamang	Teacher	Jethal-4, Sindhupalchowk
10.	Shantalal Shrestha	Farmer	Jethal-2, Sindhupalchowk
11.	Bishnu Kumar Shrestha	Social Service	Jethal-2, Sindhupalchowk
12.	Pramila Shrestha	Farmer	Jethal-2, Sindhupalchowk
13.	Sabina Shrestha	Farmer	Jethal-2, Sindhupalchowk
14.	Sabita Shrestha	Farmer	Tauthali-4, Sindhupalchowk
15.	Salina Shrestha	Carpenter	Tauthali-4, Sindhupalchowk
16.	Durga maya Shrestha	Teacher	Tauthali-5, Sindhupalchowk
17.	Narendra Tuladhar	Teacher	Tauthali-6, Sindhupalchowk
18.	Dipak B.K	Student	Tauthali-7, Sindhupalchowk
19.	Lila Bdr.shrestha	Farmer	Tauthali-8, Sindhupalchowk
20.	Pemba Tamang	Farmer	Tauthali-8, Sindhupalchowk
21.	Sabitri B.k	Farmer	Tauthali-7, Sindhupalchowk
22.	Dal Bdr. Sharki	Farmer	Tekanpur-4, Sindhupalchowk
23.	Bhupendra Shrestha	Teacher	Tekanpur-5, Sindhupalchowk
24.	Ram K shrestha	Farmer	Tekanpur-5, Sindhupalchowk
25.	Arjun Bohora	Farmer	Tekanpur-7, Sindhupalchowk
26.	Bhakta Shrestha	Bussiness	Tekanpur-5, Sindhupalchowk
27.	Laxmi Shraki	Farmer	Tekanpur-5, Sindhupalchowk
28.	Punya B. Bohora	Farmer	Tekanpur-5, Sindhupalchowk
29.	Shruka Maya Shrestha	Social Service	Tekanpur-1, Sindhupalchowk
30.	Rana B.Khadka	Farmer	Tekanpur-2, Sindhupalchowk
31.	Durga Poudel	Farmer	Tekanpur-5, Sindhupalchowk
32.	Shiva Ram Shrestha	VDC Secretary	Jethal, Sindhupalchowk
33.	Khadga B. Shrestha	VDC Secretary	Tauthali, Sindhupalchowk
34.	Chetnath Timalisina	VDC Secretary	Tekanpur, Sindhupalchowk
35.	Hiralal Shrestha	Chairperson	Bhagelichhap CFUG, Jethal
36.	Uttam Bhakta Shrestha	Chairperson	Dudhila CF, Tauthali
37.	Shankar Budhathoki	Chairperson	Dhabibhirkharka CFUG, Tekanpur, Sindhupalchowk
38.	Kailash Bhandari	Teacher	Tauthali-7, Sindhupalchowk
39.	Chandra Narayan Shah	A.H.O	Tauthali sub health post.
40.	Bhim Pd.Dahal	A.H.O	Jethal sub health post.

Annex X. Table showing summary of meeting minutes

Date	Location	Address	Issues and Suggestion of the meeting	Remarks
2066/5/22 BS (7/9/09 AD)	Sildhunga	Jethal VDC-5, Sindhupalchowk	<ul style="list-style-type: none"> • During the construction, houses and land at chainage 1+500 should be protected properly. Measures should be adopted to minimize the likely damage to be caused during road construction. • Compensatory plantation should be done in CF • Soil erosion and water management should be done properly during road construction. • Training should be given to the Affected Persons (APs). 	Relevant issues raised by local people during FGD are incorporated in their respective impact and mitigation measures.
2066/5/22 BS (7/9/09 AD)	Jethal	Jethal VDC-2, Sindhupalchowk	<ul style="list-style-type: none"> • Proper measures should be adopted to minimize the likely damage to be caused to the land, water resources, school and forest from the road construction. 	
2066/5/23 BS (8/9/09 AD)	Tauthali	Tauthali VDC, Sindhupalchowk	<ul style="list-style-type: none"> • Drinking water pipe and Ganesh temple of the Tauthali Bazar may be affected during the road construction. So proper care should be done. • Spoil management should be done properly 	
2066/5/23 BS (8/9/09 AD)	Gairigaun	Tauthali-7, Sindhupalchowk	<ul style="list-style-type: none"> • Drinking water supply sources and irrigation canal falling along the road alignment should be conserved • Construction work to be carried out to protect houses, land and forest along the road alignment. • Spoil management should be done properly. 	
2065/8/24 BS (9/9/09 AD)	Bagkhor	Tekanpur VDC, Sindhupalchowk	<ul style="list-style-type: none"> • Drinking water supply, school, foot trail and temple falling on road alignment should be rehabilitated. • Spoil management should be done properly. 	
2065/8/24 BS (9/9/09 AD)	Bukeni	Tekanpur VDC - 5, Sindhupalchowk	<ul style="list-style-type: none"> • Community infrastructures (school, Temple, drinking water pipe etc) falling along the road alignment should be properly managed. • Spoil management should be done properly. • Compensatory plantation should be done in CF. 	

Annex XI a. Settlement along the road alignment

SN	Major Settlements	VDCs & ward no.	Total Households	Total Population	Caste
1.	Sildhunga (Lokharke, Newar tole, Gewar tole, Pandey tole and Gear)	Jethal-4,5,6	160	800	Tamang,Newar, Pandey,Chhetri
2.	Jethal (Totale, Majtole, Cheutole)	Jethal-1,2,3	170	1200	Newar,Sunuwar, Chherti
3.	Tauthali (Japsile, Lawali, Bilghowa, Barna, Jhyampo)	Tauthali-2	200	1100	Newar, Kusule. Kapali
4.	Gairigaon (Khagal, B.K tole, Chhipi gaun, Bahun gaun, Palabari,Garigauan, Dada gaun, Bara, Bigal)	Tauthali-7,8,9,4	300	1400	Dalit,Newar,Chhetri,Brahamin,Thami
5.	Saunepani (Danda tole, Palpa, Damai tole, Saunepani, Sunakheti, Budhathoki tole).	Tekanpur-2,3,4,5,6, 9	50	250	Bohora,Shrestha, Sharki,Budhathoki, Paudel,Damai
6.	Balka (Pipaldanda, Gairabari, Okharboat, Ghattedanda, Balka)	Tekanpur-1,2	100	550	Pahari,Newar,Brahamin,Chhetri
	Total		980	5300	

Annex XI b: Distribution of households by major occupation

SN	Settlements Name	Number of HH engaged in percentage					
		Agriculture & Livestock	Labour & Porter	Business/ Commerce	Cottage Industry	Employees	Others
1.	Sildhunga (Lokharke, Newar tole, Gewar tole, Pandey tole and Gear)	95	45	2	-	1	
2.	Jethal (Totale, Majtole, Cheutole)	90	40	1	-	1	
3.	Tauthali (Japsile, Lawali, Bilghowa, Barna, Jhyampo)	80	50	5	3	5	
4.	Gairigaon (Khagal, B.K tole, Chhipi gaun, Bahun gaun, Palabari,Garigauan, Dada gaun, Bara, Bigal)	90	10	-	-	2	
5.	Saunepani (Danda tole, Palpa, Damai tole, Saunepani, Sunakheti, Budhathoki tole).	60	50	5	-	4	
6.	Balka (Pipaldanda, Gairabari, Okharboat, Ghattedanda,Balka)	80	20	5	-	3	
	Percentage	82.5	35.83	5	3	2.67	

Annex XI c1. Agricultural pattern along the road alignment

S.N	Settlement Name	Rice	Wheat	Maize	Millet	Junelo	Phaper	Others
1	Sildhunga (Lokharke, Newar tole, Gewar tole, Pandey tole and Gegar)	4	3	1	2	-		
2	Jethal (Totale, Majtole, Cheutole)	4	3	1	2	-	-	
3	Tauthali (Japsile, Lawali, Bilghowa, Barna, Jhyampo)	-	3	1	2	-	-	
4	Gairigaon (Khagal, B.K tole, Chhipi gaun, Bahun gaun, Palabari, Garigauan, Dada gaun, Bara, Bigal)	1	4	3	2	-	-	
5	Saunepani (Danda tole, Palpa, Damai tole, Saunepani, Sunakheti, Budhathoki tole).	3	4	1	2	-	-	
6	Balka (Pipaldanda, Gairabari, Okharboat, Ghattedanda, Balka)	3	-	2	1	-	-	

Note: 1= most dominant cereals, 2= Second dominant cereals, 3= third dominant cereals and so on.

