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Appendix-1 調査団員、氏名

【調査団員・氏名】

氏 名	担 当	所 属
恒岡 伸幸	総括	国際協力機構
田中 総東	統括	国際協力機構
坂部 英孝	総括／事業計画	国際協力機構
深田 裕也	事業計画	国際協力機構
五瀬 伸吾	業務主任／交通計画 1	建設技研インターナショナル
土田 貴之	副業務主任／交通計画 2	建設技研インターナショナル
シュレスタ ロビンソン	道路設計	建設技研インターナショナル
須之内 典明	道路設計 2	建設技研インターナショナル
渡邊 恭史	橋梁・構造物設計	建設技研インターナショナル
水越 和雄	施工計画・積算	建設技研インターナショナル（補強）
渡辺 幹治	環境配慮	建設技研インターナショナル（補強）
山下 晃	社会環境／移転計画	建設技研インターナショナル（補強）
西野 慧	交通量調査／需要予測	トーニチコンサルタント
加藤 未波	自然条件調査（地形・地質）	建設技研インターナショナル
永田 将	自然条件調査（水理・水文・気象）	建設技研インターナショナル

Appendix-2 調査行程

Appendix-2-1 調査行程（第1回現地調査）

【調査行程】

第 1 回現地調査（2014 年 6 月 29 日～2014 年 8 月 6 日）

			JICA			CONSULTANT						
No.	MM. DD	Day	Team Leader	Project Planning	Country Officer (Transport)	Chief Consultant / Traffic Planning1	Deputy Chief Consultant / Traffic Planning1	Road Design	Environmental Examination	Social Consideration / Resettlement	Traffic Survey / Traffic Forecast	
			Tsuneoka	Fukada	Yokoi	Gose	Tsuchida	Robinson	Watanabe	Yamashita	Nishino	
1	Jun.29	Su				-	-	Preparation of Site Inspection and Data Collection	-	-	-	
2	Jun.30	Mo	13:30-15:00 Pre-dispatch meeting@JICA HQ					ditto	13:30-15:00 Pre-dispatch meeting@JICA HQ			
3	Jul.1	Tu				-	Travel TG661/TG319 (HND 00:20→BKK→ 12:45 KTM)	ditto	-	Travel TG661/TG319 (HND 00:20→BKK→12:45 KTM)		
4	Jul.2	We				Travel TG643 (NRT 12:00→BKK 16:30)	10:30 Meeting w/ JICA Nepal Office Site Investigation		Travel TG643 (NRT 12:00→BKK 16:30)	10:30 Meeting w/ JICA Nepal Office Site Investigation		
5	Jul.3	Th				Travel TG319 (BKK 10:15→KTM 12:25)	Preparation of Site Inspection		Travel TG319 (BKK 10:15→KTM 12:25)	Preparation of Site Inspection		
6	Jul.4	Fr				Site Inspection	Data Collection	Site Inspection		Data Collection		
7	Jul.5	Sa				Data Analysis						
8	Jul.6	Su	Travel TG661/TG319 (HND 00:20→BKK→12:45 KTM) Meeting within Study Team (Report Progress of the Study)			Internal Meeting					Admission to Hospital	
9	Jul.7	Mo	11:00 Meeting at JICA Office 14:30 Courtesy Call to DoR, Explanation of ICR and Discussion on M/D w/ DoR			11:00 Meeting at JICA Office 14:30 Courtesy Call to DoR, Explanation of ICR and Discussion on M/D w/ DoR						
10	Jul.8	Tu	10:00 Site Inspection		SD road → to Nepaltok	10:00 Site Inspection	Data Analysis	10:00 Site Inspection	Data Analysis			
11	Jul.9	We	09:30 Meeting WB 11:00 Ministry of ST and Environment 13:00 ADB 14:30 Discussion on M/D w/ DoR		Sinduri Section 3 → to Bardibus	09:30 Meeting WB 11:00 MOSTE 13:00 ADB 14:30 Discussion on M/D w/ DoR	Data Analysis		09:30 Meeting WB 11:00 Ministry of ST and Environment 13:00 ADB 14:30 Discussion on M/D w/ DoR			
12	Jul.10	Th	15:00 Discussion on M/D w/ DoR		Back to Kathmandu	15:00 Discussion on M/D w/ DoR	Data Analysis		15:00 Discussion on M/D w/ DoR			
13	Jul.11	Fr	10:30 Signing on Minutes of Meetings 14:30 Report to JICA Office 16:00 Embassy of Japan		Visit to TIA Accompanying the mission report to EOJ/JICA	10:30 Signing on Minutes of Meetings 14:30 Report to JICA Office 16:00 Embassy of Japan						
14	Jul.12	Sa	Travel TG320/TG682 (KTM 13:50→BKK→)			Data Analysis						
15	Jul.13	Su	Travel TG682 (→06:55 HND)			Site Inspection Internal Meeting					Preparation of Traffic Survey Internal Meeting	
16	Jul.14	Mo				10:30 ADB Data Collection and Analysis	Data Collection and Analysis		10:30 ADB Data Collection and Analysis		Preparation of Traffic Survey	
17	Jul.15	Tu				Meeting W/ DoR	Preparation of Traffic Survey/ Technical Note		Meeting W/ DoR		Preparation of Traffic Survey	
18	Jul.16	We				Meeting W/ JICA Nepal Office	Preparation of Traffic Survey/ Technical Note		Meeting W/ JICA Nepal Office		Preparation of Traffic Survey	
19	Jul.17	Th				Preparation of Technical Note			Site Inspection		Data Collection and Data Analysis	
20	Jul.18	Fr				10:30 Meeting w/ DoR					Data Collection and Data Analysis	
21	Jul.19	Sa				Data Analysis				Travel TG320/TG682 (KTM 13:50→BKK→)		Site Inspection
22	Jul.20	Su				Preparation of Technical Note				Travel TG682 (→ 06:55 HND)		Data Collection and Site Inspection
23	Jul.21	Mo				Travel TG320/TG682 (KTM 13:50→BKK→)	ditto		Travel TG320/TG682 (KTM 13:50→BKK→)		-	ditto
24	Jul.22	Tu				Travel TG682 (→ 06:55 HND)	ditto		Travel TG682 (→ 06:55 HND)		-	ditto
25	Jul.23	We				-	ditto		-		-	ditto
26	Jul.24	Th				-	Discussion on T/N w/DOR		-		-	ditto
27	Jul.25	Fr				-	ditto		-		-	ditto
28/	Jul.26	Sa				-	Data Analysis		-		-	Data Analysis
29	Jul.27	Su				-	Signing on T/N Internal Meeting		-		-	Internal Meeting
30	Jul.28	Mo				-	Data Collection and Site Inspection		-		-	Data Collection and Site Inspection
31	Jul.29	Tu				-	ditto	-	-		-	ditto
32	Jul.30	We				-	ditto	-	-		-	ditto
33	Jul.31	Th				-	ditto	-	-		-	ditto
34	Aug.1	Fr				-	ditto	-	-		-	ditto
35	Aug.2	Sa				-	Data Analysis	-	-		-	Data Analysis
36	Aug.3	Su				-	Internal Meeting	-	-		-	Internal Meeting
37	Aug.4	Mo				-	Report to JICA Nepal Office	-	-		-	Report to JICA Nepal Office
38	Aug.5	Tu				-	Travel TG320/TG682 (KTM 13:50→BKK→)	-	-		-	Travel TG320/TG682 (KTM 13:50→BKK→)
39	Aug.6	We				-	Travel TG682 (→ 06:55 HND)	-	-		-	Travel TG682 (→ 06:55 HND)

Appendix-2-2 調査行程（第2回現地調査）

第2回現地調査（2014年8月25日～2014年10月15日）

			JICA				CONSULTANT										CONSULTANT
No.	MM. DD	Date	Team Leader	Project Planning	Chief Consultant / Traffic Planning ¹	Deputy Chief Consultant / Traffic Planning ¹	Road Design	Bridge / Structure Design	Construction Planning / Cost Estimation	Environmental Examination	Social Consideration / Resettlement Planning	Natural Condition (Topographic / Geometric)	Natural Condition (Hydraulic/Hydrology/ Meteorology)	(Road Design 2)			
			Tanaka	Sakabe	Gose (fixed)	Tsuchida	Robinson	Watanabe.Y	Mizukoshi	Watanabe.K (fixed)	Yamashita	Kato (fixed)	Nagata	(Sunouchi)			
1	Aug.25	Mo					Travel TG661/TG319 (HND 00:20→BKK →12:25 KTM)					Travel TG661/TG319 (HND 00:20→BKK →12:25 KTM)					
2	Aug.26	Tu					Data Analysis					Data Analysis					
3	Aug.27	We					ditto					ditto					
4	Aug.28	Th					ditto					ditto					
5	Aug.29	Fr					ditto					ditto					
6	Aug.30	Sa					ditto					ditto					
7	Aug.31	Su					ditto					ditto					
8	Sep.1	Mo			Travel TG661/TG319 (HND 00:20→BKK →12:25 KTM)	ditto	Travel TG661/TG319 (HND 00:20→BKK→12:25 KTM)					ditto		Travel TG643 (NRT 12:00→BKK 16:30)			
9	Sep.2	Tu				Site Inspection						ditto	Equipment Calibration in BKK				
10	Sep.3	We				Courtesy Call to DOR						Courtesy Call to DOR	Travel TG319 (BKK 10:15→KTM 12:25)				
11	Sep.4	Th				Site Inspection						Site Inspection	Site Inspection				
12	Sep.5	Fr				Data Analysis						Data Analysis	Data Analysis				
13	Sep.6	Sa				ditto						ditto	ditto				
14	Sep.7	Su				ditto						ditto	ditto				
15	Sep.8	Mo				ditto						ditto	ditto				
16	Sep.9	Tu			Explanation of ITR-1 to JICA (10:30)		Explanation of ITR-1 to JICA (10:30)					Explanation of ITR-1 to JICA (10:30)		Explanation of ITR-1 to JICA (10:30)			
17	Sep.10	We			Data Analysis		Data Analysis					Data Analysis		Data Analysis			
18	Sep.11	Th			ditto		ditto					ditto		ditto			
19	Sep.12	Fr			Explanation of ITR-1 to DOR (16:00)		ditto	Explanation of ITR-1 to DOR (16:00)				ditto		ditto			
20	Sep.13	Sa			Data Analysis		Data Analysis					ditto		ditto			
21	Sep.14	Su			Travel TG643 (NRT 12:00→BKK 16:30)	ditto		ditto				ditto		ditto			
22	Sep.15	Mo			Travel TG319 (BKK 10:15→KTM 12:25)	ditto		ditto				ditto		ditto			
23	Sep.16	Tu	Meeting at JICA HQ	Meeting with JICA HQ by TV (10:15-)	- Meeting with JICA HQ by TV (10:15-) Travel TG320/ TG682 (KTM 13:50→ BKK→)		Meeting with JICA HQ by TV (10:15-)			Meeting at JICA HQ		Meeting with JICA HQ by TV (10:15-)	Travel TG661/TG319 (HND 00:20→BKK →12:25 KTM)	Meeting with JICA HQ by TV (10:15-)			
24	Sep.17	We			Site Inspection	Travel TG682 (→ 06:55 HND)		Site Inspection				Data Analysis	Site Inspection	Site Inspection			
25	Sep.18	Th			Data Analysis			Meeting with Banepa DOR				ditto	ditto	ditto			
26	Sep.19	Fr	JICA Advisory Committee for Environmental and Social Consideration	ditto	JICA Advisory Committee			ditto		JICA Advisory Committee for Environmental and Social Consideration		ditto	ditto	Data Analysis			
27	Sep.20	Sa				Travel TG661/TG319 (HND 00:20→BKK →12:25 KTM)				Travel TG661/TG319 (HND 00:20→BKK→12:25 KTM)							
28	Sep.21	Su	Travel TG661/TG319 (HND 00:20→BKK→12:25 KTM)	Explanation on ITR-1 to DoR (10:30-)	Data Analysis			Data Analysis				Explanation on ITR-1 to DoR (10:30-)	Explanation on ITR-1 to DoR (10:30-) - Site Inspection	Site Inspection			
29	Sep.22	Mo	- Meeting at JICA Office (11:00-) - Explanation on ITR-1 to DoR (14:30-)	- Meeting at JICA Office (11:00-) - Explanation on ITR-1 to DoR (14:30-)	Meeting at JICA Office (11:00-)			Data Analysis		- Meeting at JICA Office (11:00-) - Explanation on ITR-1 to DoR (14:30-)		Data Analysis	Visit DoR Bhaktapur Office	Data Analysis			
30	Sep.23	Tu	Discussion and Finalization on M/D w/ DoR (15:00-)	Discussion and Finalization on M/D w/ DoR (15:00-)	ditto		ditto	Site Inspection		Discussion and Finalization on M/D w/ DoR (15:00-)		ditto	Site Inspection	ditto			
31	Sep.24	We	Report to JICA Office (15:00-)	Report to JICA Office (15:00-)	ditto		ditto	ditto		Report to JICA Office (15:00-)		ditto	ditto	ditto			
32	Sep.25	Th	Site Inspection	Site Inspection				Data Analysis					ditto	ditto			
33	Sep.26	Fr	- Signing on Minutes of Meetings (9:30-) - Travel TG320/TG682 (KTM 13:50→BKK→)	Signing on Minutes of Meetings (9:30-)				Data Analysis	Site Inspection	Signing on Minutes of Meetings (9:30-)		Data Analysis		ditto			
34	Sep.27	Sa	Travel TG682 (→06:55 HND)											ditto			
35	Sep.28	Su			Data Analysis			Data Analysis	Site Inspection			Data Analysis		ditto			
36	Sep.29	Mo			ditto			ditto	Data Analysis	Contract with EIA Consultant		Data Analysis		ditto			
37	Sep.30	Tu			ditto			ditto	Site Inspection		Data Analysis		Site Inspection	ditto			
38	Oct.1	We			Site Visit (Sindhuli Road)			ditto	ditto			ditto		Site Visit (Sindhuli Road)			
39	Oct.2	Th			ditto		ditto	Data Analysis	Travel TG320/TG682 (KTM 13:50→BKK→)		ditto		Data Analysis	ditto			
40	Oct.3	Fr			Travel TG320/TG682 (KTM 13:50→BKK→)	Preparation of T/N				Travel TG682 (→ 06:55 HND)		ditto		Preparation of T/N			
41	Oct.4	Sa			Travel TG682 (→ 06:55 HND)	Preparation of T/N	Site Inspection	Preparation of T/N	Site Inspection			ditto		Site Inspection			
42	Oct.5	Su				Preparation of T/N						Preparation of T/N		Preparation of T/N			
43	Oct.6	Mo				ditto						ditto		ditto			
44	Oct.7	Tu				ditto					ditto	Travel TG320/TG682 (KTM 13:50→BKK→)	ditto	ditto			
45	Oct.8	We				ditto					Meeting with DOR	Travel TG682 (→ 06:55 HND)	ditto	ditto			
46	Oct.9	Th				ditto					Site Insecion		ditto	ditto			
47	Oct.10	Fr				Discussion for Technical Note		ditto			ditto		ditto	ditto			
48	Oct.11	Sa				Preparation of T/N					Preparation of T/N		Preparation of T/N	ditto			
49	Oct.12	Su				Courtesy Call to MOPIIT		ditto			ditto		Courtesy Call to MOPIIT	ditto			
50	Oct.13	Mo				Signings on T/N Report to JICA Office					Signings on T/N Report to JICA Office		Signings on T/N Report to JICA Office	ditto			
51	Oct.14	Tu				Travel TG320/TG682 (KTM 13:50→BKK→)					Travel TG320/TG682 (KTM 13:50→BKK→)		Travel TG320/TG682 (KTM 13:50→BKK→)	Travel TG320/TG682 (KTM 13:50→BKK→)			
52	Oct.15	We				Travel TG682 (→06:55 HND)					Travel TG682 (→ 06:55 HND)		Travel TG682 (→ 06:55 HND)	Travel TG642 (→ 06:10 NRT)			

Appendix-2-3 調査行程（第3回現地調査）

第3回現地調査（2014年12月16日～2014年12月25日）

			CONSULTANT
No.	MM, DD	Date	Deputy Chief Consultant / Traffic Planning1
			Tsuchida
1	Dec.16	Tu	Travel TG661/TG319 (HND 00:20→BKK→12:25 KTM) Meeting w/ JICA Nepal Office
2	Dec.17	We	Meeting w/ DOR
3	Dec.18	Th	Meeting w/ DOR Bhaktapur Division Office, Meeting w/ Utility Company (Electricity) Site Survey
4	Dec.19	Fr	Meeting w/ Utility Companies (Electricity, Telecommunications, Water Supply) Meeting w/ Traffic Police
5	Dec.20	Sa	Data Analysis
6	Dec.21	Su	Data Analysis
7	Dec.22	Mo	Discussion on Technical Note Site Inspection
8	Dec.23	Tu	Discussion and signing on Technical Note Report to JICA Nepal Office
9	Dec.24	We	Travel TG320/ TG682 (KTM 13:50→BKK→)
10	Dec.25	Th	Travel TG682 (→06:55 HND)

Appendix-2-4 調査行程（第4回現地調査）

第4回現地調査（その1）（2015年10月1日～2015年10月20日）

日程	須之内 典明 (道路設計2)	水越 和雄 (施工計画・積算)
10月 1日(木)	移動(東京⇒カトマンズ)	移動(東京⇒カトマンズ)
2日(金)	現地調査	現地調査
3日(土)	資料整理	資料整理
4日(日)	資料整理	資料整理
5日(月)	協議(JICA ネパール事務所)	協議(JICA ネパール事務所)
6日(火)	現地再委託協議	現地調査・資料収集
7日(水)	現地調査	現地調査・資料収集
8日(木)	資料作成	現地調査・資料収集
9日(金)	移動(カトマンズ⇒)	現地調査・資料収集
10日(土)	移動(⇒東京)	資料整理
11日(日)	—	資料整理
12日(月)	—	現地調査・資料収集
13日(火)	—	現地調査・資料収集
14日(水)	—	現地調査・資料収集
15日(木)	—	資料作成
16日(金)	—	資料作成
17日(土)	—	資料整理
18日(日)	—	資料整理
19日(月)	—	移動(カトマンズ⇒)
20日(火)	—	移動(⇒東京)

第4回現地調査（その2）（2015年10月29日～2015年11月14日）

日程	土田 貴之 (副業務主任／交通計画2)	シュレスタ ロビンソン (道路設計)	山下 晃 (社会環境／移転計画)
10月 29日(木)	移動(東京⇒カトマンズ) 協議(DOR)	—	—
30日(金)	—	—	—
31日(土)	資料整理	—	—
11月 1日(日)	資料整理	—	移動(東京⇒カトマンズ)
2日(月)	協議(JICA ネパール事務所)	—	協議(JICA ネパール事務所)
3日(火)	現地調査	—	現地調査
4日(水)	資料作成	—	資料作成
5日(木)	資料作成 協議(DOR)	移動(東京⇒カトマンズ) 協議(DOR)	資料作成 協議(DOR)
6日(金)	移動(カトマンズ⇒)	資料作成	資料作成
7日(土)	移動(⇒東京)	資料整理	資料整理
8日(日)	—	協議記録簿署名(DOR)	協議記録簿署名(DOR)
9日(月)	—	協議(JICA ネパール事務所)	協議(JICA ネパール事務所) 移動(カトマンズ⇒)
10日(火)	—	資料作成	移動(⇒東京)
11日(水)	—	現地調査	—
12日(木)	—	資料作成	—
13日(金)	—	移動(カトマンズ⇒)	—
14日(土)	—	移動(⇒東京)	—