Annex XI c2. Agricultural pattern along the road alignment

S.N	Settlement Name	Oil Seed	Beans/ Dal	Tobacco	Potato	Vegetable	Fruits	Tea/ Coffee	Amliso	Seri culture	Others
1	Sildhunga (Lokharke, Newar tole, Gewar tole, Pandey tole and Gegar)	-	-	-	1	2	-	-	-	-	-
2	Jethal (Totale, Majtole, Cheutole)	-	-	-	1	2	3	-	4	-	-
3	Tauthali (Japsile, Lawali, Bilghowa, Barna, Jhyampo)	-	-	-	1	2	-	-	3	-	-
4	Gairigaon (Khagal, B.K tole, Chhipi gaun, Bahun gaun, Palabari, Garigauan, Dada gaun, Bara, Bigal)	5	-	-	1	2	-	-	3	-	4
5	Saunepani (Danda tole, Palpa, Damai tole, Saunepani, Sunakheti, Budhathoki tole).	1	-	-	2	3	4	-	5	-	-
6	Balka (Pipaldanda, Gairabari, Okharboat, Ghattedanda, Balka)	1	-	-	2	3	4	-	-	-	-

Note: 1=Most dominant cash crops, 2=Second dominant cash crops, 3=third dominant cash crops and so on

Annex XI d. Livestock within the ZoI of road alignment

S.N.	Settlement Name	Cattle	Horse, Mules	Yak	Goat	Sheep	Rabbit	Pig	Fisheries	Poultry	Bee-Keeping	others
1	Sildhunga (Lokharke, Newar tole, Gewar tole, Pandey tole and Gegar)	2	-	-	1	-	-	-	-	3	4	-
2	Jethal (Totale, Majtole, Cheutole)	2	-	-	1	-	-	-	-	3	4	-
3	Tauthali (Japsile, Lawali, Bilghowa, Barna, Jhyampo)	1	-	-	2	-	-	-	-	3	4	-
4	Gairigaon (Khagal, B.K tole, Chhipi gaun, Bahun gaun, Palabari, Garigauan, Dada gaun, Bara, Bigal)	1	-	-	2	-	-	4	-	3	5	-
5	Saunepani (Danda tole, Palpa, Damai tole, Saunepani, Sunakheti, Budhathoki tole).	1	-	-	2	-	-	-	-	3	4	-
6	Balka (Pipaldanda, Gairabari, Okharboat, Ghattedanda, Balka)	3	-	-	2	-	-	-	-	1	4	-

Note: 1=Most dominant livestock, 2=Second dominant livestock, 3=third dominant livestock and so on.

Annex XI e1: Summary of public services & infrastructures.

S.N.	Settlement Name	Type of educational institution	School (no)	Student no	health centre	Telephone/Fax	Tele phone (mobile/CDMA)	Post office	Micro-hydro	Mini-hydro	National Grid	Solar System	Diesel Generator
1	Sildhunga (Lokharke, Newar tole, Gewar tole, Pandey tole and Gegar)	Campus High School Primary School	- - 1	- - 160	1	10	300	1	-	-	1	-	-
2	Jethal (Totale, Majtole, Cheutole)	Campus High School Primary school	- 1 1	- 180 130	-	-	50	-	-	-	1	-	-
3	Tauthali (Japsile, Lawali, Bilghowa, Barna, Jhyampo)	Campus High School Primary School	- 1 3	- 130 150	2	9	50	1	-	-	1	-	-
4	Gairigaon (Khagal, B.K tole, Chhipi gaun, Bahun gaun, Palabari, Garigauan, Dada gaun, Bara, Bigal)	Campus High School Primary School	- 1 2	- 200 200	-	1	200	-	-	-	1	-	-
5	Saunepani (Danda tole, Palpa, Damai tole, Saunepani, Sunakheti, Budhathoki tole).	Campus High School Primary School	- 1 2	- 450 300	1	13	150	1	-	-	1	-	-
6	Balka (Pipaldanda, Gairabari, Okharboat, Ghattedanda, Balka)	Campus High School Primary School	- - 1	- - 16	-	5	200	-	-	-	1	-	-
	Total		14	1916	4	38	950	3					

Annex XI e2: Summary of public services & infrastructures.

S.N.	Settlement Name	Restaurants/tea	Grocery (no)	Other Shops(no)	Gravity flow(no)	Spring/dug wells(no)	Irrigation (no)	Micro-hydro (KW)	Water mill(no)	Suspension bridge(no)	Wooden bridge(no)	Weaving Industry	Rice and flour	Cooperative(no)	Ghat(no)	Hatia/ Bazar (no)	Playground ground	Community	Community organization(no)
1	Sildhunga (Lokharke, Newar tole, Gewar tole, Pandey tole and Gear)	5	-	3	6	7	1	-	4	-	-	2	1	1	3	-	-	1	-
2	Jethal (Totale, Majtole, Cheutole)	-	1	3	3	2	-	-	2	1	1	-	-	-	1	-	-	1	3
3	Tauthali (Japsile, Lawali, Bilghowa, Barna, Jhyampo)	1 3	-	-	2	3	3	-	7	-	3	6	7	1	3	1	1	-	7
4	Gairigaon (Khagal, B.K tole, Chhipi gaun, Bahun gaun, Palabari, Garigauan, Dada gaun, Bara, Bigal)	-	-	7	5	4	-	-	2	2	-	1	2	1	2	-	-	-	-
5	Saunepani (Danda tole, Palpa, Damai tole, Saunepani, Sunakheti, Budhathoki tole).	3	-	4	3	4	-	-	-	1	1	1	4	1	2	-	-	1	-
6	Balka (Pipaldanda, Gairabari, Okharboat, Ghattedanda, Balka)	4	-	6	5	3	1	-	-	1	-	-	1	-	1	-	-	-	-
	Total	2 5	1	2 3	2 4	2 3	5		1 5	5	5	1 0	15	4	1 2	1	1	3	10

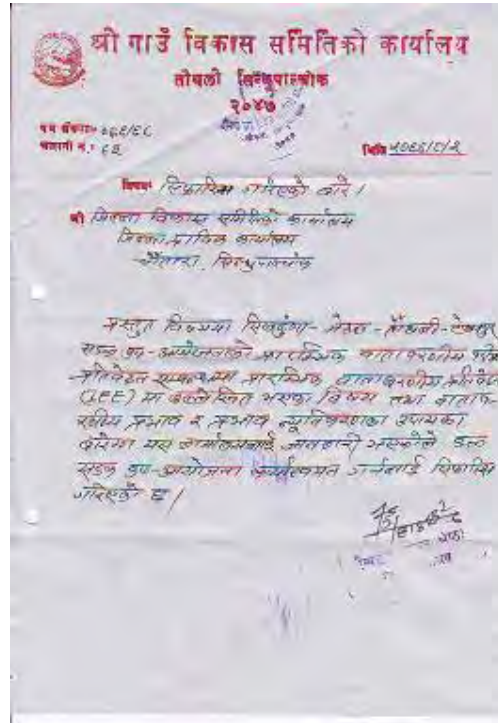
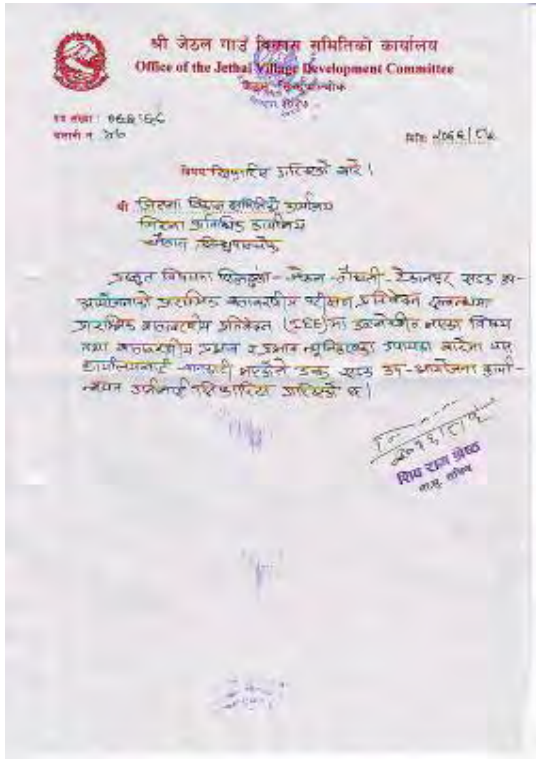
Annex XI f: Land holding pattern of settlements within ZoI in percentage

S N	Settlement Name	Landless	<1 ropani	1- 5 ropani	5 -10 ropani	10 -20 ropani	20 -50 ropani	>50 ropani
1	Sildhunga (Lokharke, Newar tole, Gewar tole, Pandey tole and Gear)	0.625	0	31.25	31.25	36.87	0	0
2	Jethal (Totale, Majtole, Cheutole)	0	5.88	35.29	58.82	0	0	0
3	Tauthali (Japsile, Lawali, Bilghowa, Barna, Jhyampo)	0.5	0	50	25	24.5	0	0
4	Gairigaon (Khagal, B.K tole, Chhipi gaun, Bahun gaun, Palabari, Garigauan, Dada gaun, Bara, Bigal)	0.5	0	50	25	24.5	0	0
5	Saunepani (Danda tole, Palpa, Damai tole, Saunepani, Sunakheti, Budhathoki tole).	14.54	18.18	45.45	0	0	0	0
6	Balka (Pipaldanda, Gairabari, Okharboat, Ghattedanda, Balka)	5	0	5	50	40	0	0
	Total	3.52	5	36.165	31.673	23		

Annex XI g: Percentage of households belonging to different food security category.

S. N	Settlement Name	Surplus	Sufficient for whole year	Sufficient for 3-9 months	Sufficient for three months	Less than three months
1	Sildhunga (Lokharke, Newar tole, Gewar tole, Pandey tole and Gegar)	0	0	93.75	3.125	3.125
2	Jethal (Totale, Majtole, Cheutole)	0	2.941	88.235	2.94	5.88
3	Tauthali (Japsile, Lawali, Bilghowa, Barna, Jhyampo)	0	0	50	10	40
4	Gairigaon (Khagal, B.K tole, Chhipi gaun, Bahun gaun, Palabari, Garigauan, Dada gaun, Bara, Bigal)	0	10	15	25	50
5	Saunepani (Danda tole, Palpa, Damai tole, Saunepani, Sunakheti, Budhathoki tole).	10	30	40	0	20
6	Balka (Pipaldanda, Gairabari, Okharboat, Ghattedanda, Balka)	0	5	50	10	35
	Percentage	1.6	7.9	56.2	8.5	25.6

Annex XII: Recommendation Letters



जिल्ला अभियन्ता कार्यालय
सिन्धुपाल्चोक जिल्लाको बारे।

दिनांक २०/०८/१०

विषय: सिन्धुपाल्चोक जिल्लाको बारे।

श्री जिल्ला विकास समितिको कार्यालय
सिन्धुपाल्चोक जिल्लाको बारे।

क्र.सं.	विवरण	अंश	कुल अंश
१	आयोजना	१००	१००
२	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
३	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
४	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
५	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
६	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
७	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
८	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
९	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
१०	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
११	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
१२	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
१३	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
१४	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
१५	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
१६	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
१७	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
१८	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
१९	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००
२०	सिन्धुपाल्चोक जिल्लाको बारे।	१००	१००

श्री जिल्ला विकास समितिको कार्यालय
सिन्धुपाल्चोक जिल्लाको बारे।

श्री कालिका माध्यमिक विद्यालय
Shree Kalika Secondary School
अनु- १ सिन्धुपाल्चोक
Tektapur १ Sindhapalchok
स.स. २०६८
Post: २०६८

सं.सं. - २०६८/०२/१८
दिनांक - २०६८/०२/१८

विषय - रास सुकान परामर्शको बारे ।

श्री विद्वान् शिक्षक समितिको कार्यालय
सिन्धुपाल्चोक जैतपुर ।

उपरोक्त सम्बन्धमा आयोग पुनर्निर्माण तथा पुनर्स्थापना -
आयोगको अन्तर्गत अन्तर्गत एवं स्तरोन्नती हुन लागेको विषय -
देउडा - जेठान - नैरासी - टेकपुर सडक उपयोजनको मर्मतका
गर्दा रास सुकानको आवश्यकताको बारेमा जानकारी लिएको
कालिका माध्यमिक विद्यालयको शिक्षक समितिबाट
सबको सम्बन्धमा जानकारी उपरोक्त छ ।

तयमीत

१. सबै सडक उपयोजन कार्यालयमा गर्ने कालिका विद्यालयबाट
को शिक्षा प्राप्त गर्ने सम्बन्धमा बुझाएको विद्यालयको -
सबै सडक तथा सुकानमा अन्तर्गत गर्ने सबैको
२. विद्यालयको परामर्श गर्नेको हेतुमा कालिका माध्यमिक विद्यालय
सबको सम्बन्धमा बुझाएको जानकारी उपरोक्त छ ।

(सुकानको अन्तर्गत)
पुनःस्थापनाको
सुकानको अन्तर्गत

कृषि विकास सानाति
केस, सिन्धुपाल्चोक
२०६८

सं.सं. - २०६८/०२/१८
दिनांक - २०६८/०२/१८

विषय - रास सुकान परामर्शको बारे ।

श्री विद्वान् शिक्षक समितिको कार्यालय
सिन्धुपाल्चोक जैतपुर ।

उपरोक्त सम्बन्धमा आयोग पुनर्निर्माण तथा
पुनर्स्थापना आयोगको अन्तर्गत अन्तर्गत एवं स्तरोन्नती हुन
लागेको विषय - देउडा - जेठान - नैरासी - टेकपुर सडक
उपयोजनको मर्मतका गर्दा रास सुकानको आवश्यकताको बारेमा
जानकारी लिएको कालिका माध्यमिक विद्यालयको शिक्षक
समितिबाट सबको सम्बन्धमा जानकारी उपरोक्त छ ।

(सुकानको अन्तर्गत)
पुनःस्थापनाको
सुकानको अन्तर्गत

श्री बाबु मैया माध्यमिक विद्यालय
Shree Babu Maya Secondary School
अनु- १ सिन्धुपाल्चोक
Tektapur १ Sindhapalchok
स.स. २०६८
Post: २०६८

सं.सं. - २०६८/०२/१८
दिनांक - २०६८/०२/१८

विषय - रास सुकान परामर्शको बारे ।

श्री विद्वान् शिक्षक समितिको कार्यालय
सिन्धुपाल्चोक जैतपुर ।

उपरोक्त सम्बन्धमा आयोग पुनर्निर्माण तथा पुनर्स्थापना -
आयोगको अन्तर्गत अन्तर्गत एवं स्तरोन्नती हुन लागेको विषय -
देउडा - जेठान - नैरासी - टेकपुर सडक उपयोजनको मर्मत गर्ने
गर्दा रास सुकानको आवश्यकताको बारेमा जानकारी लिएको
कालिका माध्यमिक विद्यालयको शिक्षक समितिबाट सबको
सम्बन्धमा जानकारी उपरोक्त छ ।