Appendix-2-5 調查行程（準備調查報告書(案)説明）

第 5 回現地調査（2016 年 11 月 22 日～2016 年 12 月 15 日）

Date/Day	Hidetaka Sakabe (Leader/Project Planning)	Shingo Gose (Chief Consultant/ Traffic Planning 1)	Takayuki Tsuchida (Deputy Chief Consultant/Traffic Planning 1)	Robinson Shrestha (Road Design)	Akira Yamashita (Social Consideration/ Resettlement)
22 nd Oct Thu	—	Depart Tokyo, Arrive KTM Courtesy Call to DOR	—	Depart Tokyo, Arrive KTM Courtesy Call to DOR	—
23 rd Fri	—	Site Observation	—	Site Observation	—
24 th Sat	—	Documentation & Internal Meeting	Arrive KTM Internal Meeting	Documentation & Internal Meeting	Arrive KTM Internal Meeting
25 th Sun	Arrive KTM Courtesy call/Meeting with JICA	Meeting with DOR Meeting with JICA	Meeting with DOR Meeting with JICA	Meeting with DOR Meeting with JICA	Meeting with DOR Meeting with JICA
26 th Mon			Meeting (JICA Nepal)	—	Meeting (JICA Nepal)
27 th Tue			Site Observation	—	Site Observation
28 th Wed			Depart KTM	—	Depart KTM
29 th Thu	Signing of MM Documentation	Signing of MM Documentation	Arrive Tokyo	Signing of MM Documentation	Arrive Tokyo
30 th Fri	Reporting to JICA Reporting to Embassy of Japan	Reporting to JICA Reporting to Embassy of Japan	—	Reporting to JICA Reporting to Embassy of Japan	Documentation
1 st Dec Sat	Depart KTM	Additional Survey		Additional Survey	Documentation
2 nd Sun	Arrive Tokyo	Additional Survey	—	Additional Survey	Signing Technical Notes (DOR)
3 rd Mon		Additional Survey	—	Additional Survey	Meeting, Reporting to JICA Depart KTM
4 th Tue		Depart KTM	—	Additional Survey Meeting with DOR	Arrive Tokyo
5 th Wed		Arrive Tokyo	—	Additional Survey	—
6 th – 13 th Thu			—	Additional Survey/Meeting with DOR and other related organizatons	—
14 th Fri			—	Depart KTM	—
15 th Sat			—	Arrive Tokyo	—

Appendix-3 関係者(面会者)リスト

【関係者（面会者）リスト】

氏 名	所 属	役 職
星野 久史	在ネパール日本国大使館	一等書記官
大山 誠	在ネパール日本国大使館	一等書記官
清水 勉	JICA ネパール事務所	所長
佐久間 潤	同上	所長
永見 公三	同上	次長
末兼 賢太郎	同上	所員
古川 奈津子	同上	担当
Mr. Sourab Rana	同上	Associate Program Officer
Mr. Bishnu Om Bade	Ministry of Physical Infrastructure and Transport	Joint Secretary, Foreign Aid and Quality Standards Division
Mr. Devendra Karki	Ministry of Physical Infrastructure and Transport, Department of Roads	Director General
Mr. Sanjaya Kumar Shrestha	同上	Deputy Director General Foreign Cooperation Branch
Mr. Arjun Jung Thapa	同上	Deputy Director General (Joint Secretary) Planning & Design Branch
Mr. Keshab Kumar Sharma	同上	Deputy Director General Maintenance Branch
Mr. Shiva Nepal	同上	Senior Divisional Engineer Chief of Geo-environmental and Social Unit (GESU)
Mr. Gopal Prasad Sigdel	同上	Project Manager Asset Management, Contract Management & Quality Control Project
Mr. Rupak Rajbhandari	同上	Senior Divisional Engineer Foreign Co-operation Branch
Mr. Saroj Pradhan	同上	Department Senior Engineer
Mr. Rajan Man Shrestha	同上	Senior Engineer, Mechanical Branch
Mrs. Radhika Prajapati Shrestha	同上	Engineer Geo-environmental and Social Unit
Mr. Prabhat Kr. Jha	同上	Project Head, Rehabilitation and Upgrading of Maitighar-Tinkune Road of Amiko Lokmarga
Mr. Roshan Lal Shrestha	同上	Project Manager Kathmandu-Suryabinayak-Dhulekhel Road Project
Mr. Laxman Datt Joshi	同上	Engineer, Foreign Cooperation Branch
Mr. Vijay Kumar Mahato	同上	S. D. E./ Unit Chief Geo-environmental and Social Unit (DOR. GESU)
Mr. Narendra Nath Koirala	Ministry of Physical Infrastructure and Transport, Department of Roads Bhaktapur Division Office	Senior Divisional Engineer, Division Chief
Mr. Narendra Nath Rdirala	同上	Chief
Mr. Dipesh Rajak	同上	Engineer
Mr. Manish Kumar Shakya	同上	Engineer
Mr. Mahendra Man Gurung	Ministry of Science, Technology and Environment (MOSTE)	Joint Secretary and Chief Environment Management Division
Mr. Ashok Prasad Bhattarai	同上	Scientific Officer Environment Management Division
Mr. Bidur Jha	同上	Engineer
Ms. Jwala Shrestha	Ministry of Science, Technology and Environment (MOSTE)	Undersecretary Environmental Section
Mr. Madhusudan Silwal	Metropolitan Traffic Police Division	Traffic Police Inspector
Mr. Laxmi Prasad Subedi	アジア開発銀行ネパール事務所	Senior Social Development Officer (Safeguards)
Mr. Deepak Bahadur Singh	同上	Senior Environment Officer
Mr. Farhad Ahmed	世界銀行ネパール事務所	Senior Transport Specialist
Mr. Drona Raj Ghimire	同上	Environmental Specialist
Mr. Dhrubaraj Regmi	同上	Consultant (Transport)
Mr. Jayaram Lamichhane	Federation of Contractor's Associations of Nepal (FCAN)	President

Appendix-4 Minutes of Discussions

Appendix-4-1 Minutes of Discussions (第1回現地調査)

THE MINUTES OF DISCUSSION
ON
THE MISSION FOR THE PREPARATORY SURVEY
ON
THE PROJECT FOR THE IMPROVEMENT OF SURYABINAYAK-DHULIKHEL ROAD
IN
THE FEDERAL DEMOCRATIC REPUBLIC OF NEPAL

In response to a request from the Government of the Federal Democratic Republic of Nepal (hereinafter referred to as “Nepal”), Japan International Cooperation Agency (hereinafter referred to as “JICA”) in consultation with the Government of Japan decided to conduct a Preparatory Survey (hereinafter referred to as “the Survey”) and sent a Preparatory Survey Team (hereinafter referred to as “the Team”), headed by Dr. Nobuyuki Tsuneoka, Senior Advisor of JICA, to Nepal from June 29 to July 29, 2014 to discuss things on the Project for the Improvement of Suryabinayak-Dhulikhel Road (hereinafter referred to as “the Project”).

JICA and the Department of Roads (hereinafter referred to as “DOR”), Ministry of Physical Infrastructure and Transport, first of all, agreed on the implementation of the Survey of the Project.

The Team held discussions with officials concerned of the Government of Nepal and conducted a field survey in the Project area. In the course of discussions and field survey, both sides confirmed the main items described in the attached sheets.

The Team will continue further studies and prepare a Preparatory Survey Report.

Kathmandu, July 11, 2014



Nobuyuki TSUNEOKA
Leader
Preparatory Survey Team
Japan International Cooperation Agency



Devendra Karki
Director General
Department of Roads,
Ministry of Physical Infrastructure and
Transport
Federal Democratic Republic of Nepal

ATTACHMENT

1. Title of the Project

Both Japanese and Nepalese sides (hereinafter referred to as “Both sides”) confirmed that the title of the Project shall be “the Project for the Improvement of Suryabinayak-Dhulikhel Road”.

2. Objective of the Project

Both sides confirmed that the objective of the Project is to widen the existing road between Suryabinayak and Dhulikhel and install adjoining facilities in order to establish efficient and effective linkage of the eastern part of Nepal and Kathmandu as well as Mid Hill Highway.

3. Objective of the Survey

Both sides confirmed the objective of the Survey as follows:

- 3.1 To understand the background and objective of the Project and examine its impacts and appropriateness.
- 3.2 To identify the components, conduct outline design and estimate the Project cost, based on the data and information collected from and the results of meetings with the Nepalese side.
- 3.3 To study the issues of environmental and social considerations through the Survey.
- 3.4 It should be noted that implementation of the Survey does not imply any decision or commitment by JICA to extend its grant for the Project at this stage.

4. Items requested by Nepal

Both sides confirmed the components of the Project will include the following items:

4.1 Project Site

The target road to construct is a part of Mid Hill Highway between Suryabinayak in Bhaktapur District and Dhulikhel in Kavrepalanchowk District. The target road begins and ends at the edges of Kathmandu – Bhaktapur Road and Sindhuli road in length of approximately 16km.

The site is also shown in Annex-1.

4.2 Civil Works

Construction of four lane dual carriage way. (approx. 16km)
Installation of traffic signals and street lights.

4.3 Consulting Services



Soft component as road safety activities such as awareness program and capacity building.

4.4 Technical Matters

4.4.1 Layout plan of the road will be discussed and confirmed at each mission and therefore decided at the mission of explaining the draft final report.

4.4.2 Following road facilities may be included within the Project

- Service road
- Pedestrian bridges
- Surveillance system

5. Responsible and Implementing Agency

Both sides confirmed the responsible and implementing organizations as follows:

5-1 The responsible and implementing organization is the Department of Roads, Ministry of Physical Infrastructure and Transport. (DOR)

5-2 The organization chart of DOR is shown in Annex-2.

5-3 Upon completion, Division Road Office Bhaktapur of DOR will be responsible for maintenance and management for the roads, bridges and facilities constructed by the Project.

6. Japan's Grant Aid Scheme

6.1 The Nepalese Side understands the Japan's Grant Aid scheme explained by the Team, as described in Annex-3 and Annex-4.

6.2 The Nepalese Side will take the necessary measures, as described in Annex-5, to facilitate the smooth implementation of the Project, as a condition for the Japan's Grant Aid to be implemented, according to the existing agreement between Both sides.

7. Environmental and Social Considerations

Both sides agreed on the procedure of Environmental and Social Considerations necessary for commencement of the Project. The Nepalese side is responsible to implementing the activities while JICA monitors and supports for smooth preparation.

7.1 The Team explained the Project is categorized as "Category A" according to the JICA Guidelines for Environmental and Social Considerations (April, 2010) (hereinafter referred to as "the JICA Guidelines"), since the Project is widening of the road where serious socio- environmental impact may be expected.

7.2 The Nepalese side understands the Project needs to follow the JICA Guidelines. Therefore

environmental and social surveys at the Environmental Impact Assessment (EIA) level shall be done through the Survey.

- 7.3 Regarding the Project Affected Persons (PAPs) within the Project sites, The Nepalese Side agreed to secure the appropriate budget to be allocated for resettlement and compensation and secure the land before the implementation of the Project. In this regard the Resettlement Action Plan (RAP) will be prepared and approved by the responsible authorities beforehand and Ministry of Physical Infrastructure and Transportation will take necessary measures to PAPs according to the RAP in close communication with JICA.
- 7.4 Regarding the resettlement issues, Both sides reconfirmed those described in Annex-6 which was explained by JICA on March 2014.

8. Schedule of the Survey

The Preparatory Survey will be carried out under following schedule. The schedule may be subject to change during the preparation and the course of the survey.

- 8.1 Below are major schedules of the Survey. The Team will visit Nepal four (4) times in total before finalizing the Preparatory Design Report.
- The First Survey as “Project Scoping” (July, 2014): The Team will continue further studies in Nepal until July 29, 2014.
 - The Second Survey as “Outline Design” (September to October 2014): to implement technical surveys necessary for road and bridge design.
 - The Third Survey as “Mid-Review” (December, 2014): The Team will come to discuss further planning of the Project and monitor the progress of social and environmental issues.
 - The Fourth (the last) Survey as “Explanation on the Draft Final Report” (May, 2015): JICA will prepare the Draft Final Report and send The Team to explain details of the Project including the final components and cost estimation to The Nepalese side.
- 8.2 JICA will finalize the Final Report and send it to the Nepalese side around December 2015.
- 8.3 As commencing of each survey, the Team will prepare reports and explain on it to the Nepalese side for smooth implementation of the Survey and mutual understanding.

9. Other Relevant Issues

- 9.1 The Nepalese side understood the principle of the Japan’s Official Development Assistance (ODA) Charter, which stresses that ODA must not be utilized for military purposes or promoting international conflicts, and agreed to ensure that the equipment to be procured in the Project will never be used for any military



purposes.

9.2 The Nepalese side confirmed that the following undertakings should be taken by the Nepalese side at its own expense if implementation of the Project is accepted by the Government of Japan..

- (1) To secure sites for material storing yard, temporary construction yard and waste disposal for the Project.
- (2) To relocate existing utilities within the Project site to designated area.
- (3) To arrange issuance of license, permission and other necessary procedures for the Project

9.3 The Nepalese side shall secure enough budget and personnel necessary for the operation and maintenance of the facilities implemented by the Project, including the periodical maintenance work after the completion of the Project.

9.4 The DOR shall act as a counterpart agency to the Team and also as a coordinating body with other organizations concerned for the smooth implementation of the Survey.

DOR shall, at its own expense, provide the Team with the following items in cooperation with other organizations concerned:

- (1) security-related information as well as measures to ensure the safety of the Team;
- (2) information as well as support in obtaining medical service;
- (3) data and information related to the Survey;
- (4) counterpart personnel;
- (5) credentials or identification cards;
- (6) entry permits necessary for the Team members to conduct field surveys; and
- (7) support in obtaining other privileges and benefits if necessary.

Annex-1: Project Site

Annex-2: Organization Chart of MTI

Annex-3: Japan's Grant Aid Scheme

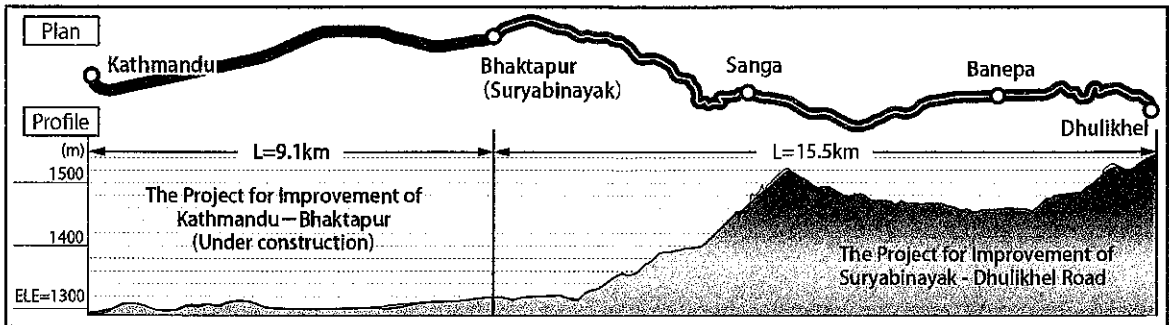
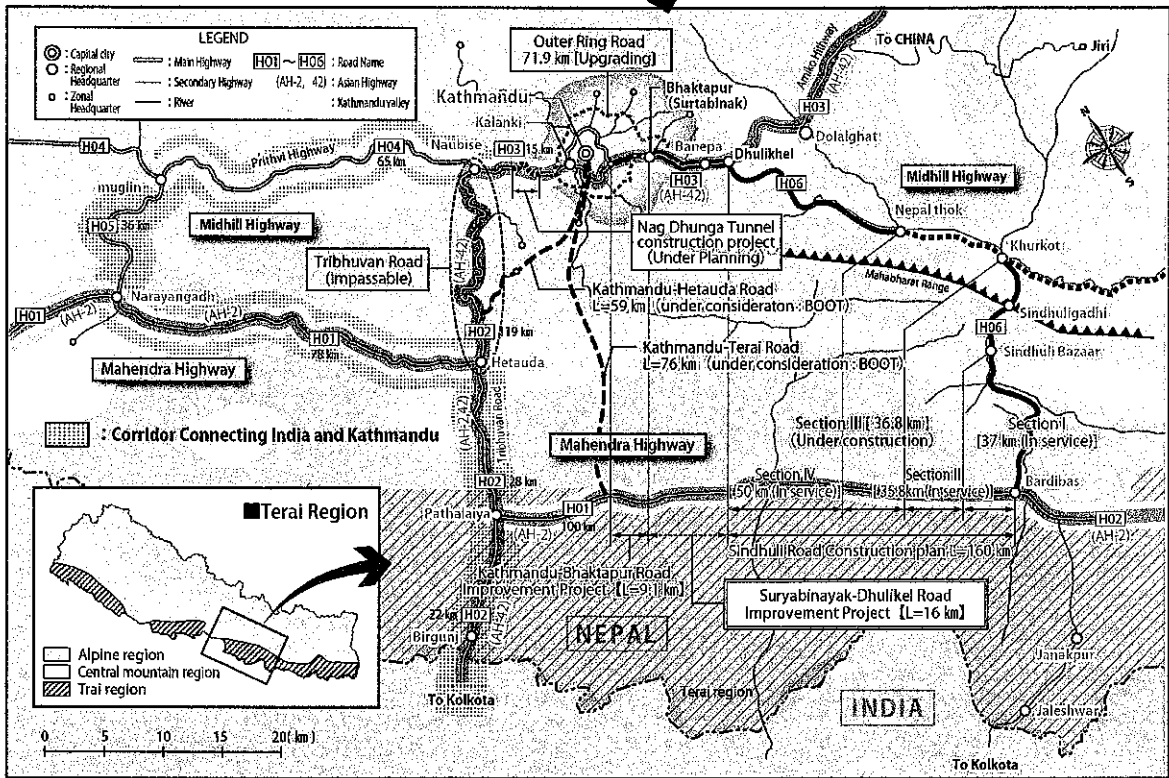
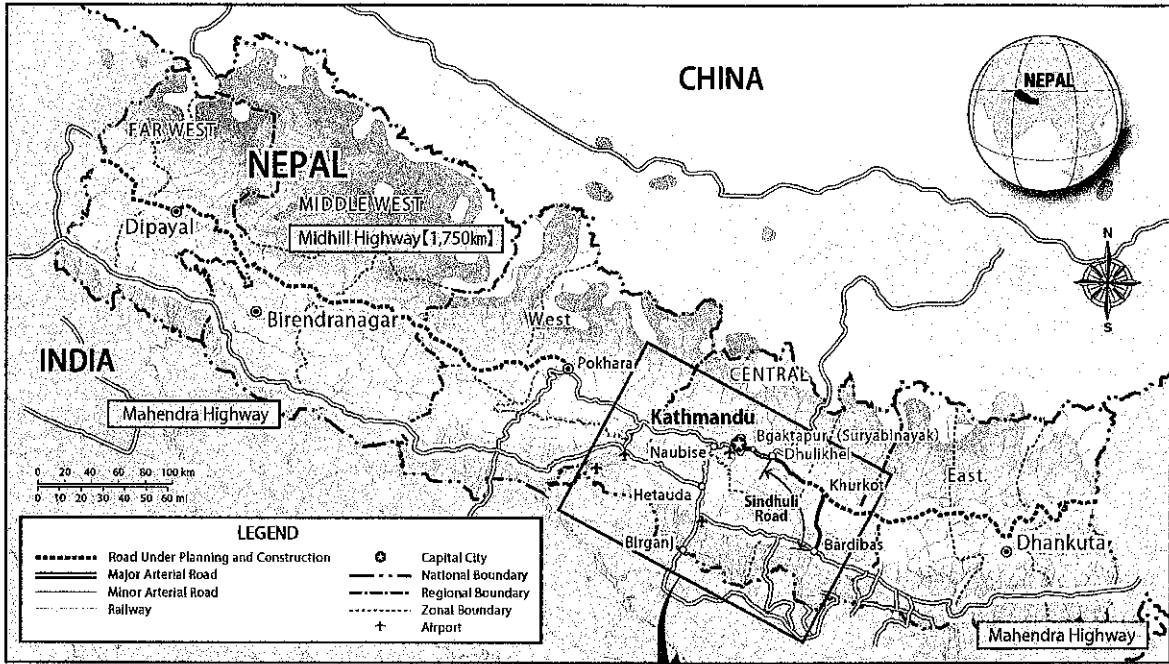
Annex-4: Flowchart of Japan's Grant Aid Procedure

Annex-5: Major Undertakings to be taken by Each Government

Annex-6: Resettlement Issues

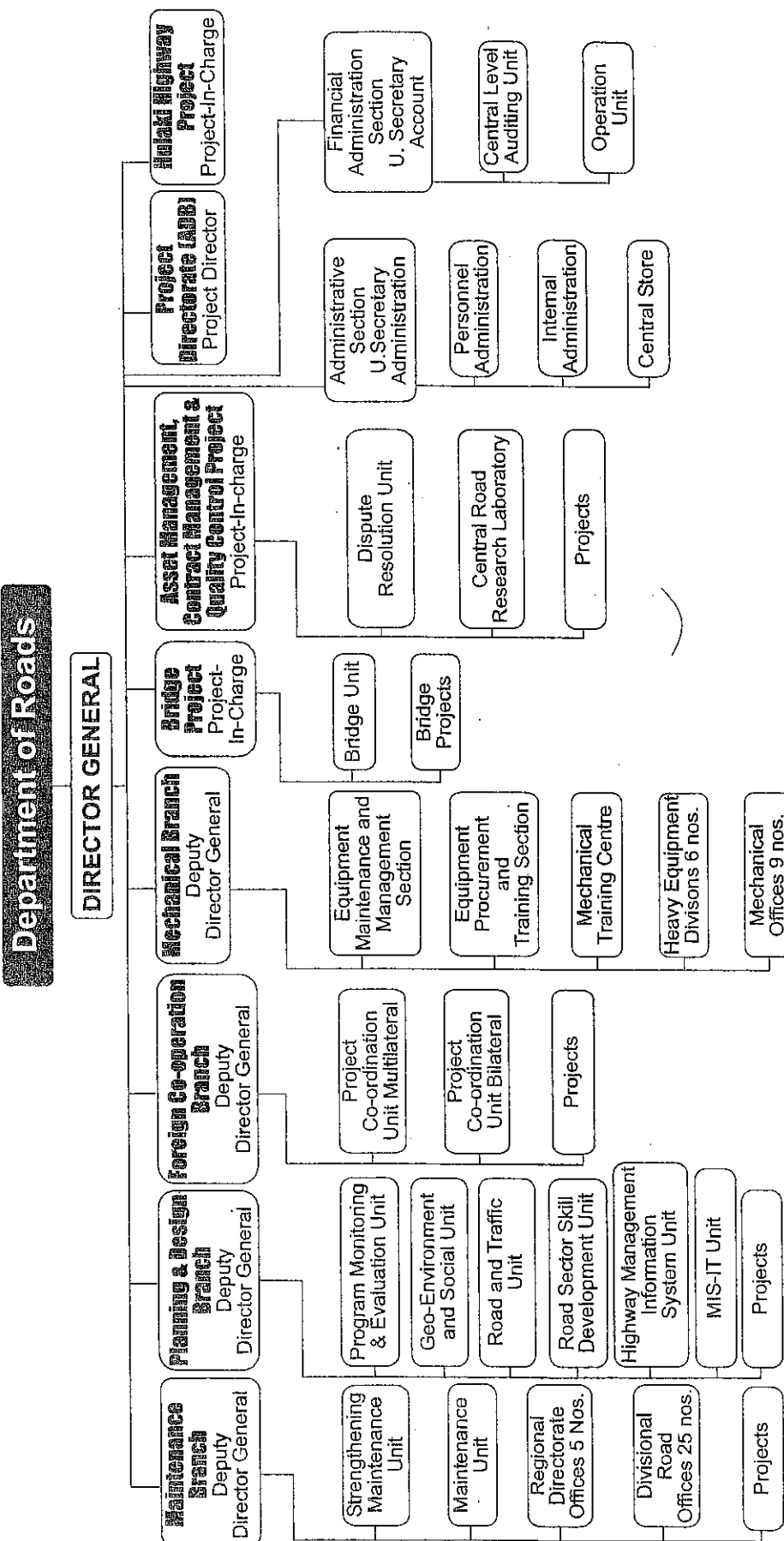


Annex-1: Project Site



Annex-2: Organization Chart of DOR

Organization Chart of Department of Roads 2070/071



Note: This is a Present Functional Organization of Department of Roads

Annex-3: Japan's Grant Aid Scheme

JAPAN'S GRANT AID

The Government of Japan (hereinafter referred to as "the GOJ") is implementing the organizational reforms to improve the quality of ODA operations, and as a part of this realignment, a new JICA law was entered into effect on October 1, 2008. Based on this law and the decision of the GOJ, JICA has become the executing agency of the Grant Aid for General Projects, for Fisheries and for Cultural Cooperation, etc.

The Grant Aid is non-reimbursable fund provided to a recipient country to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

1. Grant Aid Procedures

The Japanese Grant Aid is supplied through following procedures:

- Preparatory Survey
 - The Survey conducted by JICA
- Appraisal & Approval
 - Appraisal by the GOJ and JICA, and Approval by the Japanese Cabinet
- Authority for Determining Implementation
 - The Notes exchanged between the GOJ and a recipient country
- Grant Agreement (hereinafter referred to as "the G/A")
 - Agreement concluded between JICA and a recipient country
- Implementation
 - Implementation of the Project on the basis of the G/A

2. Preparatory Survey

(1) Contents of the Survey

The aim of the preparatory Survey is to provide a basic document necessary for the appraisal of the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the recipient country necessary for the implementation of the Project.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of an outline design of the Project.
- Estimation of costs of the Project.

The contents of the original request by the recipient country are not necessarily approved in



their initial form as the contents of the Grant Aid project. The Outline Design of the Project is confirmed based on the guidelines of the Japan's Grant Aid scheme.

JICA requests the Government of the recipient country to take whatever measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization of the recipient country which actually implements the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA employs (a) registered consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the Report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the appropriateness of the Project.

3. Japan's Grant Aid Scheme

(1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes(hereinafter referred to as "the E/N") will be signed between the GOJ and the Government of the recipient country to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Government of the recipient country to define the necessary articles to implement the Project, such as payment conditions, responsibilities of the Government of the recipient country, and procurement conditions.

(2) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the recipient country to continue to work on the Project's implementation after the E/N and G/A.

(3) Eligible source country

Under the Japanese Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. When JICA and the Government of the recipient country or its designated authority deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm are limited to "Japanese nationals".

(4) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by JICA. This "Verification" is deemed necessary to fulfill accountability to Japanese taxpayers.

(5) Major undertakings to be taken by the Government of the Recipient Country

In the implementation of the Grant Aid Project, the recipient country is required to undertake such necessary measures as Annex-6.

(6) "Proper Use"



The Government of the recipient country is required to maintain and use properly and effectively the facilities constructed and the equipment purchased under the Grant Aid, to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Grant Aid.

(7) "Export and Re-export"

The products purchased under the Grant Aid should not be exported or re-exported from the recipient country.

(8) Banking Arrangements (B/A)

- a) The Government of the recipient country or its designated authority should open an account under the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). JICA will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.
- b) The payments will be made when payment requests are presented by the Bank to JICA under an Authorization to Pay (A/P) issued by the Government of the recipient country or its designated authority.

(9) Authorization to Pay (A/P)

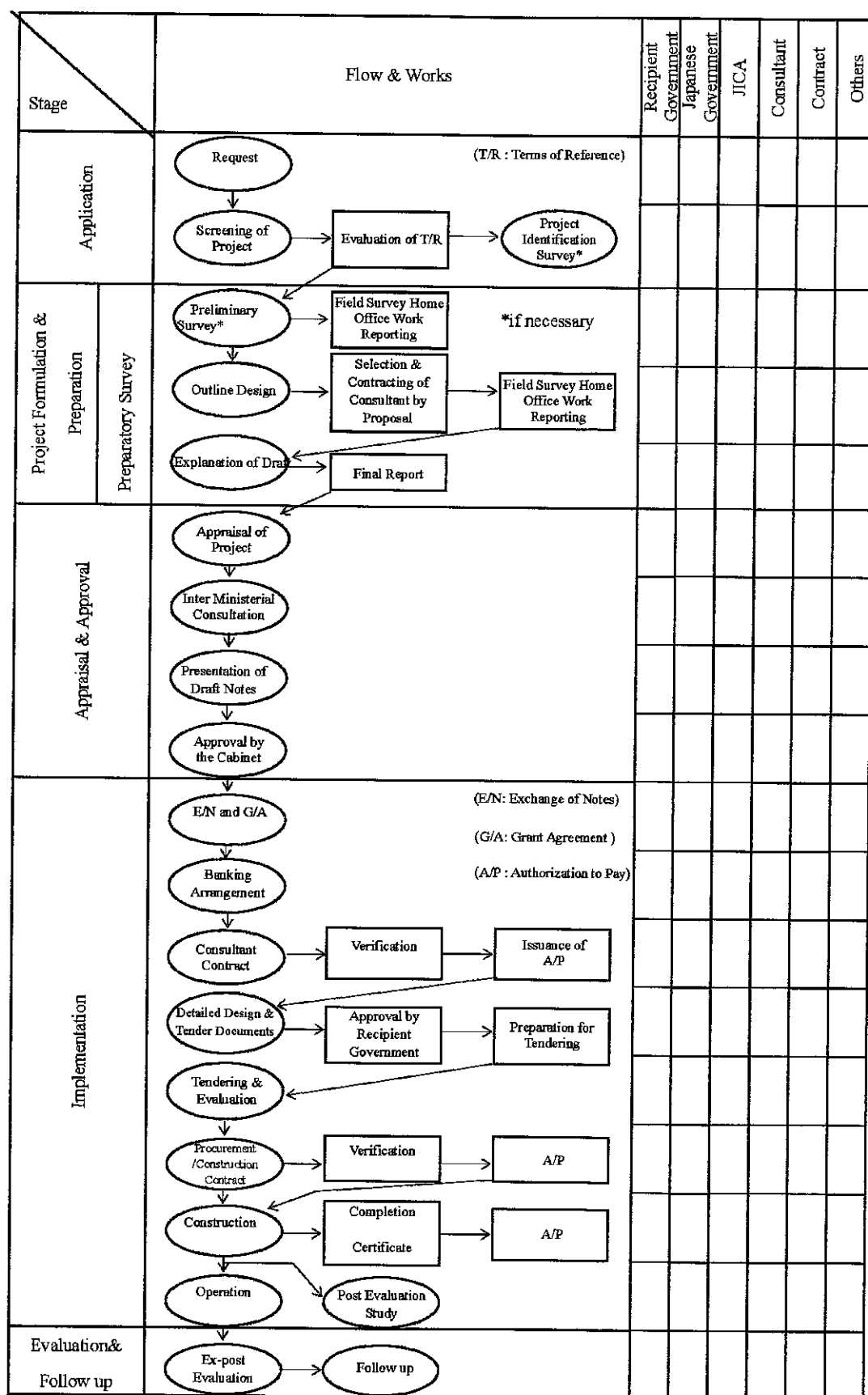
The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions paid to the Bank.

(10) Social and Environmental Considerations

A recipient country must carefully consider social and environmental impacts by the Project and must comply with the environmental regulations of the recipient country and JICA socio-environmental guidelines.



Annex-4: Flowchart of Japan's Grant Aid Procedure



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Annex-5: Major Undertakings to be taken by Each Government

NO	Items	To be covered by the Grant	To be covered by Recipient side
1	To secure land		●
2	To clear, level and reclaim the site when needed		●
3	To construct the parking lot	●	
4	To construct roads		
	1) Within the site	●	
	2) Outside the site		●
5	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1) Electricity		
	a. The distributing line to the site		●
	b. The drop wiring and internal wiring within the site	●	
	c. The main circuit breaker and transformer	●	
	2) Water Supply		
	a. The city water distribution main to the site		●
	b. The supply system within the site (receiving and/or elevated tanks)	●	
	3) Drainage		
	a. The city drainage main (for storm, sewer and others) to the site		●
	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	●	
	4) Telephone System		
	a. The telephone trunk line to the main distribution frame / panel (MDF) of the building		●
	b. The MDF and the extension after the frame / panel	●	
	5) Equipment	●	
6	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●

NO	Items	To be covered by the Grant	To be covered by Recipient side
7	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and customs clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	(●)	(●)
8	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
9	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		●
10	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		●
11	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for construction of the facilities as well as for the transportation and installation of the equipment		●

(B/A: Banking Arrangement, A/P: Authorization to Pay)

Annex-6 : Resettlement Issues

1. JICA Guidelines for Environmental and Social Considerations (April, 2010)

The JICA Mission for the Project for Improvement of Suryabinayak-Dhulikhel Road (hereinafter referred as "the Project") explained that the JICA Guidelines for Environmental and Social Considerations (the JICA Environmental Guidelines) (April, 2010) is mandatory for all JICA assisted projects to recognize and address environmental and social impacts. In terms of involuntary resettlement, the JICA Environmental Guidelines covers eligibility of compensation/assistance for all the displaced persons (DPs) irrespective of their land titles. As an effective stopgap measures, Resettlement Action Plan (RAP) is required under a certain conditions by the JICA Environmental Guidelines referring to World Bank's Operational Policy (OP) 4.12 and its "Annex A". The JICA Environmental Guidelines is the guiding rule to identify impacts and to plan measures for mitigating various losses likely to occur due to resettlement impacts. In particularly, JICA is required to confirm that projects do not deviate significantly from the World Bank's Safeguard Policies OP/ BP 4.12 (involuntary resettlement) as well as other relevant documents such as World Bank's Involuntary Resettlement Sourcebook.

2. Gaps between JICA and GON Resettlement Policy and Stopgap Measures

Though apparently, both Land Acquisition Act 1977 and the JICA Environmental Guidelines aims to ensure compensation to the DPs for the loss of properties and other assets, some gaps/differences are observed on their compensation policies and entitlement provisions as shown in below. These individual gaps might be settled with latest policies in past challenging projects in implementing ministries, such as continuously updated "Environmental and Social Management Framework (ESMF)" prepared by Department of Road, Ministry of Physical Infrastructure and Transport (2007) originally supported by Word Bank as well as the JICA Guidelines and other development partners' standards.

Major Policy Gaps on Involuntary Resettlement between JICA and GON

Key Policy Gaps	JICA Environmental Guidelines (equivalent to World Bank OP4.12)	Land Acquisition Act 1977	Stopgap measures discussed in RAP
Compensation Principle	Prior compensation, at full replacement cost, must be provided as much as possible	Compensation rate will be determined by CDC, consisting of (i) CDO, (ii) representative from DDC (iii) Chief of Land Revenue Office (iv) Project Manager, (Land Acquisition Act Clause 13) The Land Acquisition Act 1977, also mention the need of considering periodic circulations issued by the GON while fixing	Provisions will be prepared for the full replacement cost for the loss of land, houses/structures; subject to be finalized by CDC based on appropriate market price survey and other appropriate measures. DPs are allowed to take salvaged materials (without reduction from full replacement cost). CDC will make final decision on the compensation rates after reviewing and verification of

		compensation for the affected assets (Land Acquisition Act Clause 16)	affected assets
Compensation for Non-titleholders	Squatters/ vulnerable encroachers/non- title holders are entitled to the compensation/assistance for affected structures/houses/ business/crops, trees, etc.	Principally, do not consider squatters/ encroachers/ non-titled land users for compensation	Provisions will be prepared for compensation/assistance to not only legal land title holders but also other non-titleholders having affected on structures with clear and transparent cut-off-date process
Relocation Assistance	All the eligible DPs including tenants, employees are entitled to receive financial assistance to cover physical and economical displacement	LA Act Clause 16(2)(b) provisions to consider extent of losses caused due to relocation/shifting of Displaced people, while fixing the compensation rate (LA Act Clause 16(2)(c))	Provisions will be discussed and prepared for enough assistances, such as transitional allowances, transport allowances, disturbance allowances, one time financial assistance to the business interruption, tenants/employees, and etc.
Income (Livelihood) Restoration	Income (Livelihood) restoration program such as vocational training and other effective measures to restore and improve the standard of living of the displaced households are required	Apparently, the Land Acquisition Act 1977, do not consider for income restoration.	Provision will be prepared to provide suitable and feasible livelihood restoration options and implementing framework with enough budgetary plan

3. Resettlement Principles and Assistance for the Project

Land Acquisition Act 1977, Clause 16 (a) stipulates to consider Government Guidelines, decisions, and circulations issued time to time with regard to valuation of assets and compensation determination. Accordingly, the resettlement principles adopted for the Project also recognizes both, Nepal's country system represented by the Land Acquisition Act 1977, and the JICA Environmental Guidelines. In order to solve the gaps between the Nepal's Country system and the JICA Guidelines, the most fundamental resettlement policy which will be adopted in the Project shall stand on the base of Compensation/Assistance to all DPs regardless of their land title. Based on the above policy features, The JICA Mission and GON agreed that the following major items/principles of resettlement issues of the Project specified at the time of the discussion:

- The negative impacts of the Project will be avoided or minimized as much as possible. In particular, (i) the project will be designed utilizing as much of the existing road alignment, (ii) the target clearance area of physical relocation will be principally limited within Corridor of Impact (COI), the minimum area where actual road construction required, instead of displacing all the people in the declared Right of Way (ROW) in the past.
- Where the negative impacts are unavoidable, the DPs will be assisted on improving or rehabilitating their standard of living. Vulnerable groups will be identified and assisted to improve their standard of living;



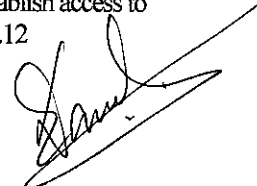

- Land replacement or cash compensation at full replacement costs¹ based on current market price to the DPs subject to be fixed by Compensation Determination Committee (CDC).
- Cash compensation for all affected structures (residential/residential-cum commercial and other structures) affected by the project at full replacement cost subject to be determined by CDC.
- Assistance will be provided to the owners of structures and non-titleholders, who may incur loss of ability to maintain livelihood during relocation and resettlement;
- Rehabilitation assistance i.e.; compensation for lost business and workdays (including employees) due to relocation and disruption of business enterprise;
- During the implementation, JICA funded grant consultant will assist the Project to determine compensation rate for land and all affected structures, and necessary assistance to DPs;
- Compensation and Assistance for resettlement impacts will be made in accordance with this policy before taking possession of the acquired lands and properties;
- Appropriate/Functional Grievance Redress Mechanism (GRM) will be established at the district as well as local level to ensure reliable resolution;
- All activities related to resettlement planning and implementation stages should be monitored and evaluated by Internal and External monitoring systems with effective Plan-Do-Check-Act (PDCA) improvement circulation and should be reported to JICA in timely manner
- Stakeholder Meeting complying with the JICA Guidelines must be ensured and implemented with enough considerations and participation of socially vulnerable groups including women.
- GON must disclose necessary documents and information complying with the JICA Environmental Guidelines to secure transparency for DPs and other relevant stakeholders.

All cost required for compensation and RAP implementation will be borne by the GON. The estimated resettlement cost for the project includes eligible compensation, resettlement assistance, and support cost for RAP implementation, such as external monitoring, resettlement site preparation, income restoration program, and other activities.

4. Cut-off Date

In the case of land acquisition, DOR explained that the ROW of Arniko highway including the Project site (Suryabinayak – Dhulikhel Road) was declared in the Gazzet of 1964. The cut-off date for the Project is the beginning date of census and inventory of loss (IOL) conducted by GON assisted by JICA project preparatory study. If there are uncertainties regarding ROW declaration in past timeline, GON shall make effort to solve complaints/grievances with careful investigation of individual cases.

¹ "full replacement cost" is the method of valuation of assets that helps determine the amount sufficient to replace lost assets and cover transaction costs. In applying this method of valuation, depreciation of structures and assets should not be taken into account. For losses that cannot easily be valued or compensated for in monetary terms (e.g., access to public services, customers, and suppliers; or to fishing, grazing, or forest areas), attempts are made to establish access to equivalent and culturally acceptable resources and earning opportunities. (Ref) World Bank OP 4.12

Appendix-4-2 Minutes of Discussions (第2回現地調査)

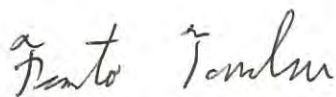
THE MINUTES OF DISCUSSION
ON
THE MISSION FOR THE PREPARATORY SURVEY
ON
THE PROJECT FOR THE IMPROVEMENT OF SURYABINAYAK-DHULIKHEL ROAD
IN
THE FEDERAL DEMOCRATIC REPUBLIC OF NEPAL
(The 2nd Field Survey)

On the basis of the preparatory survey in the Federal Democratic Republic of Nepal (hereinafter referred to as “Nepal”) in July, 2014 and following technical examination in Japan, Japan International Cooperation Agency (hereinafter referred to as “JICA”) prepared an Interim Report (hereinafter referred to as “the Report”) on the Project for the Improvement of Suryabinayak – Dhulikhel Road (hereinafter referred to as “the Project”).

The Preparatory Survey Team, headed by Mr. Fusato Tanaka, Director, 3rd Team of Transportation and ICT Group, Infrastructure and Peacebuilding Department of JICA, explained to and consulted with Department of Roads, Ministry of Physical Infrastructure and Transport (hereinafter referred to as “DOR”), and the concerned officials of the Government of Nepal (hereinafter referred to as “the Government”) on the contents of the Report.