तयमीत

१. सबै सडक उपयोजन कार्यालयमा गर्ने कालिका विद्यालयबाट
को शिक्षा प्राप्त गर्ने सम्बन्धमा बुझाएको विद्यालयको -
सबै सडक तथा सुकानमा अन्तर्गत गर्ने सबैको
२. विद्यालयको परामर्श गर्नेको हेतुमा कालिका माध्यमिक विद्यालय
सबको सम्बन्धमा बुझाएको जानकारी उपरोक्त छ ।

(सुकानको अन्तर्गत)
पुनःस्थापनाको
सुकानको अन्तर्गत

कृषि विकास सानाति
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विषय - रास सुकान परामर्शको बारे ।

श्री विद्वान् शिक्षक समितिको कार्यालय
सिन्धुपाल्चोक जैतपुर ।

उपरोक्त सम्बन्धमा आयोग पुनर्निर्माण तथा पुनर्स्थापना
आयोगको अन्तर्गत अन्तर्गत एवं स्तरोन्नती हुन लागेको
विषय - देउडा - जेठान - नैरासी - टेकपुर सडक उपयोजनको
मर्मतका गर्दा रास सुकानको आवश्यकताको बारेमा
जानकारी लिएको कालिका माध्यमिक विद्यालयको शिक्षक
समितिबाट सबको सम्बन्धमा जानकारी उपरोक्त छ ।

(सुकानको अन्तर्गत)
पुनःस्थापनाको
सुकानको अन्तर्गत

A Sample of Recommendation letter from VDC

Government of Nepal
Ministry Of Local Development
Office of Village Development Committee Sindhupalchowk
Jethal, Sindhupalchowk

Reference No: 46

Subject : Recommendation letter for the implementation of IEE report

To,

The Office of District Development Committee, Sindhupalchowk

We have received the IEE report prepared for the Sildhunga-Jethal-Tauthali-Tekanpur road sub project. We reviewed the environmental impacts and mitigation measures as mentioned in the report and satisfied with the IEE report and recommend for the implementation of road sub-project.

Signature

Narahari Poudel

VDC Secretary

Annex XIII: Major river/stream along the road alignment

S. N.	Name of River/Stream	Chainage	Span (m)	Characteristics*
1	Devithan Kholshi	0+800	12	D
2	Aaitabare Kholshi	1+000	12	D
3	Odiko Kholshi	1+300	12	C
4	Guiye Kholshi	1+770	12	C
5	Ghatte Kholshi	1+940	15	B
6	Pahire Khola	2+690	15	B
7	Ghurmuse Kholshi	3+160	15	B
8	Sitbar Kholshi	3+200	20	B
9	Tople Khola	3+700	15	B
10	Jethal Khola	4+600	20	B
11	Katike Kholshi	5+170	10	C
12	Koaya Kholshi	5+310	20	B
13	Mandre Kholshi	5+950	12	C
14	Katigahero Kholshi	7+309	15	C
15	Surke Chour Kholshi	7+615	12	D
16	Jhyali Kholshi	7+770	12	D
17	Japsile Kholshi	8+100	12	D
18	Kala Pani Kholshi	9+530	12	D
19	Rakas Poko Kholshi	10+280	12	D
20	Gahiri Gaun Kholshi	13+490	12	D
21	Barla Kholshi	13+920	15	C
22	Palba Kholshi	14+600	12	D
23	Saune Pani Khoshi	17+130	15	C
24	Tirtere Dhara Kholshi	21+360	12	D

Source: Field survey, 2009

*A: Perennial, snow-fed B: Perennial, spring-fed C: Dry-up for short period
D: Dry-up in winter E: Dry-up most of the year and having high flash-floods

Annex XIV: Landuse Pattern

Land use pattern along the road alignment within 5m formation width.

Landuse pattern							
Land Type	Chainage	Length (m)	Existing Width (m)	Additional Width (m)	Existing area (ha)	Additional Area (ha)	
Forest	1+600 - 1+800	200	3	2	0.06	0.04	
	2+000 - 2+400	400	4	1	0.16	0.04	
	5+200-6+870	1670	1.3	3.7	0.2171	0.6179	
	7+050 - 7+220	170	1	4	0.017	0.068	
	8+600 - 9+200	600	3.4	1.6	0.204	0.096	
	9+200 - 9+600	400	4.3	0.7	0.172	0.028	
	15+600 - 16+600	1000	4	1	0.4	0.1	
	17+580 - 17+760	180	4.2	0.8	0.0756	0.0144	
	17+780 - 17+920	140	4.5	0.5	0.063	0.007	
	18+000 -18+400	400	4.5	0.5	0.18	0.02	
	18+600 - 21+000	2400	4	1	0.96	0.24	
	21+800 - 22+800	1000	3.8	1.2	0.38	0.12	
	Sub Total					2.88	1.39
	Builtup Area	4+500-4+750	250	3	2	0.075	0.05
9+600-10+200		600	3.8	1.2	0.228	0.072	
13+000-13+230		230	3.7	1.3	0.0851	0.0299	
17+000-17+580		580	4.5	0.5	0.261	0.029	
Sub Total						0.65	0.18
Cultivated Land	0+000-1+600	1600	4	1	0.64	0.16	
	1+800-2+000	200	5	0	0.1	0	
	2+400-4+500	2100	3.4	1.6	0.714	0.336	
	5+000-5+200	200	1.4	4.6	0.028	0.092	
	7+220-8+600	1380	2	3	0.276	0.414	
	10+200-13+000	2800	4.3	0.7	1.204	0.196	
	13+230-15+600	2370	3.5	1.5	0.8295	0.3555	
	16+600-17+000	400	4.3	0.7	0.172	0.028	
	17+760-17+780	20	4.5	0.5	0.009	0.001	
	17+920-18+000	80	4.2	0.8	0.0336	0.0064	
	18+400-18+600	200	5	0	0.1	0	
	21+000-21+800	800	3.5	1.5	0.28	0.12	
	22+800-22+921	121	3.5	1.5	0.04235	0.01815	
Sub Total					4.42	1.72	
Barren/pasture land	6+870-7+050	180	0.8	4.2	0.0144	0.0756	
	4+750-5+000	250	2.5	2.5	0.0625	0.0625	
	sub Total					0.0769	0.138
Total		22921			8.0269	3.428	

Annex XV: Community Forests along road alignment

Chainage	Community Forest	Length (m)	Width (m)	Area (ha)	Major Species
1+600 - 1+800	Bhangeli Chapp CF	200	3	0.06	Chilaune (<i>Schima wallichii</i>), Paiyun (<i>Prunus cerasoides</i>), Uttis (<i>Alnus nepalensis</i>)
2+000 - 2+400	Bhangeli Chapp CF	400	4	0.16	Chilaune (<i>Schima wallichii</i>), Uttis (<i>Alnus nepalensis</i>)
5+200 - 7+200	Mulkharka CF	1670	1.3	0.217	Chilaune (<i>Schima wallichii</i>), Sallo (<i>Pinus roxburghi</i>), Uttis (<i>Alnus nepalensis</i>)
7+200 - 7+220	Dudhila CF	170	1	0.017	Sallo (<i>Pinus roxburghi</i>)
8+600 - 9+200	Mulkharka CF	600	3.4	0.204	Sallo (<i>Pinus roxburghi</i>)
9+200 - 9+600	Bhumidevi CF	400	4.3	0.172	Chilaune (<i>Schima wallichii</i>), Sallo (<i>Pinus roxburghi</i>)
15+600 - 16+600	Kalika CF	1000	4	0.4	Chilaune (<i>Schima wallichii</i>), Khirro (<i>Sapium insigne</i>), Uttis (<i>Alnus nepalensis</i>)
17+580 - 17+760	Chuli Devi CF	180	4.2	0.076	Chilaune (<i>Schima wallichii</i>), Sal (<i>Shorea robusta</i>), Simal (<i>Bombax ceiba</i>)
17+780 - 17+920	Chuli Devi CF	140	4.5	0.063	Chilaune (<i>Schima wallichii</i>), Katus (<i>Castanopsis indica</i>), Kutmero (<i>Litsea monopetala</i>), Mauwa (<i>Bassia latifolia</i>)
18+000 - 18+400	Dabi Bhirpakha Cf	400	4.5	0.18	Chilaune (<i>Schima wallichii</i>), Katus (<i>Castanopsis indica</i>) Sal (<i>Shorea robusta</i>), Kyamuna (<i>Cleistocalyx operculata</i>), Mauwa (<i>Bassia latifolia</i>), Uttis (<i>Alnus nepalensis</i>)
18+600 - 21+000	Dabi Bhirpakha Cf	2400	4	0.96	Chilaune (<i>Schima wallichii</i>), Katus (<i>Castanopsis indica</i>), Sal (<i>Shorea robusta</i>)
21+800 - 22+800	Dabi Bhirpakha Cf	1000	3.8	0.38	Chilaune (<i>Schima wallichii</i>), Katus (<i>Castanopsis indica</i>) Sal (<i>Shorea robusta</i>)
Total				2.88	