As a result of discussions, both sides reconfirmed the contents of the Minutes of Discussions on the Preparatory Survey for the Project signed on July 11, 2014, and additionally confirmed the main items described in the attached sheets.

Kathmandu, September 26, 2014



Fusato Tanaka
Leader
Preparatory Survey Team
Japan International Cooperation Agency



Devendra Karki
Director General
Department of Roads,
Ministry of Physical Infrastructure and
Transport
Federal Democratic Republic of Nepal

ATTACHMENT

1. Contents of the Interim Report

The Nepalese side agreed and accepted in principle the contents of the report explained by the Team.

2. Conditions for the Outline Design of the Project

Both sides confirmed the basic conditions for the outline design of the road are follows;

(1) Project Section

- Start Point: Suryabinayak, Bhaktapur District (End point of Kathmandu-Bhaktapur Road)
- End Point: Kavrepalanchowk District (the intersection between Arniko Highway and Sindhuli Road)

(2) Road Classification

Based on the Nepal Road Standard 2070(2013), the classification of the Project Road is determined as follows;

- 1) Administrative Classification: National Highway, and
- 2) Functional Classification: Class I.

(3) Route of the Project Road

Outline design works will be conducted based on “the Alternative-2 route” shown in Annex-1. However the Team will continue to collect information necessary for comparing with “the Alternative-1 route” shown in Annex-1.

3. Project Components Requested by the Nepalese Side

Both sides confirmed the components of the Project in the following table. However, the Nepalese side understood that not all the items will be accepted as final components of the Project.

Component	Remark
(1) Widening of the road from 2-lane to 4-lane	- Including construction of bridges on the road. - Including slope protections along the road. - Necessity of the widening will be verified based on the result of traffic demand forecast.
(2) Installation of Bus Bays at Necessary Points	- Installation of shelters at each bus bay is undertaken by the Nepalese side. - Location will be identified based on the results of this field survey.
(3) Construction of Service Roads at Necessary Sections	- Necessary sections will be identified based on the result of this field survey.
(4) Installation of Pedestrian Bridges at Necessary Points	- In case strong positive impacts are identified at specified locations, it might be included.
(5) Installation of Traffic Signal at Necessary Points	- In case strong positive impacts are identified at specified locations, it might be included.
(6) Installation of Street Lights along the road	- In case strong positive impacts are identified at specified locations, it might be included.



F.T.

(7) Construction of Viaduct and Underpasses at Necessary Points.	- Necessity of the construction of viaduct and underpasses will be verified based on the field survey.
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4. Environmental and Social Considerations

4-1. Basic Agreement from Local Government

The Nepalese side explained to the Team that all of 3 Municipalities and 5 Village Development Committees (VDCs) related to the Project had already submitted letters to show their basic agreement to implementation of the Project. The Nepalese side also explained that these letters are utilized to start the EIA procedures for the Project.

4-2. Resettlement Issues

(1) Regarding to the resettlement issues, both sides reconfirmed the followings;

- 1) Contents of the explanation shown in Annex-6 of the Minutes of Discussions on the Preparatory Survey for the Project signed on July 11, 2014,
- 2) Compensation matters for the Project will be conducted based on that explanation, and
- 3) The Nepalese side shall allocate necessary budget for the compensation by commencement of the Project.

(2) The Team requested to the Nepalese side that in case the following people are identified due to past Right of Way (ROW) clearance through this survey, the Nepalese side shall provide proper responses to such people according to the related laws and regulations in Nepal.

- 1) The people who have not been compensated as per the laws and regulations yet despite completion of their setback/relocation to the outside of the ROW of the Project road, and
- 2) The people who still have been subjected to duty of tax on their acquired land within ROW.

4-3. Procedures for Environmental Clearance

Both sides confirmed that the tentative schedule of environmental clearance procedures (e.g. approval of EIA, etc.) necessary for commencement of the Project shown in Annex-2.

The Nepalese side shall conduct necessary procedures for environmental clearance procedures according to the schedule and report its progress to JICA Nepal Office. The report to JICA Nepal Office shall be submitted **monthly** with actual progress bar chart in Annex-2.

5. Undertakings to be taken by the Nepalese Side

5-1. Major Undertaking to be taken by the Nepalese side

Nepalese side agreed that the following undertakings should be taken by Nepalese side at the Nepalese expenses under the Project if implementation of the Project is approved by the Government of Japan;

- (1) to provide tax exemption for construction materials and equipment for the Project;
- (2) The Nepalese side agreed that customs duties, internal taxes and other fiscal levies which may be imposed in Nepal are exempted under mutual agreement of Exchange of Note (E/N);
- (3) If any expenses stated above are caused by some reasons such as the delay of execution

- of tax exemption, the Nepalese side shall pay for it;
- (4) to secure the lots of land necessary for the implementation of the Project including land for site office, plant yards, material storing yard, motor pool, temporary construction yard and waste disposal site;
 - (5) to relocate existing utilities within the Project site;
 - (6) to relocate existing buildings and facilities if necessary;
 - (7) to remove existing trees within the Project site;
 - (8) to arrange issuance of license, permission and other necessary procedures for the Project;
 - (9) to obtain the royalties/permission for taking raw materials such as stone/rock/filling materials from the quarry/river-bed/borrow pit; and
 - (10) to provide security measures for all concerned working for the Project.

5-2. Budget Allocation

The Nepalese side explained the outline of the procedures for budget allocation in the Government of Nepal. For budgetary requests for the Nepalese Fiscal Year 2015-2016, starting from July 2015, the Nepalese side requested to provide necessary information about the cost of the Nepalese side's undertakings for the Project by the end of April, 2015.

6. Schedule of the Survey

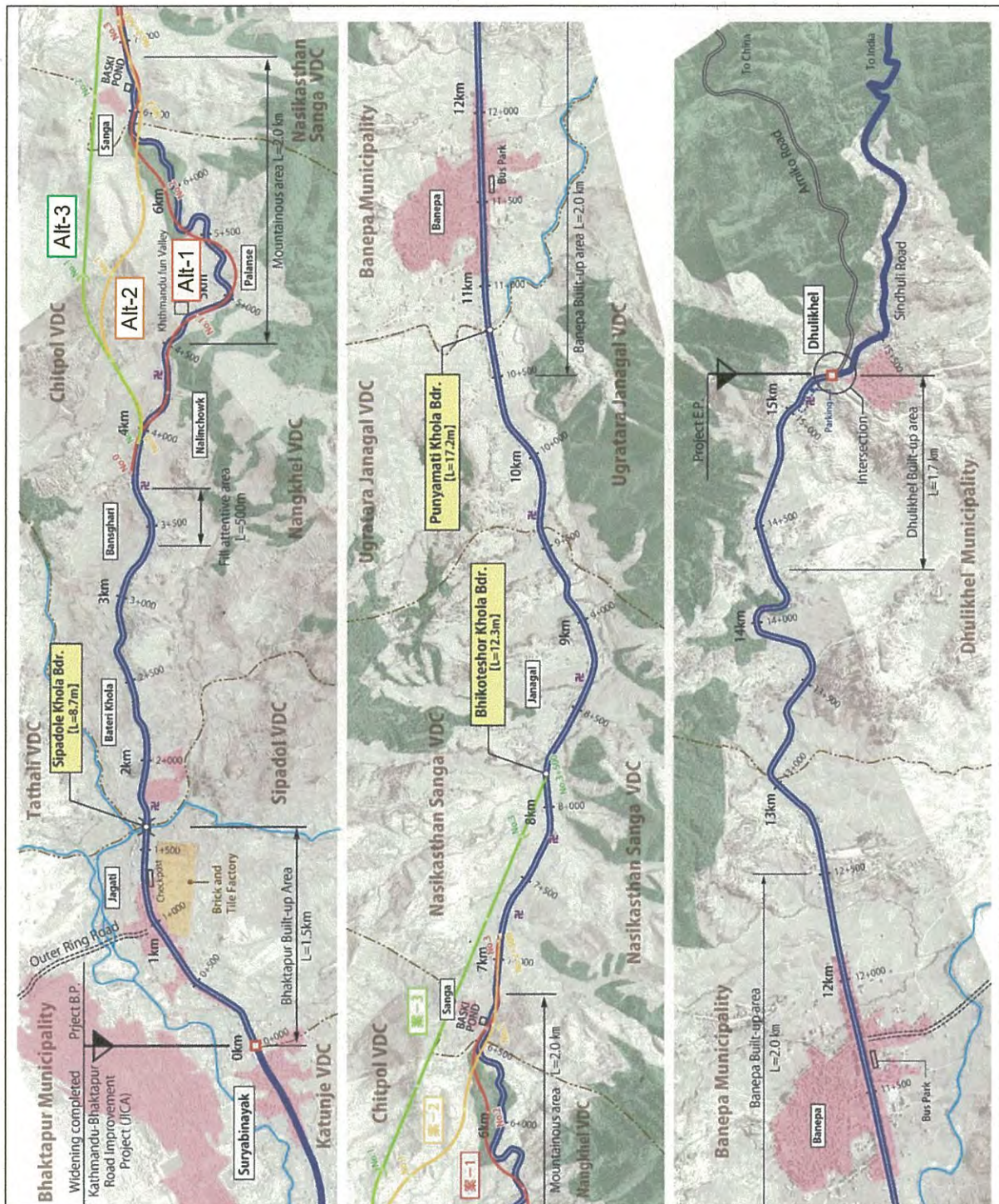
- 6-1. The Team will stay and continue the survey till October 14, 2014.
- 6-2. A team for "Mid-Review" will be sent in December 2014, to discuss further planning of the Project and monitor the progress of social and environmental issues.
- 6-3. JICA will prepare a draft final report and a Team for "Explanation of Draft Final Report" will be sent in May 2015 to explain details of the Project including the final components and cost estimation to the Nepalese side.
- 6-4. JICA will finalize the Final Report and send it to the Nepalese side around December 2015.

Annex-1: Route of Project Road

Annex-2: Tentative Schedule for EIA Procedures for the Project



Annex-1: Route of Project Road



Alternative Route of the Project Road

Tentative Schedule for EIA Procedures for the Project for the Improvement of Suryabinayak-Dhulikhel Road

No.	Required Procedures	Responsibility	Year	2015												2014												
			Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8					
1	Contract with EIA Consultant	JICA Team	Plan																									
			Actual																									
2	Proposal Requiring EIA	JICA Team (Local Consultant)	Plan																									
			Actual																									
3	Issuance of Public Notice (supported by the Local Consultant)	DoR	Plan																									
			Actual																									
4	Preparation of Scoping Document(SD) and ToR	DoR	Plan																									
			Actual																									
5	Consultation with Stakeholders (supported by the Local Consultant)	DoR	Plan																									
			Actual																									
6	Submission of SD and ToR to MoPIT	DoR	Plan																									
			Actual																									
7	Review of SD and ToR	MoPIT	Plan																									
			Actual																									
8	Finalization of SD and ToR (Supported by the Local Consultant)	DoR	Plan																									
			Actual																									
9	Submission of SD and ToR to MoSTE	MoPIT	Plan																									
			Actual																									
10	Approval of SD and ToR	MoSTE	Plan																									
			Actual																									
11	EIA Survey	DoR	Plan																									
			Actual																									
12	Preparation of Draft EIA Report	DoR	Plan																									
			Actual																									
13	Public Hearing	DoR	Plan																									
			Actual																									
14	Submission of Final EIA Report to MoPIT	DoR	Plan																									
			Actual																									
15	Review of EIA Report	MoPIT	Plan																									
			Actual																									
16	Submission of EIA Report from MoPIT to MoSTE	MoPIT	Plan																									
			Actual																									
17	Review of EIA Report	MoSTE	Plan																									
			Actual																									
18	Publishing of Public Notice	MoSTE	Plan																									
			Actual																									
19	Approval of EIA Report	MoSTE	Plan																									
			Actual																									

Appendix-4-3 Minutes of Discussions (準備調查報告書(案)説明)

Minutes of Discussion
on the Preparatory Survey for the Project for
the Improvement of Suryabinayak-Dhulikhel Road
(Explanation on Draft Preparatory Survey Report)

With reference to the minutes of discussions signed between Department of Roads, Ministry of Physical Infrastructure and Transport and the Japan International Cooperation Agency (hereinafter referred to as "JICA") on July 11, 2014 and September 26, 2014, and in response to the request from the Government of the Federal Democratic Republic of Nepal (hereinafter referred to as "Nepal") dated July 8, 2013, JICA dispatched the Preparatory Survey Team (hereinafter referred to as "the Team") for the explanation of Draft Preparatory Survey Report (hereinafter referred to as "the Draft Report") on the Project for the Improvement of Suryabinayak-Dhulikhel Road (hereinafter referred to as "the Project"), headed by Hidetaka SAKABE, Acting Director, Transport and ICT Group, Infrastructure and Peacebuilding Department, from November 22 to December 5, 2016.

As a result of the discussions, both sides agreed on the items described in the attached sheets.

Kathmandu, November 29, 2016



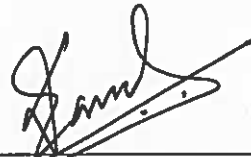
Hidetaka SAKABE

Leader

Preparatory Survey Team

Japan International Cooperation Agency

Japan



Devendra Karki

Director General

Department of Roads

Ministry of Physical Infrastructure and
Transport

The Federal Democratic Republic of Nepal

ATTACHMENT

1. Contents of the Draft Report

After the explanation on the Draft Report by the Team, the Nepal side agreed to its contents. The Nepal side agreed that the draft report has been prepared on the assumption of implementing the Project under the Japan's Grant Aid scheme.

2. Cost estimate

The Team explained that the Project cost is attached in the Annex-1, which is estimated based on the assumption of undertakings by each side as shown in the table.

3. Confidentiality of the cost estimate and technical specifications

Both sides confirmed that the cost estimate and technical specifications in the Draft Report and the Annex-1 of this Minutes of Discussions should be kept confidential and not to be disclosed to any third party. In case disclosure of the information is required, both sides will agree mutually before the disclosure.

4. Environmental and Social Considerations

4-1 General Issues

4-1-1 Environmental Guidelines and Environmental Category

The Team explained that 'JICA Guidelines for Environmental and Social Considerations (April 2010)' (hereinafter referred to as "the Guidelines") is applicable for the Project. The Project is categorized as A because the Project falls into the road sector (located in a sensitive area and is likely to have significant adverse impact due to its characteristic) under the JICA guidelines for environmental and social considerations (April 2010).

4-1-2 Environmental Checklist

The environmental and social considerations including major impacts and mitigation measures for the Project are summarized in the Environmental Checklist attached as Annex-2.

The Nepal side explained that on the implementation stage of the Project, the Nepal side would apply environmental and social management requirement based on the check list attached with this Minutes of Discussion.



4-2 Environmental Impact Assessment (EIA)

The Nepal side explained that drafting of EIA report for the Project almost completed and could resume the procedures once public meetings for the Project are held and reflect the results to the draft EIA report.

5. Schedule of the Survey

JICA will finalize the Preparatory Survey Report based on the confirmed items. The report will be sent to the Nepal side around February, 2017.

6. Contents of the Final Report

In case contents of the report might be used for any purpose other than assistance by the Government of Japan (including JICA's activities) before signing of Grant Agreement for the Project, the Nepalese side shall inform the Japanese side (JICA Nepal Office) in advance.

7. Information from the Nepal side

7-1. Importance of the Project

The Nepal side explained the following to the Team;

- (1) The traffic congestion at the Project site has become severe due to the rapid increase of the traffic volume and urbanization along the road corridor;
- (2) Especially the number of light vehicle is increasing drastically on the Project road after the opening of Sindhuli Road to road traffic; and
- (3) The implementation of the Project will contribute for the development of satellite towns (Banepa, Dhulikel) to reduce the haphazard urbanization in Kathmandu:

Therefore early commencement of the Project is strongly recommended.

7-2. Assistance from the Government of Japan

The Nepal side has requested following;

- (1) The Nepal side continues to request assistance from the Government of Japan for the improvement of the Project road; and
- (2) In case of the Project not being implemented under the Japan's Grant Aid scheme, the Nepal side would request modifications of the road design with provisioning of tunnel at the Sanga-Bypass section and viaduct in Dhulikhel section:



7-3. Allocation of the Budget

The Nepal side informed the Team that the Government of Nepal has allocated fund for facilitation of the implementation of the Project, including land acquisition.

Annex 1 Major Undertakings to be taken by the Government of Nepal

Annex 2 Environmental Check List



Major Undertakings to be taken by the Government of Nepal

1. Specific obligations of the Government of Nepal which will not be funded with the Grant**(1) Before the Tender**

NO	Items	Deadline	In charge	Estimated Cost*	Ref.
1	Land Acquisition	Before P/Q Notice	DoR	3,750,200	-
2	Resettlement of Existing Buildings and Compensation	-ditto-	-ditto-	411,250	-
3	Relocation of Public Buildings/Facilities	-ditto-	-ditto-	450	-
4	Relocation of Public Utilities(Land)	-ditto-	-ditto-	42,256	-
5	Relocation of Public Utilities (Underground)	-ditto-	-ditto-	86,495	-
6	Demolition of Existing Trees	-ditto-	-ditto-	1,330	-
7	Land Acquisition of Dump Sites	-ditto-	-ditto-	14,538	-
8	Temporary Land for Temporary Yard	-ditto-	-ditto-	24,358	-

(2) During the Project Implementation

NO	Items	Deadline	In charge	Estimated Cost*	Ref.
1	Procedures for Custom Clearance for Construction Materials	as needed	DoR	-	-

(3) After the Project

NO	Items	Deadline	In charge	Estimated Cost*	Ref.
1	Planting in the Central Reservation Areas of the Road	Before the Completion of All Construction Works under the Project	DoR	4,050	-
2	Building of Roofs at Bus Stops	-ditto-	-ditto-	300	-

*Unit: Thousand Nepal Rupee




2. Other obligations of the Government of Nepal funded with the Grant

NO	Items	Amount (Million Japanese Yen)*
1	Detailed Design and Tendering (including P/Q)	
2	Construction Works (Road Works, Bridge Works, etc.)	
3	Temporary Works (Construction Yards, Detours, Safety Facilities during construction Period)	
4	Procurement of Construction Materials	
Total		16,039

* The Amount is provisional. This is subject to the approval of the Government of Japan.



Environmental Checklist

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1 Permits and Explanation	(1) EIA and Environmental Permits	(a) Have EIA reports been already prepared in official process? (b) Have EIA reports been approved by authorities of the host country's government? (c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(a) N (b) N (c) N (d) N	(a) The draft EIA report has been prepared. Ministry of Science, Technology and Environment and Ministry of Physical Infrastructure and Transport are reviewing the report. (b)(c) If the amendment of the draft EIA report is not required, the report will be approved after the review. (d) The permission on tree felling from Department of Forest is required.
	(2) Explanation to the Local Stakeholders	a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders? (b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(a) Y (b) Y	(a) Stakeholder meetings for information disclosure have been held in two local communities under this survey. The understandings from local people have been obtained. (b) The comments from stakeholders such as local government and residents in a series of the interviews and meetings were reflected in the design policy including the alignment of the new road section.
	(3) Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) Y	(a) Several alternatives including 0-option have been examined with the traffic capacity and functions, construction cost, and social and environmental impact in the selection of the typical cross-section design and alignment of the new road section.

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
2 Pollution Control	(1) Air Quality	(a) Is there a possibility that air pollutants emitted from the project related sources, such as vehicles traffic will affect ambient air quality? Does ambient air quality comply with the country's air quality standards? Are any mitigating measures taken? (b) Where industrial areas already exist near the route, is there a possibility that the project will make air pollution worse?	(a) N (b) N	(a) Because the target road section is located in local area where the air pollution level is low and mass air pollutants caused by vehicle exhaust gas are unlikely to generate due to limited traffic volume in future years, considerable change in ambient air quality level is unlikely to occur. (b) High PM (Particulate Matter) 10 levels were observed in some zones along the target road section in dry period. However in these cases, it seem that the most pollution sources are not vehicle exhaust gas in the project section. In the future, total amount of air pollutant caused by vehicle exhaust gas will increase. However, because of improved traffic efficiency, the amount may be reduced compared to without project.
	(2) Water Quality	(a) Is there a possibility that soil runoff from the bare lands resulting from earthmoving activities, such as cutting and filling will cause water quality degradation in downstream water areas? (b) Is there a possibility that surface runoff from roads will contaminate water sources, such as groundwater? (c) Do effluents from various facilities, such as parking areas/service areas comply with the country's effluent standards and ambient water quality standards? Is there a possibility that the effluents will cause areas not to comply with the country's ambient water quality standards?	(a) Y (b) N (c) N	(a) Turbid water will generate in the construction works. The turbid water will contaminate rivers and streams around the target road section temporarily. (b) Impact on water resources of runoff from road surface is unlikely to occur. (c) Development of parking or service areas which generate waste water in operation phase are not included in the project.
	(3) Wastes	(a) Are wastes generated from the project facilities, such as parking areas/service areas, properly treated and disposed of in accordance with the country's regulations?	(a) N	(a) Development of parking or service areas are not included in the project.
	(4) Noise and Vibration	(a) Do noise and vibrations from the vehicle and train traffic comply with the country's standards?	(a) N	(a) The noise levels on the borderline of the right of way in some zones exceed the environmental standards at present. However, because the residences are away from the roadside, the impact on general population will not be serious. In the future, noise level caused by vehicle driving will increase. However, noise levels along roadside are expected to be reduced due to widening and improved smooth surface compared to without project.

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
3 Natural Environment	(1) Protected Areas	a) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas? (a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? (b) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions? (c) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem? (d) Are adequate protection measures taken to prevent impacts, such as disruption of migration routes, habitat fragmentation, and traffic accident of wildlife and livestock? (e) Is there a possibility that installation of roads will cause impacts, such as destruction of forest, poaching, desertification, reduction in wetland areas, and disturbance of ecosystems due to introduction of exotic (nonnative invasive) species and pests? Are adequate measures for preventing such impacts considered? (f) In cases the project site is located at undeveloped areas, is there a possibility that the new development will result in extensive loss of natural environments?	(a) N	(a) There are no protected areas in and around the project site.
	(2) Ecosystem		(a) N (b) N (c) N (d) N (e) N (f) N	(a) There are no ecological valuable habitats in and around the site. (b) The habitats of endangered species have not been identified in and around the site. (c) Significant ecological impact is unlikely to occur. (d) There are no major migration routes of wildlife and livestock in and around the site including newly constructed section. (e) Because of improvement project of existing arterial road, increase in destruction of forest and poaching is unlikely to occur. (f) Because of improvement project of existing arterial road, new major development is unlikely to occur.
	(3) Hydrology	a) Is there a possibility that alteration of topographic features and installation of structures, such as tunnels will adversely affect surface water and groundwater flows?	(a) N	(a) Alteration of topographic features having considerable impact on hydrological situation and tunnel construction are not included in the project.
	(4) Topography and Geology	(a) Is there any soft ground on the route that may cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides, where needed? (b) Is there a possibility that civil works, such as cutting and filling will cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides? (c) Is there a possibility that soil runoff will result from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures taken to prevent soil runoff?	(a) N (b) N (c) N	(a)(b) Filling works are included in the construction. However, there are no soft ground to occur slope failures or landslides in and around the site. (c) Adequate filling works prevent accidental and sufficient soil runoff.

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
4 Social Environment	(1) Resettlement	(a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement? (b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement? (c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement? (d) Are the compensations going to be paid prior to the resettlement? (e) Are the compensation policies prepared in document? (f) Does the resettlement plan pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples? (g) Are agreements with the affected people obtained prior to resettlement? (h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan? (i) Are any plans developed to monitor the impacts of resettlement? (j) Is the grievance redress mechanism established?	(a) Y (b) Y (c) Y (d) Y (e) Y (f) Y (g) N (h) N (i) Y (j) Y	(a) Efforts for avoidance and minimization of the resettlement impacts were discussed during the preparatory survey and will continuously be considered in the following project phases. (b) Stakeholder meetings and focus group meetings were held during the preparatory survey and will continuously be organized such kinds of public participation opportunities in the following project phases. (the second time stakeholder meeting had not been organized yet) (c) Done during the preparatory survey (d) It will be secured based on both Nepalese domestic legal regulations and the JICA's Environmental and Social Guidelines. (e) It has been prepared in the resettlement action plan (RAP) (f) Particular attentions are paid in the RAP (g) The second stakeholder meetings had not yet finished and recommendation letters from VDCs had not collected yet. (h) It will be prepared based on both Nepalese domestic legal regulations and the JICA's Environmental and Social Guidelines. (i) Monitoring schemes for resettlement implementation were developed in the RAP (j) It has been prepared in the resettlement action plan (RAP) and will be established during the implementation phases.

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
4 Social Environment		(a) Where roads are newly installed, is there a possibility that the project will affect the existing means of transportation and the associated workers? Is there a possibility that the project will cause significant impacts, such as extensive alteration of existing land uses, changes in sources of livelihood, or unemployment? Are adequate measures considered for preventing these impacts? (b) Is there any possibility that the project will adversely affect the living conditions of the inhabitants other than the target population? Are adequate measures considered to reduce the impacts, if necessary? (c) Is there any possibility that diseases, including infectious diseases, such as HIV will be brought due to immigration of workers associated with the project? Are adequate considerations given to public health, if necessary? (d) Is there any possibility that the project will adversely affect road traffic in the surrounding areas (e.g., increase of traffic congestion and traffic accidents)? (e) Is there any possibility that roads will impede the movement of inhabitants? (f) Is there any possibility that structures associated with roads (such as bridges) will cause a sun shading and radio interference?	(a) N (b) N (c) N (d) N (e) Y (f) Y	(a) Means of transportation, land use, sources of livelihood may not be affected negatively so much by the project. (b) No significant possibility is expected. (c) No significant possibility is expected. (d) No significant possibility is expected. (e) Limited new alignment and expansion sections may cause some degrees of hindrance for road crossing to opposite areas. (f) No significant possibility is expected.
	(2) Living and Livelihood	a) Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?	(a) Y	(a) The project will have impacts on religious spots and sacred trees in the ROW. Replacement works or removal respecting and following local tradition and culture will be conducted in advance of construction works.
	(3) Heritage	(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	(a) N	(a) There are no valuable landscape sites to be required specific consideration in and around the project sites. However, new road body as an artificial structure and remain of borrow pit will emerge in pastoral land. Planting works will be conducted on the slopes and remain.
	(4) Landscape	(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples? (b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources to be respected?	(a) Y (b) Y	(a) Lifestyle is not so much different among several ethnic groups (b) All different ethnic groups are treated in fair manner.
	(5) Ethnic Minorities and Indigenous Peoples			

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
4 Social Environment		(a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project? (b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials? (c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.? (d) Are appropriate measures being taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents?	(a) Y (b) Y (c) Y (d) Y	(a) Working conditions during the construction phase shall be comply with both domestic legal framework and international standards. (b) Working conditions during the construction phase shall be comply with both domestic legal framework and international standards. (c) Working conditions during the construction phase shall be comply with both domestic legal framework and international standards. (d) Working conditions during the construction phase shall be comply with both domestic legal framework and international standards.
	(6) Working Conditions			
5 others		(a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)? (b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts? (c) If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?	(a) Y (b) N (c) Y	(a) The adequate mitigation measures and monitoring plans to reduce impacts of pollution during the construction are prepared in the EIA report. (b) The construction activities to cause serious impact on ecosystem are not included in the project. (c) Because the construction involve works within existing arterial road in urban area, countermeasures against traffic jam will be included in the execution scheme.
	(1) Impacts during Construction			
		(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts? (b) What are the items, methods and frequencies of the monitoring program? (c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)? (d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	(a) Y (b) Y (c) Y (d) Y	(a) The monitoring plans mentioned in the EIA report will be implemented during the construction and operation phase. (b)(c)(d) The monitoring plan referring to the items, methods, frequencies framework and report system is proposed in the EIA report.
	(2) Monitoring			

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
Note	Reference to Checklist of Other Sectors	(a) Where necessary, pertinent items described in the Roads, Railways and Forestry Projects checklist should also be checked (e.g., projects including large areas of deforestation). (b) Where necessary, pertinent items described in the Power Transmission and Distribution Lines checklist should also be checked (e.g., projects including installation of power transmission lines and/or electric distribution facilities).	(a) N (b) N	(a) Major deforestation is not included in the project. (b) Relocation of existing power transmission lines will be limited in the right of way and has no serious environmental impacts.
	Note on Using Environmental Checklist	(a) If necessary, the impacts to transboundary or global issues should be confirmed, if necessary (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	(a) N	(a) Impacts to transboundary or global environmental issues are unlikely to occur.

1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are required to be made.

In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries (including Japan's experience)

2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which the project is located.

Appendix-5 Technical Notes

Appendix-5-1 Technical Notes (1)

TECHNICAL NOTES

ON

THE PREPARATORY SURVEY

ON

THE PROJECT FOR THE IMPROVEMENT OF SURYABINAYAK-DHULIKHEL ROAD

IN

THE FEDERAL DEMOCRATIC REPUBLIC OF NEPAL

The Preparatory Survey Team of Japan International Cooperation Agency (JICA) conducted field survey and review of existing documents and held several discussions on the scope and basic policies of the Project from the technical point of view with the officials of Ministry of Physical Infrastructure and Transport (MOPIT), Department of Roads (DOR), which is the implementing agency for “The Project for the Improvement of the Suryabinayak–Dhulikhel Road in the Federal Democratic Republic of Nepal”.

In the course of discussions and field survey, the Survey Team and DOR (hereinafter referred to as “Both sides”) reached to an agreement on the matters mentioned in Attachment-1.

Kathmandu, 27 July, 2014



Mr. Sanjaya Kumar Shrestha

Deputy Director General

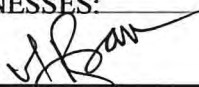
Foreign Cooperation Branch
Department of Roads (DOR)
Ministry of Physical Infrastructure & Transport


Dr. Tsuchida, Takayuki

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Japan International Cooperation Agency (JICA)

WITNESSES:



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Ministry of Physical Infrastructure & Transport

1. General Matters

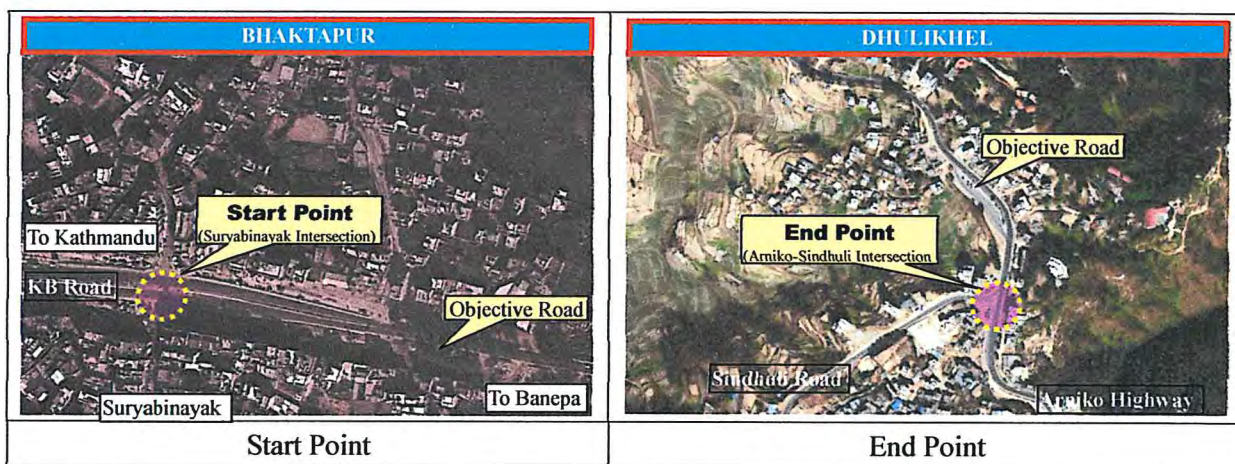
1.1 Inception Report

The DOR agreed on the contents of the Inception Report submitted and explained by the Survey Team.

1.2 Objective Section

Both sides confirmed the objective section requested by the GON for improvement of the existing road is approximately 16 km, with its start and end point as follows:

- **Start point** : Suryabinayak, Bhaktapur District (End point of Kathmandu-Bhaktapur Road)
- **End point** : Dhulikhel, Kavrepalanchowk District (the intersection between Arniko Highway and Sindhuli Road).



1.3 Road Classification

Both sides agreed on the classification of the objective road to be based on the Nepal Road Standard 2070 (2013) as follows;

(1) Administrative Classification

National Highway (There will be no particular change in terms of administrative classification after improvement (widening) of the section)

(2) Functional Classification

The objective section of the road will be classified functionally into **Class I**.

1.4 Design Speed

The project area is located in the suburbs of Kathmandu Valley and the objective section has different terrain conditions. Application of the design speed given for Class I in the Nepal Road Standard 2070 for the entire section will be impractical. The Survey Team explained that the applicable design speed will be adjusted based on the terrain condition of the stretch to which the DOR agreed upon. Both sides also agreed on application of the design speed adjustment concept as shown in the figure below.

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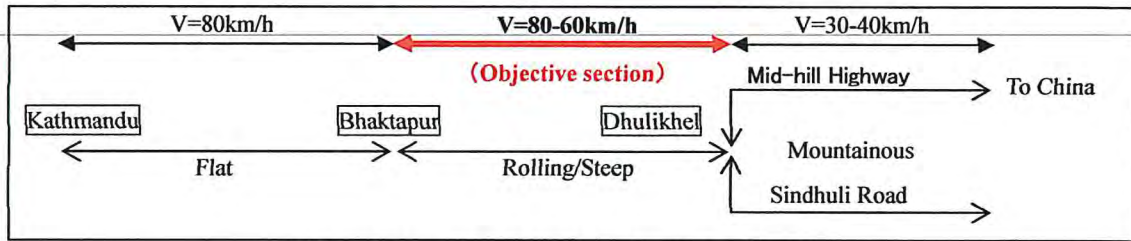


Fig. 1-1 Concept of Design Speed Application

1.5 Typical Cross-section

Both sides agreed on the typical cross sections to be applied as shown in the figure below. The lane width will be 3.5m and will have a median 0.5m to 3.0m in the middle to separate the traffic in different directions. Where required, the shoulder width will be narrowed up to 1.75m as shown in Fig (B). Where service roads will not be provided, 1.25m wide space for pedestrian and non-motorized vehicles will be secured as shown in Fig (C).

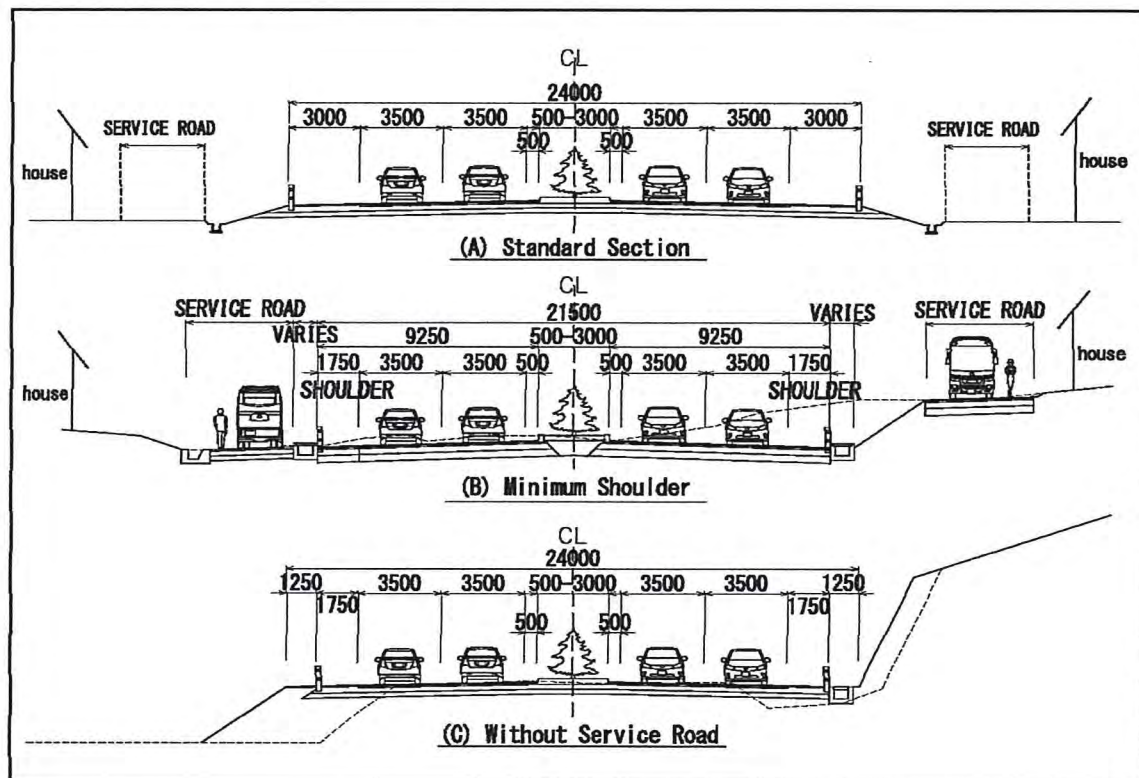


Fig. 1-2 Typical Cross Section

2. Technical Matter

2.1 Prioritization of Requested Components

The Survey Team and DOR discussed on the technical matters and confirmed on the GON's priorities of the requested components and its perspectives and confirmed the priority in the order and manner as mentioned hereunder. Regarding the priorities, the Survey Team explained that the components to be undertaken will be determined based from the perspective of the expected outcome of the project, project cost, safety and sustainable maintenance capacity of the DOR.

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(1) Objective Section

The first priority is given to the section of the improvement. The start point and the end point will be as mentioned in section 1-1.

(2) Alternative Route

The Survey Team explained to DOR that widening of the existing road in Sanga is extremely difficult from engineering as well as environmental and social consideration aspects and will require high construction cost, as it will necessitate large scale earthwork or continuous structure because of the steep topography. The Team recommended to provide an alternative route utilizing the existing road at the north (used to be the main road in the past) starting from Nalinchowk to Sanga pass. The Team also explained that if the alternative route is to be adopted, there will be a need to conduct the Environmental Impact Assessment (EIA) in accordance with the regulations of Nepal. DOR basically agreed on the alternative route and assured that the EIA procedure will be carried out for the entire project road length of 16km accordingly.

It is however important to note that whether to use the alternative route or to widen the existing road will be determined following analytic study in Japan. The Team will explain and discuss with the Nepal side on this matter during the second field survey.



Fig. 2-1 Alternative Route at Mountainous Area

(3) Widening

The Survey Team explained and DOR agreed that request made for widening the existing road to four-lane road (two-lane dual carriageway) will be verified based on the results of traffic demand forecast.

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(4) Bus Bay and Shelters

Both sides confirmed that bus bays will be provided where bus stops will be planned. However, the shelters will be undertaken by the GON. The location of the bus bays will be determined during the next field survey.

(5) Service Road

To the request made from the Nepalese side regarding undertaking of construction of service road by Japan side, the Survey Team explained to DOR that the component might be undertaken (as is also mentioned in the Minutes of Meeting signed on July 11, 2014) for the sections that is deemed necessary, and have positive impact (outcome) to the project. In this context, the sections where service roads are necessary will be prioritized into the following manner.

- Service road required at present (built-up area)
- Service road required in the near future (area with high potential for development), and
- Service road deemed to be required in far future or may not need at all.

This concept is indicated in Appendix-1. The section that will be constructed under this Project will be determined and agreed upon with the DOR during the second field survey. DOR further requested undertaking of the design work of service road for the entire section (except technically infeasible section) by Japan side. The Survey Team replied that this will be determined following discussions with JICA in Japan.

(6) Pedestrian Bridge

Installation of pedestrian bridges is fundamentally the responsibility of the GON. However, installation at certain specific locations where it is deemed to have positive impact on the Project outcome may be undertaken by Japan side. This will be decided following analysis in Japan. The Team will explain and discuss with the Nepal side on this matter during the second field survey.

(7) Traffic Signal

There is severe power supply shortage in Kathmandu Valley. Uninterrupted and stable power supply is inevitable for safe and effective operation of traffic signals. The installation of the traffic signals may be undertaken by the GOJ if;

- i) The installation is deemed to have positive impact on the Project outcome,
- ii) The provision of traffic signal is economically feasible and justifiable; and
- iii) The DOR will ensure to secure uninterrupted and stable power supply.