Source: Field survey, 2009

Annex XVI: Recommended Structures Necessary for Slope Stabilization along the Alignment

A. Recommended Gabion wall Structures

Chainage	left			Right		
	Height	Area(m ²)	Volume(m ³)	Height	Area(m ²)	Volume(m ³)
0+160	2	2.5	25			
0+170	2	2.5	25			
0+180	3	4.5	45			
0+190	3	4.5	45			
0+280	2	2.5	25			
0+290	2	2.5	25			
0+300	2	2.5	25			
0+310	2	2.5	25			
0+320	3	4.5	45			
0+330	3	4.5	45			
0+340	3	4.5	45			
0+350	3	4.5	45			
0+360	3	4.5	45			
0+370	4	6.5	65			
0+390				4	7	70
0+430				3	4.5	45
0+430	1	1	10			
0+440				4	6.5	65
0+450				2	2.5	25
0+460				2	2.5	25
0+470				4	6.5	65
0+480				4	6.5	65
0+490				3	4.5	45
0+500	4.5	45				
0+520	5	9	90			
0+530	5	9	90			
0+540	3	4.5	45			
0+600	4	7	70			
0+600				1	1	10
0+610	3	4.5	45			
0+780	2	2.5	25			
0+780				2	2.5	25
0+890	4	6.5	65			
0+900	4	6.5	65			
0+910	4	7	70	2	2.5	25
0+920	5	9	90			
0+930	5	9	90			
0+940	4	6.5	65			
0+950	4	6.5	65			
1+030				7	14.5	145
1+040				5	9	90
1+120	4	6.5	65			
1+130	7	14.5	145			
1+140	3	4.5	45			
1+170				3	4.5	45
1+320	4	6.5	65			
1+380	4	6.5	65			
1+390	4	6.5	65			
1+420	1	1	10			
1+420				2	2.5	25
1+830	2	2.5	25	1	1	10
1+880	3	4.5	45			
1+890	3	4.5	45	1	1	10
1+930	3	4.5	45			
1+940	3	4.5	45			
1+950	2	2.5	25			
2+030	1	1	10	1	1	10
2+200	1	1	10			
2+200				2	2.5	25
2+280	4	6.5	65			
2+410	1	1	10			
2+410				1	1	10
2+470	2	2.5	25			
2+470				1	1	10

Chainage	left			Right		
	Height	Area(m ²)	Volume(m ³)	Height	Area(m ²)	Volume(m ³)
2+530	4	6.5	65			
2+590	1	1	10	1	1	10
2+860	4	6.5	65			
2+950	3	4.5	45			
3+000				3	4.5	45
3+150	1	1	10			
3+150				2	2.5	25
3+230	2	2.5	25			
3+230				1	1	10
3+240	1	1	10	1	1	10
3+280	1	1	10			
3+280				2	2.5	25
3+750	1	1	10	1	1	10
3+760	1	1	10			
3+760				1	1	10
3+810	4	6.5	65			
3+830	1	1	10			
3+830				2	2.5	25
3+850	4	6.5	65			
3+930	2	2.5	25			
3+930				2	2.5	25
4+000	2	2.5	25			
4+090	4	6.5	65			
4+100	3	4.5	45			
4+190	4	6.5	65			
4+440				3	4.5	45
4+700	4	6.5	65			
4+780	4	6.5	65			
4+790	5	9	90			
5+310	4	6.5	65			
5+320	6	11.5	115			
5+330	6	11.5	115			
5+340	3	4.5	45	1	1	10
5+350	7	14.5	145			
5+360	6	11.5	115			
5+370	3	4.5	45			
5+400	3	4.5	45			
5+410	4	6.5	65			
5+420	6	11.5	115			
5+480						
5+670	4	6.5	65			
5+680	3	4.5	45			
5+690	4	6.5	65			
5+810	3	4.5	45			
5+820	3	4.5	45			
5+830	3	4.5	45			
5+860	3	4.5	45			
5+880	4	6.5	65			
5+980	3	4.5	45			
6+060	5	10	100			
6+060				2	2.5	25
6+110	3	4.5	45			
6+250	6	11.5	115			
6+260	3	4.5	45			
6+270	4	6.5	65			
6+280	3	4.5	45			
6+290	5	9	90			
6+530	3	4.5	45			
6+620	3	4.5	45			
6+630	2	2.5	25			
6+630				2	2.5	25
7+180	3	4.5	45			
7+220	2	2.5	25			
7+300				5	10	100

B. Recommended Stone masonry wall Structures

Chainage	Length	Left		
		Height	Area(m ²)	Volume(m ³)
3+470	10	3	3.06	30.6
3+480	10	1.5	0.96	9.619
3+560	10	3	3.06	30.6
5+020	10	2.2	1.8	17.996
5+030	10	3.5	4.01	40.119
5+040	10	3.2	3.43	34.256
5+340	10	7.5	16.2	161.719
5+540	10	2.8	2.72	27.146
5+550	10	2.8	2.72	27.146
5+570	10	2.5	2.23	22.344
5+580	10	2.5	2.23	22.344
5+610	10	3.8	4.64	46.436
5+620	10	4.20	5.56	55.566
5+630	10	2.5	2.23	22.344
5+640	10	4	5.09	50.9
5+650	10	3.5	4.01	40.119
5+660	10	3	3.06	30.6
6+010	10	2.7	2.55	25.495
6+020	10	3.3	3.62	36.16
6+200	10	2.5	2.23	22.344
6+210	10	2	1.54	15.35
6+220	10	3	3.06	30.6
6+230	10	2	1.54	15.35
6+240	10	2	1.54	15.35
6+810	10	2	1.54	15.35
6+820	10	2.5	2.23	22.344
6+830	10	3.5	4.01	40.119
6+840	10	4	5.09	50.9
6+850	10	4	5.09	50.9
6+860	10	3.8	4.64	46.436
6+870	10	4.2	5.46	54.6
6+880	10	4.5	6.19	61.875

Chainage	Length	Left		
		Height	Area(m ²)	Volume(m ³)
6+980	10	7.5	15.938	159.375
6+990	10	8	18	180
7+000	10	5.19999981	8.06	80.6
7+060	10	3.20000005	3.426	34.256
7+070	10	3	3.06	30.6
7+350	10	2.5	2.234	22.344
7+360	10	2	1.535	15.35
18+430	10	6.5	12.374	123.744
18+440	10	4	5.09	50.9
18+450	10	3	3.06	30.6
18+690	10			
18+700	10			
20+950	10	6	10.665	106.65
20+960	10	2	1.535	15.35
21+040	10			
21+050	10			
22+570	10			
6+890	10	4.5	6.188	61.875
6+900	10	4.5	6.188	61.875
6+940	10	3.5	4.012	40.119
6+950	10	3	3	30
6+960	10	3	3	30
6+970	10	7	14	140
Chainage	Length	Right		
		Height	Area(m ²)	Volume(m ³)
18+690	10	4.5	6.294	62.944
18+700	10	5	7.625	76.25
20+950	10			
20+960	10			
21+040	10	5.5	9.082	90.819
21+050	10	2.5	2.234	22.344
22+570	10	5	7.625	76.25