Regardless of which side will be undertaking the construction, provision of basic utilities (foundations, conduits, etc.) for facilitating construction of the traffic signal in the future shall be considered during design.

(8) Street Lights

There is severe power supply shortage in Kathmandu Valley. Uninterrupted and stable power supply is inevitable for street lights. The installation of the street lights may be undertaken by the GOJ if;

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- i) The installation is deemed to have positive impact on the Project outcome; and
- ii) The provision of traffic signal is economically feasible and justifiable; and
- iii) The DOR will ensure to secure uninterrupted and stable power supply.

Regardless of which side will be undertaking the construction, provision of basic utilities (foundations, conduits, etc.) for facilitating construction of the traffic signal in the future shall be considered during design.

(9) Traffic Surveillance System

Both sides confirmed on the specific contents of the request made regarding traffic surveillance system. The traffic surveillance system DOR is considering is for traffic management/control, security, etc. and includes provision of CCTV cameras and a control center (building is not included). The survey Team explained to DOR that this request might be included in the scope of the project after the analysis in Japan, if it finds that this will have positive impact on the project outcome and is economically feasible and justifiable.

(10) Viaduct and Underpasses

If a viaduct or/and underpass is required in connection with improving the objective road, the design and construction of these facilities will be undertaken by Japan side. However, for provision in the future the GON will undertake on its own expense.

2.2 Soft Component

Consulting service for road safety awareness and capacity building activities will be undertaken by Japan side. This will be implemented through on-the-job training during the outline or the detailed design period. During the course, the engineering approach such as identifying hazardous (accident prone) area, considerations to be taken during the design work and safety facilities, etc. will be explained.

3. Environmental and Social Considerations

3.1 EIA / IEE Schedule

Both sides confirmed that Environmental Impact Assessment (EIA) is needed if the project includes new alignment for an alternative route at mountainous area as shown in Fig. 1-3 based on Nepali relevant laws and regulations. Presumed schedule for EIA process and time events are as shown in Table 2-1.

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Table 2-1 Tentative (hopeful) EIA Schedule

Year	2014				2015		
Month	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Contract with EIA Consultant	▲						
Proposal requiring EIA							
Issuance of Public Notice (15 days)							
Preparation of Scoping Document (SD) and TOR by DOR							
Submission of SD and TOR to MOPIT			▲				
Investigation of SD and TOR by MOPIT							
Determination of SD and TOR by DOR				▲			
Submission of SD and TOR with Opinions and Suggestions to MOSTE				▲			
Approval of SD and TOR by MOSTE				▲			
EIA Survey							
Preparation of Draft EIA Report by DOR						▲	
Public Hearing							
Submission of Final EIA Report to MOPIT							▲

Year	2015						
Month	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.
Investigation of EIA Report by MOPIT							
Submission of EIA Report with Opinions from MOPIT to MOSTE	▲						
Review of EIA Report by MOSTE							
Publishing of Public Notice							
Review with Comments Received							
Approval of EIA Report by MOSTE						▲	

In case that the project only required existing road widening, conducting Initial Environment

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Examination (IEE) is enough for domestic approval process, although study contents of EIA level are required by JICA Guidelines of Environmental and Social Considerations. IEE process does not take time as much as EIA.

3.2 Field Surveys

The Survey Team will conduct series of surveys relevant to social considerations and land acquisition / resettlement following JICA Guidelines of Environmental and Social Considerations after stakeholder meetings, from September to December, 2014. The major surveys are;

- (1) Inventory of Loss
- (2) Socio-Economic Survey
- (3) Replacement Cost Survey

Both sides confirmed that DOR will participate and support these activities and carry out coordination with the relevant central and local authorities, such as District Survey Office for cadastral maps, Land Revenue Office for registration record, and so on.

3.3 Local Authorities Consultation and Stakeholder Meeting

The Survey Team requested two kinds of consultation meeting / stakeholder meeting and DOR agreed to coordinate and implement the meetings as below;

(1) Local Authorities Consultation

Before organizing stakeholder meeting for prospective affected persons, DOR will arrange separate meetings with Chief District Officer (CDO) of Bhaktapur and Kavrepalanchowk Districts with representatives of Municipalities and VDCs. The Survey Team and DOR will explain about the principle policy for land acquisition and resettlement.

(2) Stakeholder Meetings

Both sides confirmed DOR will participate and support to organize Stakeholder Meetings based on Environmental Social Management Framework (ESMF) and JICA Guidelines of Environmental and Social Considerations.

4. Others

(1) Confirmation of Flooding Area

The Survey Team confirmed with DOR the locations where the existing road is often reported to be flooded during monsoon. These locations are near Jagati and Banepa. The Survey Team will analyze as well as conduct hearings with the local to identify the causes and reflect it in the design.

(2) Provision of Electronic Data

The DOR will provide the Survey Team with a hard copy including electronic data of the “Detailed Design of Upgrading/Widening of Roads to Six Lane Standard – Arniko Lokmarg” conducted by the GON in July, 2011.



(3) Request for Provision of Other Data

The Survey Team requested DOR to share following documents in the next study phase in September.

- (1) Gazette 1964/11/11 regarding ROW=25 yards for Arniko Highway
- (2) Public Road Act, 2031[1974]
- (3) Nepal Road Standard 2027 (1970) * Amended in 2045
- (4) Gazette 1977/07/04 regarding ROW=25m for Kathmandu-Bhaktapur
- (5) Gazette or other declaration 2002/03/11 ROW=25 yards for the section between Sanga-Banepa
- (6) Land Acquisition Guidelines 1989

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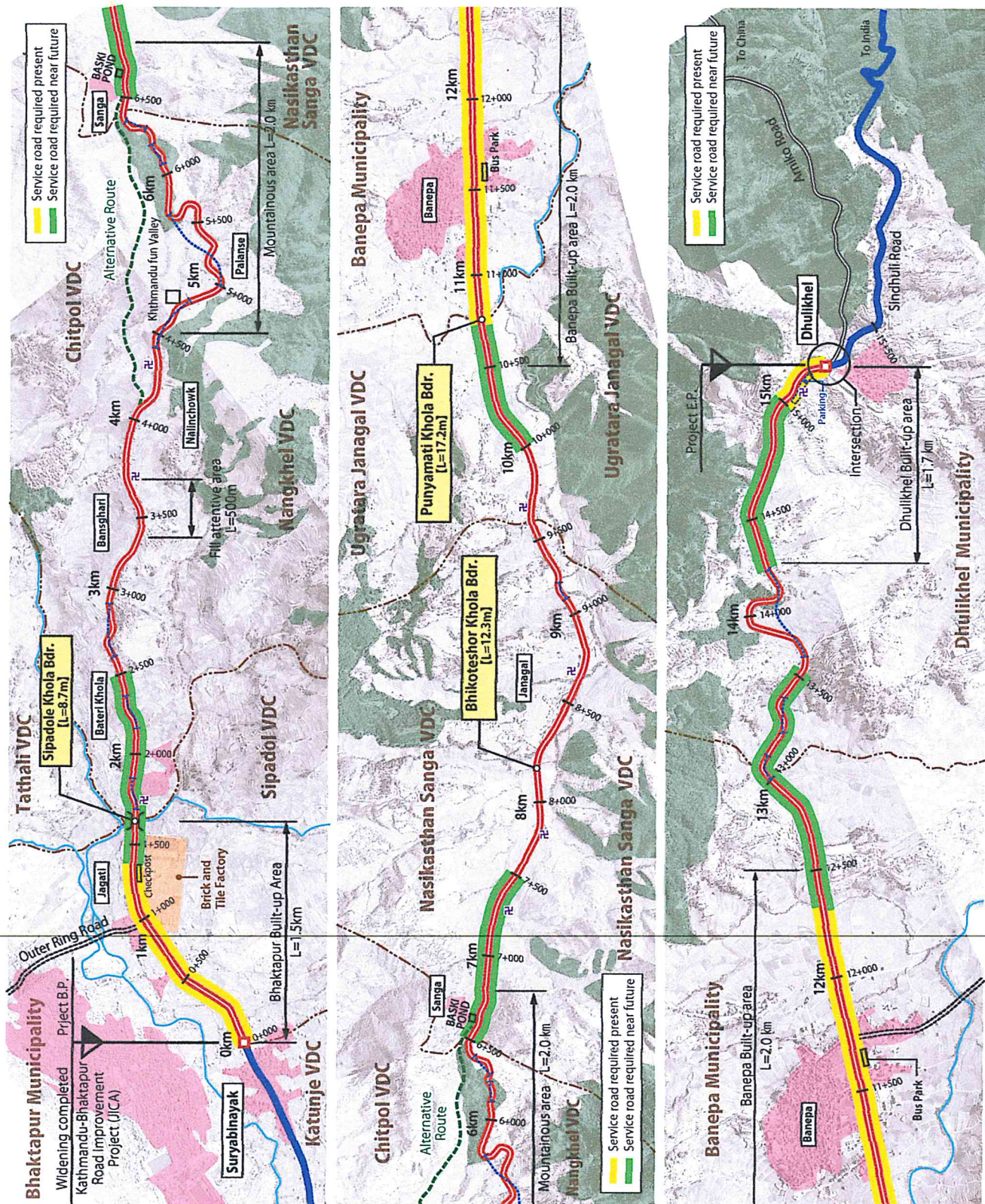


Figure- Conceptual Drawing Indicating Priority of Service Roads

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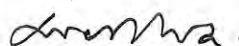
Appendix-5-2 Technical Notes (2)

TECHNICAL NOTES
ON
THE PREPARATORY SURVEY
ON
THE PROJECT FOR THE IMPROVEMENT OF SURYABINAYAK-DHULIKHEL ROAD
IN
THE FEDERAL DEMOCRATIC REPUBLIC OF NEPAL

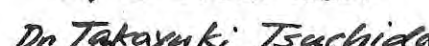
The Preparatory Survey Team of Japan International Cooperation Agency (JICA) conducted second field survey (August, 2014 – October, 2014) including review of existing documents and held several discussions on the technical issues of the project with the officials of Ministry of Physical Infrastructure and Transport (MOPIT), Department of Roads (DOR), which is the implementing agency for “The Project for the Improvement of the Suryabinayak–Dhulikhel Road in the Federal Democratic Republic of Nepal”.

In the course of discussions and field survey, the Survey Team and DOR (hereinafter referred to as “Both sides”) reached to an agreement on the matters mentioned in Attachment-1.

Kathmandu, 13 October, 2014



Mr. Sanjaya Kumar Shrestha
Deputy Director General
Foreign Cooperation Branch
Department of Roads (DOR)
Ministry of Physical Infrastructure & Transport


for 

Dr. Gose Shingo
Chief Consultant
Preparatory Survey Team
Japan International Cooperation Agency (JICA)

WITNESSES:



Mr. Rupak Rajbhandari
Senior Divisional Engineer
Foreign Cooperation Branch
Department of Roads (DOR)
Ministry of Physical Infrastructure & Transport

1. Confirmation of Project Scope

During the First Field Survey (July, 2014), the Department of Roads (DOR), following its bitter experience during the Kathmandu-Bhaktapur Road construction, requested some scopes to be undertaken by Japan side with view to enhance positive outcome of the project immediately after completion of the project. The Survey Team reviewed the request during its study in Japan and in Nepal (Second Field Survey), prioritized the scopes and determined the items to be undertaken by each side as mentioned in Table-1.

Table-1 Results of Discussion Regarding Project Scope

Priority	Items Agreed during First Field Survey (July, 2014)	Results of Discussion during Second Field Survey (October, 2014)
(1) Objective Section	The objective section of the project is as mentioned in the request Start point: Suryabinayak, Bhaktapur District (End point of Kathmandu-Bhaktapur Road) End point: Dhulikhel, Kavrepalanchowk District (the intersection between Arniko Highway and Sindhuli Road)	○ As agreed during first field survey
(2) Alternative Route Study in Sanga Pass	Taking construction difficulty along the 2km long mountainous area, alternative routes in addition to widening of the existing road will be studied. In case EIA is required for an alternative the necessary procedures for its approval will be carried out by the DOR.	○ Both sides agreed on selecting Alternative-2 from the three alternatives studied Alt-1: Improvement of Existing Road Alt-2: Alternative Route (Bypass from Nalinchowk to Sanga) Alt-3: Alternative Route (Bypass by means of Tunnel from Nalinchowk to Sanga) ● Alternative-2 will be subjected for detailed study for possible alternatives, based on the results of topography survey and geological investigation ● If EIA is required for alternative route, necessary approval procedures will be carried out by the DOR.
(3) Number of Lanes	Traffic demand forecast will be conducted for examining the need for widening to 4-lanes	○ The traffic demand forecast likely shows justifiable result for widening to 4-lanes for the entire stretch of the objective section. If confirmed, the Outline design will be carried out accordingly.
(4) Bus bays	Bus bays to be provided on the main road will be undertaken by Japan side. However, the bus shelters shall be responsibility of Nepal side.	○ Where service roads will be undertaken by Japan side, bus bays will be provided at the outer side of service road to secure safe and stable traffic flow along the main road. At other locations, it will be provided beside the main road. In both cases, bus shelters shall be undertaken by Nepal side.
(5) Service Road	The sections that is deemed necessary, and have positive impact (outcome) to the project and can be covered by the project budget, might be undertaken by Japan side. In this context, the sections where service roads are necessary will be prioritized into the following manner. ● P-1: Service road required at present (built-up area) ● P-2: Service road required in the near future (development potential), and ● P-3: Service road required in far future or may not need at all. DOR requested undertaking of service road design work for the entire section.	○ The section prioritized as P-1, which is expected to have direct positive impact to the project will be undertaken by Japan side as it is believed to enable safe and stable traffic flow due to separation of high speed vehicles on the main road from vehicles from abutting houses. However, depending on the overall project cost, only the sections that have high urgency will be undertaken. ● Detailed design of service road for P-1 and P-2 may be undertaken by Japan side. ● The pavement structure might vary depending on the project cost and the impact to the project. ● DOR re-requested undertaking of the design work of service road for the entire section (except technically infeasible section) by Japan side.

Priority	Items Agreed during First Field Survey (July, 2014)	Results of Discussion during Second Field Survey (October, 2014)
(6) Pedestrian Bridge	The possibility of undertaking provision of pedestrian bridges by Japan side or demarcation between the Japan and Nepal side will be determined considering the project cost, project outcome and technical aspects.	○ Undertaking of pedestrian bridges where Japan will undertake provision of service road and where provision of pedestrian bridge is deemed to have significant positive impact to the project might be undertaken by Japan side depending on the project cost. In addition, where pedestrian bridges will not be provided by Japan, it shall be undertaken by the GON in the future. ● As a temporary measure, pedestrian crossings will be provided at locations where the GON plans to provide pedestrian bridges in the future.
(7) Traffic Signal	The installation of the traffic signals may be undertaken by the GOJ if; i) Installation is deemed to have positive impact on the project outcome, ii) Provision of traffic signal is economically feasible and justifiable; iii) DOR will ensure uninterrupted and stable power supply. Request for provision of basic utilities (foundations, conduits, etc.) for facilitating construction of the traffic signal in the future was forwarded by the GON.	○ <u>Undertaking of traffic signal by Japan is excluded</u> from the project scope, as securing uninterrupted and stable power supply and sustainable maintenance cannot be guaranteed. However, for easy provision by the GON in future, the intersections will be planned in line with the future demand and conduits for the signals will be planned and installed. However, foundations will be excluded. ○ DOR confirmed that traffic control at the intersections will be implemented manually by traffic police to secure safety of pedestrians until traffic signals are provided. ○ Future signal installation plan will be provided by DOR by the third field survey (tentatively December, 2014)
(8) Street Lights	The installation of the street lights may be undertaken by the GOJ if; i) Installation is deemed to have positive impact on the project outcome, ii) Provision of street lights is economically feasible and justifiable; iii) The DOR will ensure to secure uninterrupted and stable power supply. Request for provision of basic utilities (foundations, conduits, etc.) for facilitating construction of the street lights in the future was forwarded by the GON.	○ <u>Undertaking of street lights by Japan is also excluded</u> from the project scope, as securing uninterrupted and stable power supply and sustainable maintenance cannot be guaranteed. However, for easy provision by the GON in future, conduits for the street lights will be planned and installed if solar powered is not considered. Also, foundations for street lights will also be excluded. ○ Future installation plan will be provided by DOR by the third field survey (tentatively December, 2014)
(9) Traffic surveillance System	Traffic surveillance system, (CCTV Cameras and control center) might be included in the scope of the project after the analysis in Japan, if it finds that this will have positive impact on the project outcome and is economically feasible and justifiable.	○ <u>Traffic surveillance system will also be excluded</u> from the project scope as there is no such system introduced yet. Also for the reason that uninterrupted and stable power supply cannot be guaranteed as well as operation budget and personals have not been allocated yet.
(10) Viaduct and Underpass	If a viaduct or/and underpass is required in connection with improving the objective road, it will be undertaken by Japan side. However, provision in the future will be undertaken by GON under its expense.	○ Viaduct/underpass if required for securing smooth and safe traffic flow might be undertaken by Japan depending on the budget. Others will be undertaken by the GON.

Legend - ○ : Agreed Items ● : To be confirmed later

2. Undertaking by the Recipient Country

The assumed items that are required to be undertaken by Nepal side for implementation of this project are listed in **Table-2**. The Survey Team requested and DOR assured to take proper and timely action with regards to the listed undertaking items. Among the items listed in the table, resettlement of

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project affect persons, land acquisition, and relocation of utilities are requested to be executed under the stipulated timeframe to avoid possible delay in the implementation of the project.

Table-2 Undertakings by the Recipient Country

Undertakings	Remarks
(1) Execution of external monitoring of resettlement, income restoration program, detailed measurement survey (negotiation, contract work etc.)	○ To be implemented under the RAP presently in formulation (after E/N)
(2) Acquisition of land and relocation of houses including detailed survey, contracting with the PAPs and all other necessary procedures including obtaining permits and certificates	○ Survey Team will provide necessary information by the end of April, 2015 ○ Budget allocation based on the above information from fiscal year 2015 (July, 2015 onward)
(3) Relocation of public and religious facilities	○ Survey Team will provide necessary information by the end of April, 2015 ○ Budget allocation based on the above information from fiscal year 2015 (July, 2015 onward)
(4) Provision of open land for use as construction yard, stock piling yard, camp yard, project office and securing and leasing land for construction road	○ Assumed locations are indicated in Item 23 ○ DOR will obtain basic agreement from land owners by the third field survey (tentatively December, 2014)
(5) Designating/Securing borrow pits, disposal sites, waste dumping sites	○ Assumed locations are indicated in Items 24&25 ○ DOR will obtain basic agreement from land owners by the third field survey (tentatively December, 2014)
(6) Relocation of electric, communication utilities including water pipes, wells and other obstacles for construction	○ DOR will make available necessary documents by the third field survey (tentatively December, 2014) ○ Survey Team will provide necessary information during fourth field survey (tentatively May, 2015)
(7) Felling of trees including clearance of roots obstructing construction work and compensatory plantation	○ Survey Team will provide necessary information during fourth field survey (tentatively May, 2015)
(8) Removal of billboards, signboards that affect construction work	○ Survey Team will provide necessary information during fourth field survey (tentatively May, 2015)
(9) Provision of future plans of traffic signals and street lights	○ DOR will make available necessary documents by the third field survey (tentatively December, 2014)
(10) To bear Advising Commissions of AP and Payment Commissions in connection to opening an account in a bank in Japan for the banking services based upon the B/A	
(11) To exempt import tax, customs tax and ensure prompt customs clearance for domestic transportation of imported machines and equipment.	
(12) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products/services under the verified contract	
(13) To accord Japanese nationals to be involved in this project for their entry into the recipient country and stay therein for the performance of their work	
(14) Issuance of necessary permits, certificates, obtaining approvals and permissions for earthworks, construction of road(bridge), construction inside river area etc.	
(15) Resolve disputes with local or third persons	
(16) To bear all the expenses, other than those to be borne by the Grant Aid, necessary for construction of the facilities and for transportation/installation of the equipment	
(17) Median plantation and maintenance	
(18) Construction of bus shelters	
(19) Proper use and timely maintenance of the road and facilities after construction	
(20) Observation, measurement, analysis, and inspection of environment (air, water,) during and after construction and its measures	
(21) Implementation of completion appraisal and post evaluation	

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3. Applicable Standards

According to the discussion with the DOR, the standard to be used for the design purpose of road and bridges under this project is basically that of the Asian Highway, as the objective section of this project is designated as a part of Asian Highway. However, for items not available in the Asian Highway Standards, DOR agreed use of other standards as listed hereunder.