C. Recommended Dry Stone Masonry Structures

Chainage	Length	Left			Right		
		Height	Area(m ²)	Volume(m ³)	Height	Area(m ²)	Volume(m ³)
0+020	10	1.5	1.24	12.347			
0+020	10				1.5	1.24	12.347
0+030	10	2.8	3.47	34.65			
0+380	10				2	1.97	19.65
1+000	10				2.5	2.86	28.547
1+010	10				2.5	2.86	28.547
1+680	10	2.2	2.3	23.017			
2+040	10				2	1.97	19.65
2+050	10				2	1.97	19.65
2+160	10				2	1.97	19.65
2+170	10				2	1.97	19.65
2+180	10				2	1.97	19.65
2+460	10				2	1.97	19.65
2+640	10				2	1.97	19.65
2+650	10				2	1.97	19.65
4+710	10	2	1.97	19.65			
4+740	10				2	1.97	19.65
4+750	10				2	1.97	19.65
4+760	10				2	1.97	19.65
4+770	10				2	1.97	19.65
7+560	10	2	1.97	19.65			
7+570	10	2.2	2.3	23.017			
8+700	10				2	1.97	19.65
8+710	10				2	1.97	19.65
8+740	10				2	1.97	19.65
8+750	10				2	1.97	19.65
8+760	10				2	1.97	19.65
8+770	10				2	1.97	19.65
8+920	10				2	1.97	19.65
8+930	10				2	1.97	19.65
8+940	10				2	1.97	19.65
10+370	10				2	1.97	19.65
11+270	10	2.2	2.3	23.017			
11+280	10	2	1.97	19.65			
11+290	10	2	1.97	19.65			
11+550	10				2	1.97	19.65
11+560	10				2	1.97	19.65
11+570	10				2	1.97	19.65
11+910	10	2	1.97	19.65			
11+920	10	2	1.97	19.65			
11+930	10	2	1.97	19.65			
11+940	10	2	1.97	19.65			
11+950	10	2	1.97	19.65			
11+960	10	2	1.97	19.65			
12+110	10	2	1.97	19.65			
12+500	10				1.5	1.24	12.347
12+530	10				2	1.97	19.65
13+820	10				2	1.97	19.65
13+930	10				2	1.97	19.65
13+940	10				2	1.97	19.65
14+060	10				2	1.97	19.65
14+070	10				2	1.97	19.65
14+080	10				2	1.97	19.65
15+190	10				2	1.97	19.65
15+200	10				2	1.97	19.65
15+500	10				2	1.97	19.65
15+900	10				2	1.97	19.65
15+910	10				2	1.97	19.65
15+920	10				2	1.97	19.65
15+930	10				2	1.97	19.65
15+940	10				2	1.97	19.65
16+460	10				2	1.97	19.65
16+470	10				2	1.97	19.65
16+470	10				2	1.97	19.65

Annex XVII Recommended Structure for Water Management along the Alignment

a) Recommended Cross drainage structures

1. Causeway

Chainage	Span(m)	structure	Remarks	Chainage	Span(m)	structure	Remarks
0+390	6	causeway		6+627	6	Proposed Causeway	
0+427	6	causeway		7+155	6	Katigahero_Causeway	
0+500	6	causeway		7+236	6	Proposed Causeway	
0+598	9	causeway		7+300	6	Proposed Causeway	
0+780	9	Devisthan_causeway		7+386	6	Proposed Causeway	
0+910	6	Aaitabare_causeway		7+467	6	Surke_Causeway	
1+170	6	Odiko_causeway		7+520	6	Jhyali_Causeway	
1+420	6	causeway		7+859	6	Japsile_Causeway	
1+715	6	Guiye_Causeway		8+570	6	Causeway	
1+833	6	Ghatte_Causeway		8+690	6	Proposed Causeway	
1+886	9	causeway		9+187	6	Kala Pani_Causeway	
2+030	9	causeway		11+969	6	Proposed Causeway	
2+200	6	causeway		12+077	6	Gahiri_Causeway	
2+410	6	causeway		12+157	6	Proposed Causeway	
2+590	6	causeway		12+372	6	Proposed Causeway	
2+665	9	causeway		12+877	6	Baria_Causeway	
3+153	9	Sitbar_causeway		13+247	6	Proposed Causeway	
3+235	18	causeway		13+567	9	Proposed Causeway	
3+283	9	causeway		13+657	6	Proposed Causeway	
3+755	15	Tople_causeway		14+004	6	Proposed Causeway	
3+827	9	causeway		14+337	6	Palba Causeway	
3+933	9	causeway		15+876	6	Proposed Causeway	
4+095	9	causeway		18+858	6	Proposed causeway	
4+438	9	causeway		19+388	6	Proposed causeway	
5+343	9	proposed Causeway		19+618	6	Proposed causeway	
5+476	9	Koaya_proposed Causeway		20+073	6	Proposed causeway	
5+492	6	Proposed Causeway		21+108	6	Proposed causeway	
5+830	6	Proposed Causeway		22+688	6	Proposed causeway	
5+866	6	Proposed Causeway		22+728	6	Proposed causeway	
6+058	6	Proposed Causeway		22+748	6	Proposed causeway	

2. Irrigation Crossing

2+470	3	Irrigation crossing		12+627	3	Irrigation crossing	
3+000	3	Irrigation crossing		12+698	3	Irrigation crossing	
4+202	3	Irrigation crossing		12+787	3	Irrigation crossing	
8+212	3	Irrigation Crossing		13+105	3	Irrigation Crossing	
8+415	3	Irrigation Crossing		14+034	3	Irrigation Crossing	
8+570	3	Irrigation Crossing		14+203	3	Irrigation Crossing	
8+825	3	Irrigation Crossing		14+756	3	Irrigation Crossing	
8+866	3	Irrigation Crossing		14+820	3	Irrigation Crossing	
8+967	3	Irrigation Crossing		16+591	3	Irrigation Crossing	
8+993	3	Irrigation Crossing		16+796	3	Irrigation Crossing	
9+559	3	Irrigation Crossing		16+918	3	Irrigation crossing	
9+853	3	Irrigation Crossing		16+990	3	Irrigation crossing	
9+889	3	Irrigation Crossing		17+033	3	Irrigation crossing	
10+417	3	Irrigation Crossing		18+028	3	Irrigation crossing	
11+693	3	Irrigation Crossing		18+088	3	Irrigation crossing	
12+468	3	Irrigation Crossing		20+638	3	Irrigation crossing	
12+532	3	Irrigation Crossing					
12+572	3	Irrigation Crossing					