- Nepal Road Standard 2070 (2013)
- Nepal Bridge Standard 2067 (2000)
- Policy on Geometric Design Highways and Streets 2004 (AASHTO)
- Indian Road Congress
- Guide for Design Pavement Structures 1993 (AASHTO)
- Japan Road Ordinance
- Specification for Highway Bridges, Japan
- Other equivalent Standards

4. Road Classification

Although, classification of the objective road was agreed upon by both sides during the Technical Discussion in June, 2014, the objective road is re-classified as Class I under the Asian Highway classification. It was confirmed with DOR that the new classification will preside over the initial classification. Thus;

Administrative Classification: Asian Highway (also National Highway)

Functional Classification: Class I (Asian Highway- equivalent to Class II of Nepal Road Standard)

5. Design Speed

Both sides agreed to apply the design speed based on the standards of Asian Highway. Therefore, as shown in the **Table-3**, the design speed for rolling terrain will be 80km/h while the design speed along mountainous and steep terrain will be 60 km/h. However, as the existing road was constructed in the 60s, it has many sharp curves and steep grades. The alignment requires significant change in order to meet the geometric requirement in accordance with the design speed. This will necessitate huge area of land acquisition. Therefore, in order to minimize the land acquisition area, for certain areas the design speed might be reduced accordingly.

Table-3 Relation between Road Classification, Terrain and Design Speed (AH Standards)

Terrain Classification	Flat	Rolling	Mountainous	Steep
Primary	120	100	80	60
Class I	100	80	60	60 (50)
Class II	80	60	50	40
Class III	60	50	40	30

Note: Value in parenthesis indicate design speed mentioned in other countries.

6. Typical Cross-section

The typical cross sections to be applied are shown in **Figure-1** to **Figure-8**. The typical cross sections have been determined with reference to the cross sections of the Kathmandu – Bhaktapur Road, the Asian Highway Standard and Nepal Road Standard 2070.

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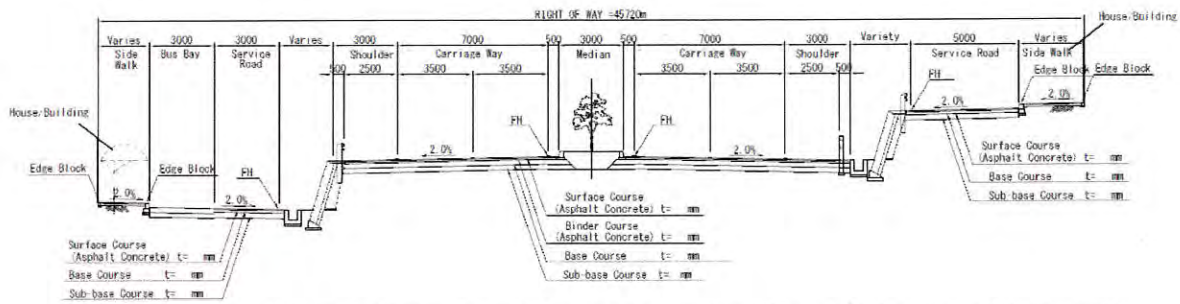


Figure-1 Typical Cross Section (Urban area near start point where existing ground is uneven)

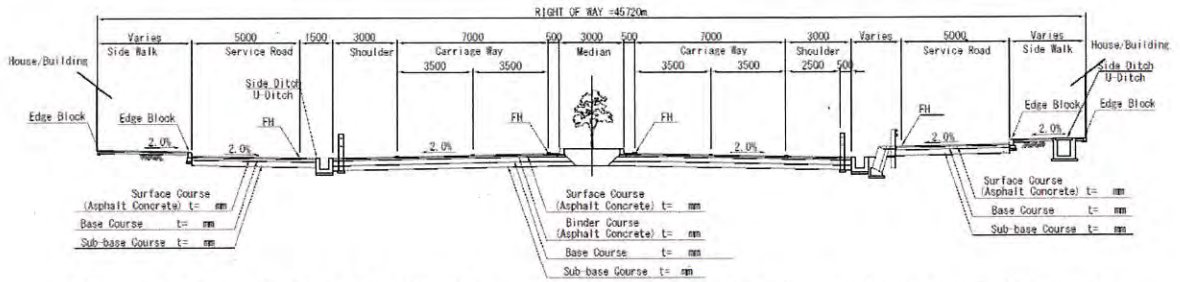


Figure-2 Typical Cross Section (Urban area near start point where existing ground is even)

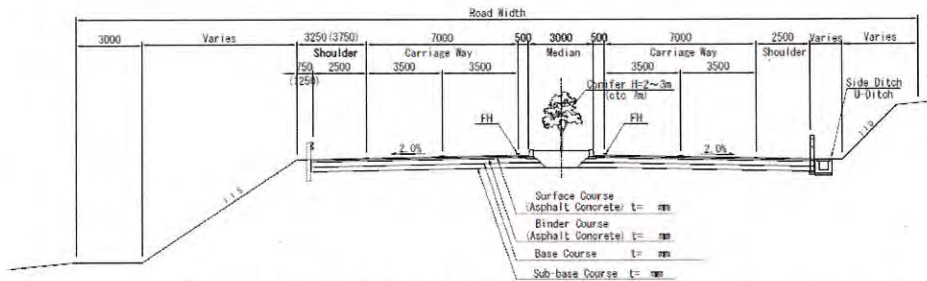


Figure-3 Typical Cross Section (Section without Service Road)

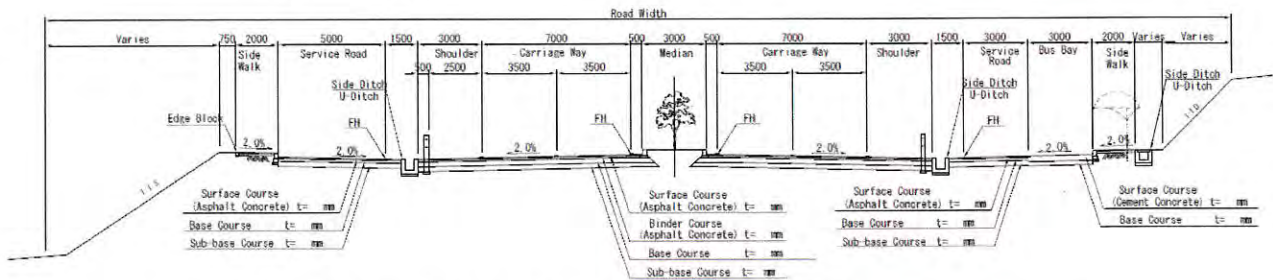


Figure-4 Typical Cross Section (Jagati - Nalinchowk and Sanga - Banepa Section)

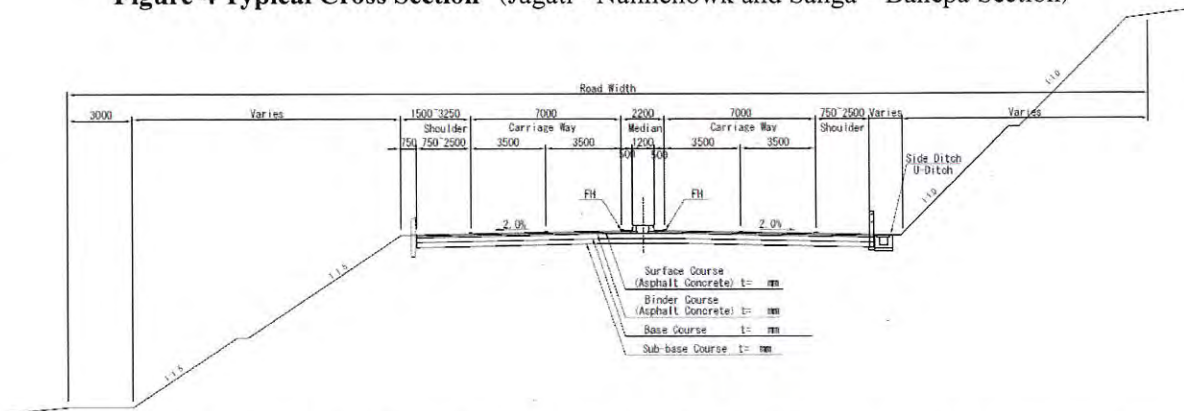


Figure-5 Typical Cross Section of Earth Section (Bypass between Nalinchowk and Sanga)

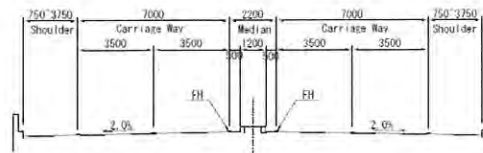


Figure-6 Typical Cross Section of Bridge Section (Bypass between Nalinchowk and Sanga)

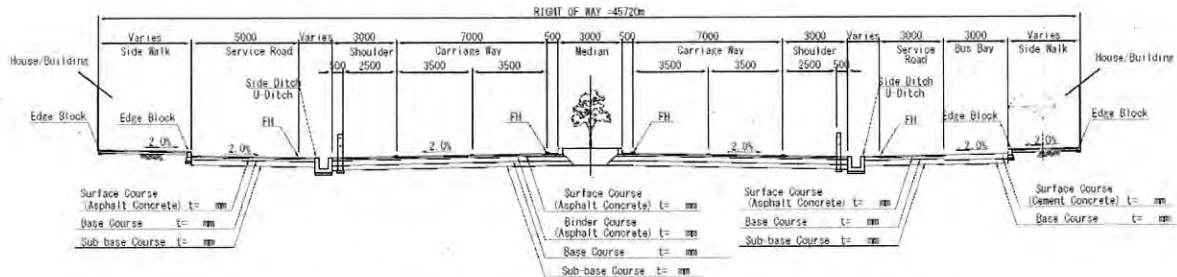


Figure-7 Typical Cross Section (Banepa Urban Area)

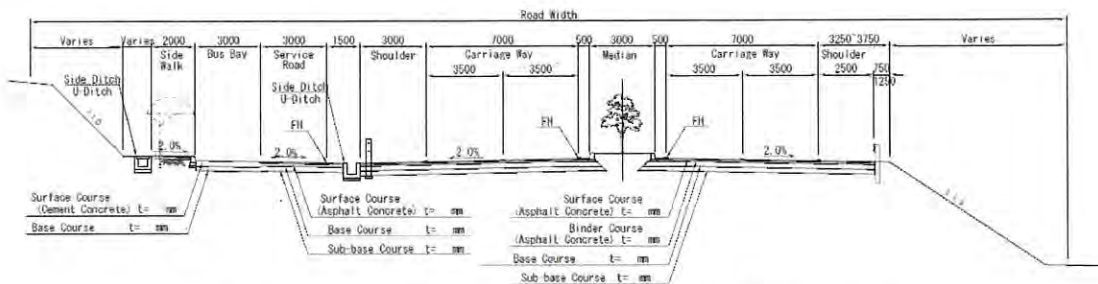


Figure-8 Typical Cross Section (Dhulikhel Urban Area)

7. Alternative Route

During the first field survey, three alternatives mentioned below were studied for improvement of the existing road in Sanga mountainous area.

Alt-1: Widening of existing road (Widening and improvement of alignment)

Alt-2: Alternative route (Bypass between Nalinchowk and Sanga)

Alt-3: Alternative route (Bypass between Nalinchowk and Sanga through a tunnel)

Impacts on social and natural environment, traffic functions, traffic safety, socio-economic activities, construction/ maintenance cost were compared to select the optimum alternative.

The above alternatives are shown in **Figure-9**. It is understood that Alt-1 will require large scale cut of mountains and structures and contribute to significant increase in the construction. It will also have adverse impact on the natural environment and as it requires construction of large scale structures, safety concerns during construction and along the detour road are also high. On the other hand, Alt-3 has the advantage in terms of minimizing the adverse impact on natural environment, but requires new relocation of houses at the east side where it meets with the existing road.

Consequently, Alt-2 was selected as the optimum route. However, further study will be conducted to minimize relocation of houses and construction cost.

During the second field survey, based on the detail information obtained from the topographic survey and geological investigation, comparison of alignment was further (second stage comparison) conducted for Alt-2 (Bypass between Nalinchowk and Sanga) determined during the first field survey. The proposed

alignments are shown in **Table-4**. The ideal alignment will be determined following comparative analysis and evaluation during the study period in Japan. Driving comfort, environment efficiency and economic factors will be taken into consideration during analysis and evaluation process.

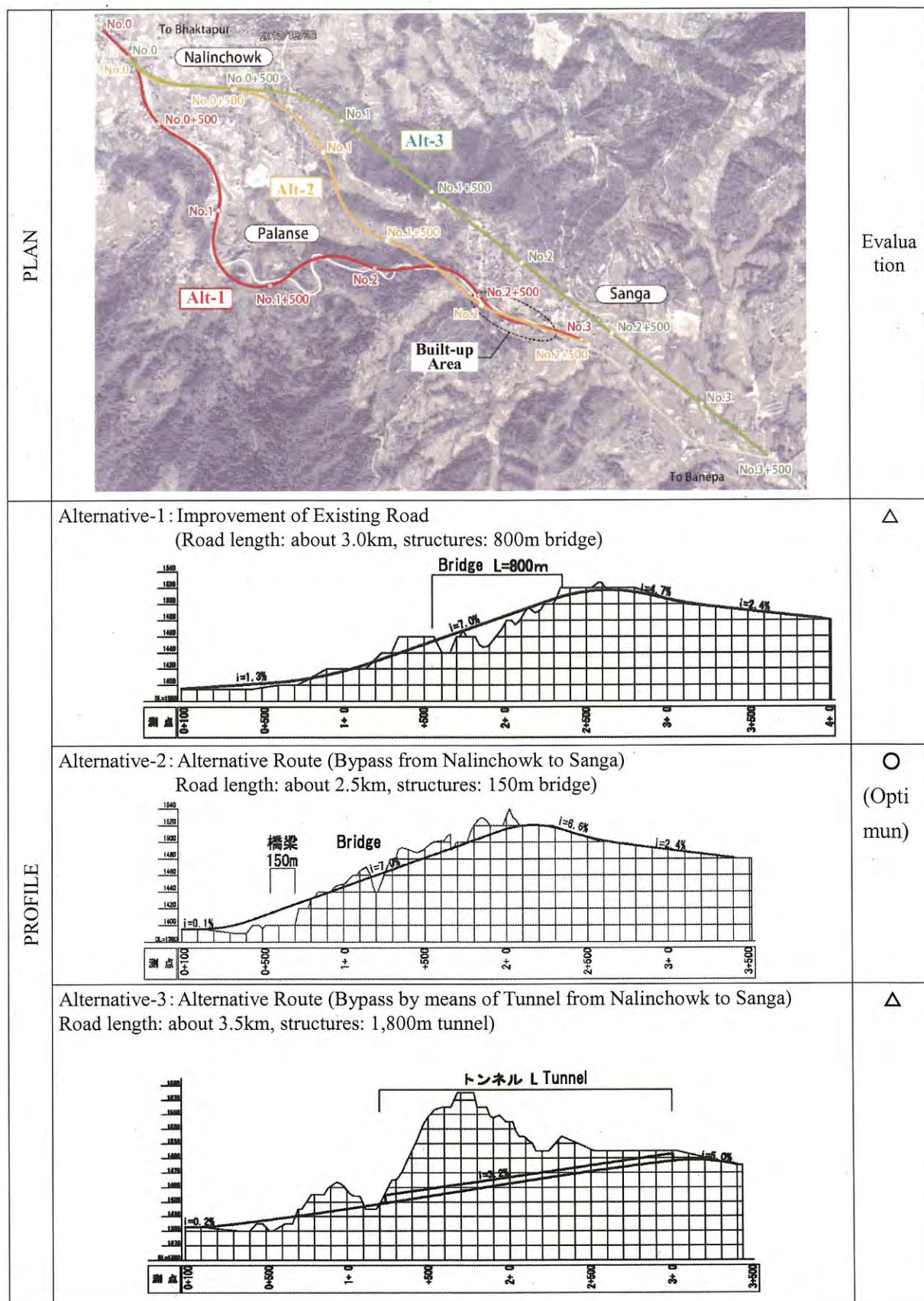
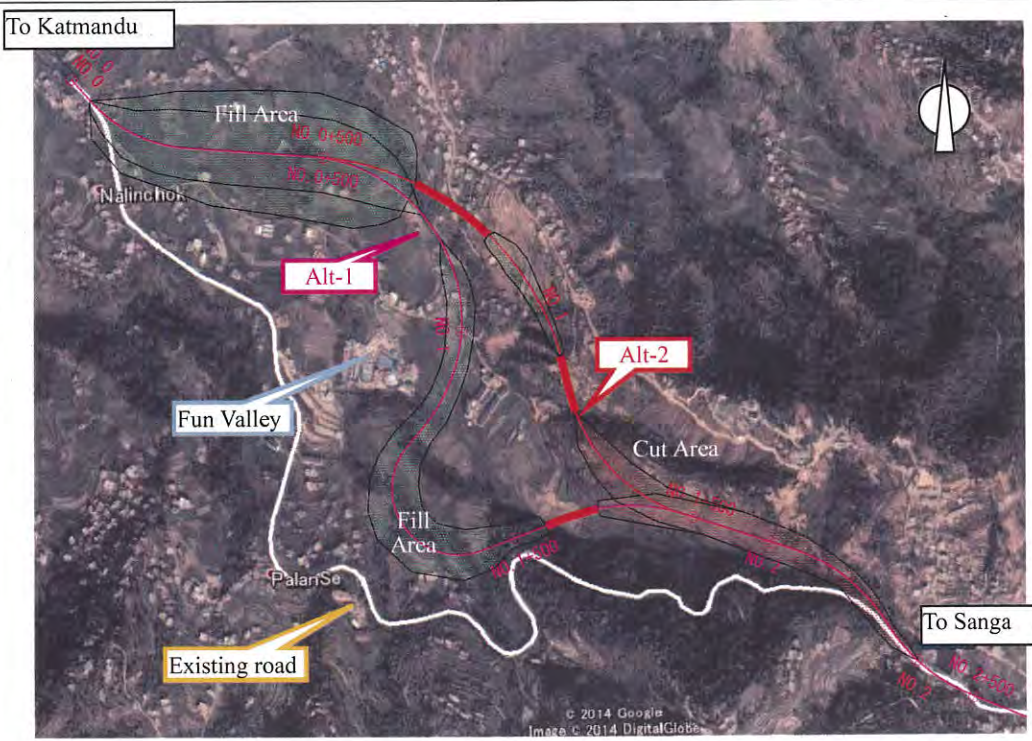


Figure-9 Detail of Alternative Routes between Nalinchowk and Sanga

Table-4 Secondary Comparison for Alt-2 Selected During First Field Survey

	Alt-1 : Passing beside Fun Valley (Length L=2.4km)	Alt-2 : Passing along the hill (Length : L=2.0km)
Plan		
Geometric Condition	Inferior than Alt-2 (horizontal curvature is 115m and vertical grade 6.7%, design speed 60km/h).	Superior than Alt-1. (Horizontal curvature is smoother (500m) although vertical grade is slightly steeper (7.0%), design speed 60km/h).
Environment	Number of affected houses is small Required land area is almost equal to Alt-2	Number of affected houses is large Required land area is almost equal to Alt-1
Cost	Requires approx. 100m long bridge	Requires two bridges approx. 150m and 100m long. Embankment height is 30m and requires stability analysis
Evaluation	Under study	

8. Improvement of Sharp Curve (Ahead of Dhulikhel)

Another location where the alignment of the existing road needs to be changed drastically is near Dhulikhel. The curvature radius here is so small ($R=50m$) that the vehicles have difficulty negotiating for smooth and safe drive along the section. Two alternatives as shown in **Table-5** were studied as remedial measures of this section. The first alternative is the measure proposed by the Survey Team, while the second alternative is the measure proposed in the project "Detailed Design of Upgrading/Widening of Roads to Six Lane Standard, Arniko Lokmarg (Suryabinayak – Dhulikhel Section)" conducted by the GON in July 2011. The comparative study is shown in **Table-5**. Alt-1 is selected, as it is superior than Alt-2 in terms of driving comfort, impact against environment and construction cost.