3. Pipe Culvert

Chainage	length (m)	remark
8+367	5	Existing
8+800	5	Existing

Annex XVIIIa
List of trees to be removed from private land

Name of plant species	Tree (GBH>=30cm)	Pole (16>=GBH<30cm)	Sapling	Remarks
Amba (<i>Pisidium guyava</i>)	10			There are altogether 17 nigalo and Bamboo clump along the alignment
Anar (<i>Citrus sinensis</i>)	1			
Angeri (<i>Lyonia ovalifolia</i>)	56			
Asare (<i>Osbeckia stellata</i>)	1			
Badahar (<i>Sphaeranthus indicus</i>)	5			
Bakaino (<i>Melia azederach</i>)	5			
Banjh (<i>Quercus lanata</i>)	1			
Bhimsenpati (<i>Buddleja asiatica</i>)	78			
Bilaune (<i>Maesa chisia</i>)			4	
Chhap (<i>Michelia Champaca</i>)	5			
Chilaune (<i>Schima wallichii</i>)	2,232			
Chiuri (<i>Aesandra butyracea</i>)		1		
Chutro (<i>Berberis aristata</i>)	12			
Dhursul (<i>Ribes takare</i>)	2			
Dudhilo (<i>Ficus nerifolia</i>)	145			
Gayo (<i>Bridelia retusa</i>)				
Gogan (<i>Sauravia nepauensis</i>)		4		
Gauva(<i>Pisidium guyava</i>)	57		5	
Guras (<i>Rhodendron arboreum</i>)	9	3		
Jamun (<i>Sygium cumini</i>)	3			
Jhinagne (<i>Eurya acuminata</i>)	140	111		
Kaphal (<i>Myrica esculenta</i>)	27	2		
Katus (<i>Castanopsis indica</i>)	131			
Kaulo (<i>Persea odoratissima</i>)	9			
Kettuke (<i>Agave cantula</i>)	3			
Khanayo (<i>Ficus semicordata</i>)	43			
Khasreto (<i>Ficus hispida</i>)	9			
Khasru (<i>Quercus semicarpifolia</i>)	2			
Khirro (<i>Sapium insigne</i>)	97			
Kimbu (<i>Morus rubra</i>)	16			
Kutmero (<i>Litsea monopetala</i>)	222			
Kyamuno (<i>Cleistocalyx operculata</i>)	4			
Lankuri (<i>Fraxinus floribunda</i>)	286			
Lapsi (<i>Choerospondias axillaris</i>)	35			
Lemon (<i>Citrus sps</i>)	40			
Mango (<i>Mangifera indica</i>)	2			
Mauwa (<i>Bassia latifolia</i>)	60			
Mayel (<i>Pyrus pashia</i>)	1			
Naspati (<i>Pyrus communis</i>)		1		
Nemaro (<i>Ficus auriculata</i>)				

Pade (<i>Pieris formosa</i>)	1		
Paiyun (<i>Prunus cerasoides</i>)	240		
Panheli (<i>Listea salicifolia</i>)	3	3	
Peach (<i>Prunus persica</i>)	92	3	
Peach (<i>Prunus persica</i>)	2		
Phalant (<i>Quercus lamellose</i>)	5		
Phaledo (<i>Erythrina stricta</i>)	5		11
Pipal (<i>Ficus religiosa</i>)	7		6
Salla (<i>Pinus roxburghii</i>)	39		5
Simal (<i>Bombax ceiba</i>)	2		14
Simali (<i>Vitex negundo</i>)	14		
Sirish (<i>Albizia labbeck</i>)	269		
Suntala (<i>Citrus sps</i>)	1		
Timmur (<i>Zanthoxylum armatum</i>)	2		
Tooni (<i>Toona ciliate</i>)	4		
Uttis (<i>Alnus nepalensis</i>)	307		
Walnut (<i>Juglans regia</i>)	8	1	
Others	58	15	17
	4,879	144	67

Annex XVIIIb
List of trees to be removed from Community Forest

Chainage	Name of plant species	Tree (GBH>=30cm)	Pole (16>=GBH<30cm)	Sapling (GBH<16cm)	Name of CF
1+600 to 1+800	Chilaune (<i>Schima wallichii</i>)	6	1		Bhangeli Chapp
	Dudhilo (<i>Ficus nerifolia</i>)	1			Bhangeli Chapp
	Gurans (<i>Rhodendron arboreum</i>)			5	Bhangeli Chapp
	Jhingane (<i>Eurya acuminata</i>)			2	Bhangeli Chapp
	Mauwa (<i>Bassia latifolia</i>)		1		Bhangeli Chapp
	Pahneli (<i>Listea salicifolia</i>)		3		Bhangeli Chapp
	Painyu (<i>Prunus cerasoides</i>)	8	2		Bhangeli Chapp
	Uttis (<i>Alnus nepalensis</i>)	5	7		Bhangeli Chapp
	Others	1	1		Bhangeli Chapp
2+000 to 2+400	Uttis (<i>Alnus nepalensis</i>)	3		3	Bhangeli Chapp
	Chilaune (<i>Schima wallichii</i>)	4			Bhangeli Chapp
	Gurans (<i>Rhodendron arboreum</i>)			1	Bhangeli Chapp
	Others		1	1	Bhangeli Chapp
5+200 - 7+200	Chilaune (<i>Schima wallichii</i>)	9	4	17	Mulkharka
	Sallo (<i>Pinus roxburghii</i>)	132	1	20	Mulkharka
	Kafal (<i>Myrica esculenta</i>)	1	2	5	Mulkharka
	Uttis (<i>Alnus nepalensis</i>)	8	21	40	Mulkharka
	Gurans (<i>Rhodendron arboreum</i>)			8	Mulkharka
	Jhingane (<i>Eurya acuminata</i>)			15	Mulkharka
	Mauwa (<i>Bassia latifolia</i>)		1	3	Mulkharka
	Pahneli (<i>Listea salicifolia</i>)	2	2	6	Mulkharka
7+200- 7+220	Chir Pine (<i>Pinus roxburghii</i>)	3	1	11	Dudhila
8+600 - 9+200	Sallo (<i>Pinus roxburghii</i>)	3			Mulkharka
	Chilaune (<i>Schima wallichii</i>)			2	Mulkharka
	Painyu (<i>Prunus cerasoides</i>)			3	Mulkharka
	Others	1		4	Mulkharka
9+200 to 9+600	Chilaune (<i>Schima wallichii</i>)	4	2	2	Bhumidevi
	Chir Pine (<i>Pinus roxburghii</i>)	37	1		Bhumidevi
15+600- 16+600	Angeri (<i>Lyonia ovalifolia</i>)			100	Kalika
	Asare (<i>Osbeckia stellata</i>)	5			Kalika

Chainage	Name of plant species	Tree (GBH>=30cm)	Pole (16>=GBH<30cm)	Sapling (GBH<16cm)	Name of CF
	Bhimsenpati (<i>Buddleja asiatica</i>)	4			Kalika CF
	Chilaune (<i>Schima wallichii</i>)	368			Kalika CF
	Dudhilo (<i>Ficus nerifolia</i>)	5			Kalika CF
	Guva (<i>Pisidium guyava</i>)	13			Kalika CF
	Guras (<i>Rhodendron arboreum</i>)	3			Kalika CF
	Katus (<i>Castanopsis indica</i>)	13			Kalika CF
	Khaniyu (<i>Ficus semicordata</i>)	1			Kalika CF
	Khirro (<i>Sapium insigne</i>)	40			Kalika CF
	Kutmero (<i>Litsea monopetala</i>)	18			Kalika CF
	Lankuri (<i>Fraxinus floribunda</i>)	6			Kalika CF
	Mauwa (<i>Bassia latifolia</i>)	17			Kalika CF
	Siris (<i>Albizia labbeck</i>)	2			Kalika CF
	Utti (<i>Alnus nepalensis</i>)	53			Kalika CF
	Sal (<i>Shorea robusta</i>)	1			Kalika CF
	Simal (<i>Bombax ceiba</i>)	2			Kalika CF
	Simali (<i>Vitex negudo</i>)	12			Kalika CF
	Tooni (<i>Toona ciliate</i>)	1			Kalika CF
	Others	32			Kalika CF
17+580- 17+760	Angeri (<i>Lyonia ovalifolia</i>)	2			Chuli Devi
	Chilaune (<i>Schima wallichii</i>)	184			Chuli Devi
	Dudhilo (<i>Ficus nerifolia</i>)	5			Chuli Devi
	Gedulo	4			Chuli Devi
	Guva (<i>Pisidium guyava</i>)	7			Chuli Devi
	Katus (<i>Castanopsis indica</i>)	10			Chuli Devi
	Gurans (<i>Rhodendron arboreum</i>)	2			Chuli Devi
	Kutmero (<i>Litsea monopetala</i>)	12			Chuli Devi
	Mauwa(<i>Bassia latifolia</i>)	15			Chuli Devi
	Phaledo (<i>Erythrina stricta</i>)	2			Chuli Devi
	Siris (<i>Albizia labbeck</i>)	2			Chuli Devi
	Uttis (<i>Alnus nepalensis</i>)	2			Chuli Devi
	Khaniyu (<i>Ficus semicordata</i>)	1			Chuli Devi
	Khirro (<i>Sapium insigne</i>)	2			Chuli Devi
	Lapsi (<i>Choerospondias axillaris</i>)	1			Chuli Devi
	Nemaro (<i>Ficus auriculata</i>)	2			Chuli Devi
	Sal (<i>Shorea robusta</i>)	2			Chuli Devi
	Simali (<i>Vitex negudo</i>)	3			Chuli Devi
	Toni (<i>Toona ciliate</i>)	3			Chuli Devi
Others	4			Chuli Devi	

Chainage	Name of plant species	Tree (GBH>=30cm)	Pole (16>=GBH<30cm)	Sapling (GBH<16cm)	Name of CF
17+780- 17+920	Angeri (<i>Lyonia ovalifolia</i>)	9			Chuli Devi
	Chilaune (<i>Schima wallichii</i>)	100			Chuli Devi
	Katus (<i>Castanopsis indica</i>)	13			Chuli Devi
	Sal (<i>Shorea robusta</i>)	11			Chuli Devi
	Kyamuna (<i>Cleistocalyx operculata</i>)	1			Chuli Devi
	Mauwa (<i>Bassia latifolia</i>)	17			Chuli Devi
	Pipal (<i>Ficus religiosa</i>)	1			Chuli Devi
	Sal (<i>Shorea robusta</i>)	5			Chuli Devi
	Toni (<i>Toona ciliata</i>)	1			Chuli Devi
	Uttis (<i>Alnus nepalensis</i>)	1			Chuli Devi
18+000- 18+400	Chilaune (<i>Schima wallichii</i>)	58			Dabi Bhirpakha
	Katus (<i>Castanopsis indica</i>)	25			Dabi Bhirpakha
	Sal (<i>Shorea robusta</i>)	36			Dabi Bhirpakha
	Kyamuna (<i>Cleistocalyx operculata</i>)	1			Dabi Bhirpakha
	Mauwa (<i>Bassia latifolia</i>)	1			Dabi Bhirpakha
	Uttis (<i>Alnus nepalensis</i>)	1			Dabi Bhirpakha
18+600- 21+000	Chilaune (<i>Schima wallichii</i>)	53			Dabi Bhirpakha
	Katus (<i>Castanopsis indica</i>)	7			Dabi Bhirpakha
	Sal (<i>Shorea robusta</i>)	42	20		Dabi Bhirpakha
	Kyamuna (<i>Cleistocalyx operculata</i>)	1			Dabi Bhirpakha
21+800 to 22+800	Angeri (<i>Lyonia ovalifolia</i>)	1			Dabi Bhirpakha
	Chilaune (<i>Schima wallichii</i>)	160	38		Dabi Bhirpakha
	Katus (<i>Castanopsis indica</i>)	118	24	23	Dabi Bhirpakha
	Sal (<i>Shorea robusta</i>)	264	123	107	Dabi Bhirpakha
	Siris (<i>Albizia labbeck</i>)	1			Dabi Bhirpakha
	Uttis (<i>Alnus nepalensis</i>)	12			Dabi Bhirpakha
	Kadam (<i>Anthocephalus chinensis</i>)	2			Dabi Bhirpakha
	Kyamuna (<i>Cleistocalyx operculata</i>)	3			Dabi Bhirpakha
	Lapsi (<i>Choerospondias axillaris</i>)	1			Dabi Bhirpakha

Chainage	Name of plant species	Tree (GBH \geq 30cm)	Pole (16 \geq GBH<30cm)	Sapling (GBH<16cm)	Name of CF
	Chilaune (<i>Schima wallichii</i>)	3			Dabi Bhirpakha
	Kutmero (<i>Litsea monopetala</i>)	3			Dabi Bhirpakha
	Kyamuna (<i>Cleistocalyx operculata</i>)	1			Dabi Bhirpakha
	Uttis (<i>Alnus nepalensis</i>)	2			Dabi Bhirpakha
	Total	2,040	256	378	

Annex XIXa

Affected house/structures along road alignment

S. N.	Chainage	Feature	Number	Location	Remarks
1	0+005	Toilet	1	ROW	
2	0+025	Septic tank	1	On alignment	
3	0+900	Tap stand	1	On alignment	
4	1+580	House	1	ROW	
5	1+720	Water tank	1	On alignment	
6	2+473	Source of drinking water	1	ROW	
7	3+625	House	1	ROW	
8	3+640	House	1	ROW	safe in 4m
9	4+200	House including toilet	1	ROW	
10	4+220	House	3	ROW	safe in 4m
11	4+240	House	1	ROW	safe in 4m
12	4+335	House	1	ROW	
13	4+680	Water mill	1	On alignment	
14	6+470, 680	Cattle shed (Katero)	2	On alignment	
15	7+360	Temple	1	On alignment	Aitabare than
16	8+080	House	2	ROW	
17	8+215	House	1	ROW	safe in 4m
18	8+250	Toilet	1	ROW	safe in 4m
19	8+320	House	1	ROW	
20	8+550	House	1	ROW	
21	8+570	Toilet	1	ROW	
22	8+573	Tap	1	On alignment	
23	8+685	Tap	1	ROW	
24	8+620-8+820	Houses	13	ROW	
25	8+620-8+820	Shed	2	ROW	
26	8+890	House	1	ROW	
27	8+900	House	1	ROW	safe in 4m
28	8+910	House	1	ROW	
29	8+925	Toilet	1	ROW	
30	10+960	House	1	ROW	
31	11+933	Toilet	1	ROW	safe in 4m
32	11+945	House	1	ROW	
33	11+960	Toilet	1	ROW	
34	11+985	Water tank	1	On alignment	
35	11+985	Toilet	1	ROW	
36	11+985	Tap	1	ROW	
37	12+030	House	1	ROW	safe in 4m
38	13+170	House	2	ROW	
39	13+435	House	1	ROW	
40	13+450	House	1	ROW	
41	13+445	Toilet	2	ROW	
42	13+470	Hut (Katero)	1	ROW	
43	13+750	Toilet	1	ROW	
44	13+755	Hut (Katero)	1	ROW	

S. N.	Chainage	Feature	Number	Location	Remarks
45	14+130	House	1	ROW	
46	14+190	House	2	ROW	
47	14+270	Katero	1	ROW	
49	14+540	House	1	On alignment	
50	16+170	House	1	ROW	
51	16+200	House	1	ROW	
52	16+520	House	2	ROW	
53	18+980	House	1	ROW	
54	18+980	Toilet	1	On alignment	
55	18+990	Water tank	1	ROW	
56	19+000	Tap	1	ROW	
57	19+015	House	1	ROW	
58	19+190	House	1	ROW	
59	22+265	House	1	ROW	
60	22+340	Tap	1	ROW	
61	22+320	House	4	ROW	
62	22+555	House	1	ROW	

Annex XIXb

Brief socio-economic status of the affected family (house will be removed)

S.N	Particulars	Description
1	Name of the owner	Jit Bahadur Bohora
2	Chainage	14+540
3	Occupation	Agriculture cum bussiness
4	Income	
4.1	Agriculture income (NRs.)	65,000
4.2	Non Agriculture income (NRs.)	40,000
5	Total Expenditure (NRs.)	82,500
6	Food Sufficiency	10 Month
7	Land holding	
7.1	Total landholding	15,770.85 sq.m
7.2	Loss land	3,801.55 sq .m (2.42 % of total)
8	Total family Member	5 (Male 3 Female 2)
9	Education satatus	4 people literate, 1 illiterate

Annex XIXc
Photograph of structure to be acquired



Birkha Bdr Shrestha: Cattleshed (Ch 6+480)



Birkha Bdr Shrestha: Cattleshed (Ch 6+470)



Fauda Singh Shrestha: Pani Ghatta (Ch 4+680)



Common Property: Reservoir Tank (Ch 1+720)



Common Property: Tap Stand (Ch 0+900)



Common Property: Temple (Aitabare at Ch 7+360)



Water Tank at Ch 11+985



House at Ch 14+540



Toilet at Ch 18+980



Tap at Ch 8+573