Table-5 Comparative Study for Improvement of Sharp Curve (Ahead of Dhulikhel)

	Alt-1: Survey Team Proposed Measure	Alt-2: GON Proposed Measure	
Plan			
Geometric Condition	• Design speed 60km/h • Horizontal curvature is 115m (with transitional curve) • Vertical alignment 5.3%	• Design speed 60km/h • Horizontal curvature is 130m (without transitional curve) • Vertical alignment 6.6%	Δ
Drive comfort	• Higher than Alt-2. (The horizontal curvature is slightly gentler in case of Alt-2 but the grade is steeper and can significantly decrease the running speed (especially of trucks and buses))	• Lower than Alt-1	Δ
Environment	• Number of affected houses is equal to that of Alt-2 • Required land area is smaller than Alt-2 • Land to be acquired is mostly open area	• Number of affected houses is equal to that of Alt-1 • Required land area is bigger than Alt-1 • Land to be required is paddy field	Δ
Cost	• Maximum cut height is approx. 17m but does not require purchasing of earth. Also excavated earth can be utilized for fill.	• Maximum fill height is 20m and requires huge volume of earth. Also, embankment on the paddy field may require countermeasures against stability.	Δ
Evaluation	⊙ Superior than Alt-2 in terms of drive comfort, environmental impacts and construction cost.		

9. Provision of Pedestrian Bridge and Pedestrian Crossing

The construction of pedestrian bridges that the GOJ will undertake will be limited to sections where service roads will be undertaken by Japan side and provision of the bridge is deemed to have significant positive impact to the project.

In addition, the GOJ will undertake provision of pedestrian crossings at the following locations;

- Nearby the existing pedestrian crossings
- Nearby the bus stops where pedestrian bridges are not planned

- Institutions (schools, colleges, universities etc.), and medical centers
- Major intersections and connecting roads
- Nearby pedestrian bridge to be installed by the GON in the future (temporary provision of pedestrian crossing)

10. Provision of Bus Bays

As many buses (local and long-distance) ply on the objective road, bus bays will be provided to secure smooth and safe traffic flow along the main road and to enhance traffic safety. However, it should be noted that the provision of bus shelter will not be undertaken by the GOJ and will have to be provided by the GON.

The location of the bus bays will be nearby the existing bus stops. As already mentioned, either pedestrian bridge or pedestrian crossing will be provided at bus bays for the bus users.

11. Traffic Signal and Street Lights

Taking into consideration the present power supply condition in the Kathmandu Valley, where a maximum of 10 hours per day of load shedding is experienced almost every day, it is assumed that uninterrupted and stable supply and power for operation of traffic signal and street lights as well as sustainable maintenance of these facilities cannot be guaranteed.

Therefore, the Survey Team confirmed and DOR agreed that traffic signals and street lights will be excluded from the undertaking items by the GOJ. However, to make its installation by the GON in the future possible, the intersections will be improved in consistency with its future plan. Also, conduits necessary for these facilities will be installed by the GOJ.

In addition, DOR assured traffic police will be deployed to control traffic at the intersections and secure safety of the road users until the intersections are provided with the signals.

12. Road Design Criteria (Major Control Points of Road Design)

The existing road has many sharp curves and steep grades that do not satisfy the requirements stipulated in the standards of Nepal or the Asian Highway Standard. In addition, there are many houses, temples, shrines, religious trees within the 50 yards ROW (25 yards each side from the center of the existing road) that will be affected if the existing road alignment will be improved to meet the standards.

In connection to this, the Survey Team confirmed with DOR that none of the above mentioned objects need to be treated as control points, if it is within the existing ROW. However, exception applies to the temple on the right hand side of the existing road after Sanga Pass.

Also, outside the ROW, the following objects will have to be taken as the control points for the improvement design.

- ✓ Built-up areas and houses alongside (especially those that have set back beyond the ROW as established by the Land Act of GON)

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- ✓ Areas where large scale earthwork is required (steep terrain)
- ✓ Adventure or fun parks, major religious and tourist spots
- ✓ Large scale or famous (historical, culturally and socially important) temples and trees

13. Geometric Condition and Vertical Clearances

Geometric Condition

The geometric conditions set in the Asian Highway Standards will apply for the design works of the objective road. DOR agreed to the conditions as mentioned in **Table-6**, hereunder.

Table-6 Geometric Condition (Asian Highway Standard)

Items		Conditions (Classification: Class I)		Remarks
Design Speed		80km/h	60km/h (50km/h)	80km/h: for rolling terrain 60km/h: for mountainous and steep terrain 50km/h: for steep terrain (other countries)
Width (m)	Lane	3.5	3.5	Right turn lane 2.5m
	Shoulder	3.0	2.5	
	Median Strip	3.0	2.5	
Minimum Horizontal Radius (m)		210	115	
Camber (Crossfall) (%)		2	2	
Maximum Composite Grade (%)		10	10	
Maximum Vertical Grade (%)		5	7	

Vertical Clearance

A vertical clearance at the crown of the road surface will be 5m as mentioned in the Nepal Road Standard 2070 although existing clearance height along Kathmandu-Bhaktapur road is 4.75m.

14. Design Conditions of Pavement

Conditions shown in **Table-7** will apply in connection to pavement design of main road and service road.

Table-7 Design Conditions of Pavement

Items	Main Road	Service Road*	Bus Bays
Pavement type	Flexible (asphalt concrete)	Flexible (asphalt concrete)	Rigid (concrete)
Performance period	10 years	10 years	
Calculation method	AASHTO Guide for Design of Pavement Structures 1993		Japan standard or KB Road
Traffic Volume	Data from traffic survey conducted under this project	Assuming 30% traffic of main road	Not necessary
Min. asphalt thickness	10cm	5 cm	25cm

Note* : The pavement structure of service road may vary depending on the project cost.

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15. Design Conditions of Intersections

- Intersection design will be carried out at following locations;
 - i) Existing major intersections (Bhaktapur, Banepa and Dhulikhel)
 - ii) Built-up areas where traffic volume is high
 - iii) Where traffic volume is expected to rise in future
- At-grade cross intersection or roundabout types will be applied.
- Provision of traffic signals is excluded from the undertaking of the GOJ. However, intersections will be designed to be consistent with the future plan. Also conduits will be installed to enable easy installation of the signals by GON in the future.
- Target vehicles will be SU-12 as classified by AASHTO, which are equivalent to trucks and buses in Nepal.

16. Design Conditions of Bus Stops

- Bus bays will be provided at the outer side of service road, where service road will be undertaken by the GOJ. Bus bays here will have a width of 3m. A space of 2m on the service road will be occupied for use as the bus bays.
- Where service road will not be undertaken by the GOJ, bus bays will be provided beside the main road as shown in the **Figure-10**. The bus bays will be 3m wide.
- Standing space, deceleration and acceleration lane lengths etc. will be based on the standards of Nepal and the transportation condition at each bus bays.

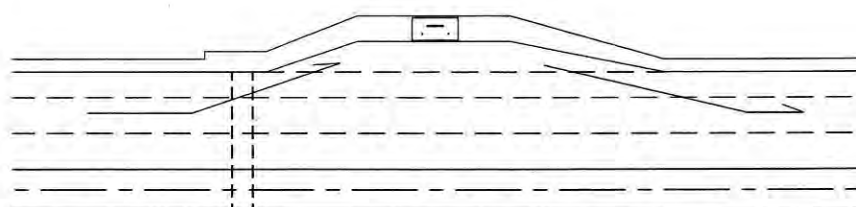


Figure-10 Schematic Diagram of Bus Stops installed by Main Road

17. Design Condition of Earthwork and Retaining Wall

Fundamentally, Standards of Nepal will apply for slope gradients. However, the Standard requires 1:2.0 or gentler slope for embankment height up to 12m, which might necessitate wide land area to be acquired. Therefore, standard slope in practice in Japan, which is 1:1.5 will be applied on embankment.

Slopes for earth cut will basically be applied to the values directed in the Design Standard by Nepal and as shown in **Table-8**, considering soil type and site condition.

Retaining walls are installed between main road and service road so as to minimize the road width. Basically, masonry walls will be applied. But for higher retaining walls, other types (L-type, gravity type or reinforced embankment type) will be applied.

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Table-8 Slope Gradients for Earth Cut

Soil type	Side Slope(vertical: horizontal)
Ordinary Soil	1:2 to 1:1
Disintegrated rock or conglomerate	1:1/2 to 1:1/4
Soft rock, shale	1:1/4 to 1:1/8
Medium Rock	1:1/12 to 1:1/16
Hard Rock	Almost vertical

Reference) Nepal Road Standard

18. Protective Fence for Vehicles and Pedestrian Guard Fence

Guardrail or guard pipe will be installed on main road or service way, where it is deemed necessary. Pedestrian Guard Fence to prevent hazardous crossing of pedestrians will be installed on the median.

19. Road Marking

Considering traffic safety, the following road markings will be installed.

- Traffic lane line: White, solid and 15cm wide
- Vehicular lane line: White, dashed (or solid) and 15cm wide
- Other lines (e.g. pedestrian crossing and arrow): Installed referring to the Design Standard of Nepal or the Design Standard of Japan

20. Traffic Signs

Considering traffic safety, warning and regulatory signs will be installed. However, informatory signs will not be installed under this Project.

21. Road Drainage (Measures against Inundation Issues)

Major inundation issues due to deteriorated drainage systems were confirmed at two locations; Jagati and Banepa. In Jagati, inundation of road area is attributed to clogging of existing side ditches and by sand deposits inside the existing side ditches.

In case of Banepa, drainage system of urban area itself is deteriorated due to water blockage in the closed (buried) drainage channel, mainly because of sand deposition as well as by the back water phenomenon from the rivers whose discharge capacity has been drastically reduced by sedimentation.

Provision of side ditches may solve the inundation issue of the road for return period of 3 years and contribute to mitigating inundation of the surrounding areas to a certain amount. The inundation issue cannot be solved completely by provision of road drainage facilities alone and requires a comprehensive solution such as improvement of sewage system and river system, which is out of scope of this project.

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22. Bridge and Structure Planning

Bridge and Box Culverts

- Four existing bridges will be replaced as these bridges have become old and weak and the road alignment (width, plane linear and vertical alignment) will be improved. At present, provision of box culverts is recommended at these locations.
- In addition to the standards of Nepal, following Japanese specifications are recommended for application for bridge and structure design expect for seismic load.
 - Specification for highway bridges, Japan Road Association 2012
 - Road Earthwork Manual – culvert, Japan Road Association 2010
 - Special type structure (as reinforced embankment (terre armee)). Its own design specification
- For live load, Type-B (same as AASHTO HS20-44 * 1.25) of Specification for highway bridges of Japan is recommended.
- The horizontal seismic coefficient (ZONE V) of IRC 6-2000 is recommended to be applied.
- Materials to be used for bridge and structure construction are recommended as below. On the other hand, pre-stressed concrete and special structures as geotextiles wall are recommended to be imported.
 - Concrete :M15, M20 and M25
 - Reinforcement :Fe-415 and Fe-500
- Rainfall intensity for a return period of 100 years for bridge and 25 years for culverts will be applied. The design free board of minimum 1m will be applied in accordance to the “NEPAL BRIDGE STANDARDS-2067”.
- Embankment, Geotextiles Wall, RC-Bridge and PC-bridge are considered for section at Sanga. The structures will depend on the height of the road and intersection condition with road/river.
- Temporal leasing of land for detouring river flow during construction as shown in **Figure-11** will be required.

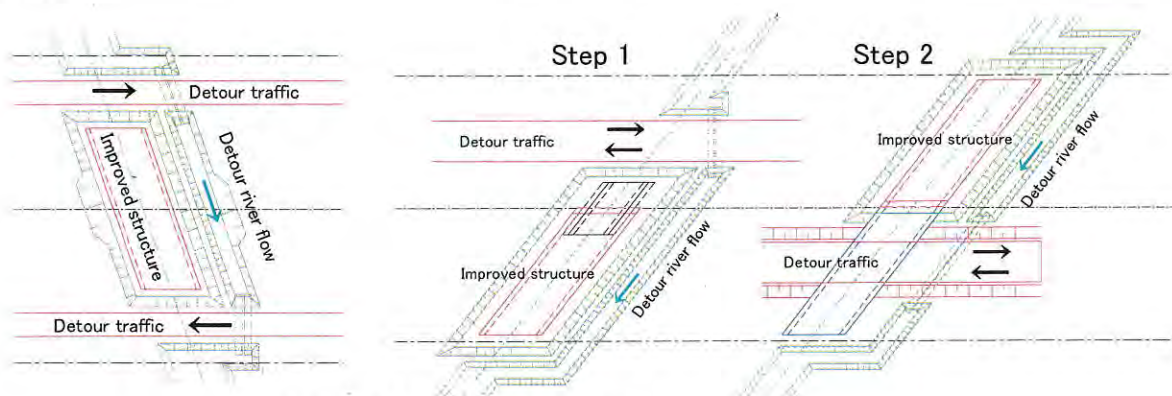


Figure-11 Detour Plan during Construction

- Revetment and river bed protection is improved in the earth work area. Wet stone masonry or/and gabion type is recommended for revetment and gabion for river bed protection.

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Pedestrian Bridge

- In addition to the “Design Specifications” mentioned earlier, following specifications are also recommended for design of pedestrian bridge.
 - Pedestrian bridge and under pass design manual: Japan Road Association 1979
 - Pedestrian bridge design handbook: : Ministry of Construction Japan 1984
- Following design conditions are recommended for planning for pedestrian bridge.
 - Approach :Steps with slope
 - Gradient of approach :25% (height of steps is 15cm)
 - Landing :Install every 3m height of approach
 - Width :0.75 (pedestrian) + 0.6(bicycle) + 0.75(pedestrian) = 2.1m
 - Live load :350 kg/m²
 - Vertical clearance :Minimum 5.0 m (Nepal Road Standard -2070)
 - Railing height :Minimum 1.0m (Nepal Bridge Standard -2067)
- PC Bridge is recommended for superstructure of pedestrian bridge.

23. Leasing of Land

Land for construction camp yard will be provided (leased) by the GON. The construction camp yard will consist of site office, asphalt mixing plant, concrete batching plant, motor pool, stock yard for materials and equipment, working place for manufacturing of curb stones etc. After completion of the project, land leased shall be returned its owner as a vacant lot. The outline of the proposed site recommended by Division Road Office-Bhaktapur is described hereunder and is also shown in **Figure-10**.

- Location: Chaukat (2.5km from Banepa) along Panauti Road
- Present Condition: Vacant Land (Private Land).

The additional land in addition to the camp yard required to be leased is for the temporary access road to the borrow pit as described in **Item 25** below and the detour road during replacement of the existing bridges.

24. Disposal Area

The assumed disposal materials are asphalt concrete and common concrete. The proposed site located nearby the proposed camp yard is a private land, and its existing condition is wastelands (refer to **Figure-12** and **Photo-1**). The disposal area will be excavated before disposal materials are disposed and backfilled by soil after disposal is completed.

In addition, the cutting earth which is inadequate as the embankment materials shall be disposed at the above disposal area.

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Figure-12 Proposed Site for Camp Yard & Disposal Are



Photo-1: Existing Condition of Proposed Camp Yard & Disposal Area

25. Borrow Pit

Large volume of earth is deemed to be required in the process of widening and improvement of the existing road at Sanga. Here, the fill material is proposed to be procured from the hill nearby Kailashnath Mahadev in Sanga in the manner shown in **Figure-13** to **Figure-15**.

26. Acquisition of Land beyond Existing ROW

Additional land may need to be acquired where service road will not be provided. In such cases, land 3m in width from the slope toe (end of the slope) will be required for acquisition. This space will be utilized as detour for traffic during construction period and as access road after construction.

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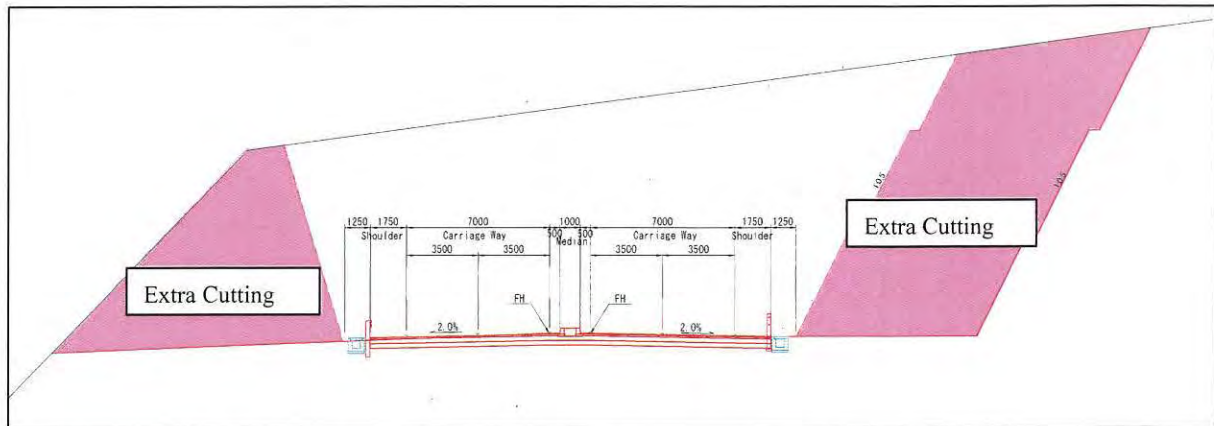


Figure-13 Proposed Borrow Pit at Sanga (Kailashnath Mahadev)

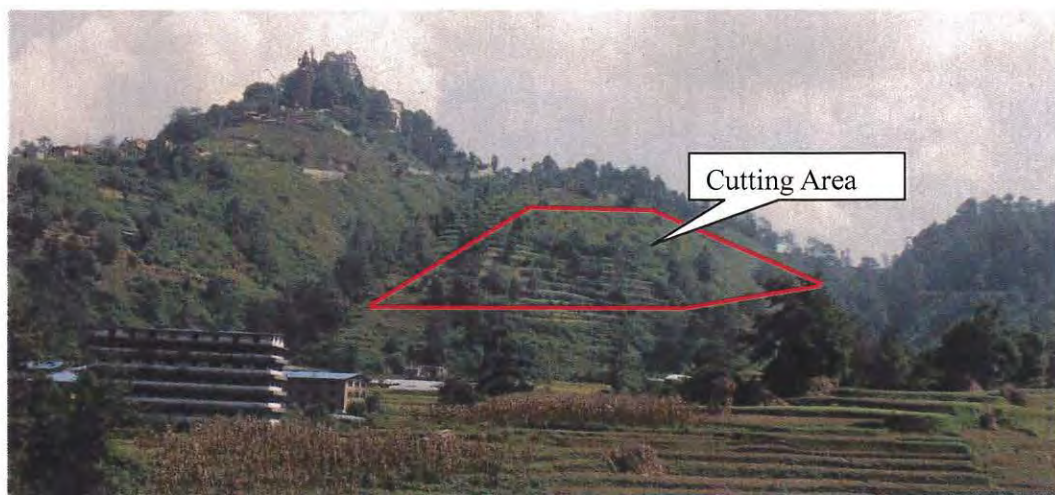


Figure-14 Borrow Pit (Cutting Area)



Figure-15 Borrow Pit (Cutting Area) Location Map

27. Environmental and Social Considerations

JICA Guidelines for Environmental and Social Considerations, relevant World Bank's Safeguard Policies and supplemental documents, and Nepalese relevant laws and regulations including Environmental and Social Management Framework (ESMF) shall be applied as minimum requirements on Environmental and Social Considerations, in principle.

a) Agreement in Principle

As the construction area is determined according to the progress of the Study, Nepalese side shall confirm necessary area for land acquisition, and confirm agreement in principle among possible Project Affected Persons (PAPs) throughout opportunities of Census and Socio-Economic Survey.

b) Land areas eligible for compensation

Right of Way (ROW) for Arniko Highway is defined as 25m from exiting road center line (C.L) for both sides (50m in total) in Road Standard (2070). In the SD road project, however, as both sides confirmed during the first survey in July, land out from 25 yards from C.L. shall be compensated as same conditions for private land because of past dispute regarding ROW declaration. Entitlement matrix in Resettlement Action Plan (RAP) Property evaluation and land acquisition area including cost estimation considers 25 yards border.

c) Budget preparation for land acquisition and resettlement

Nepalese side shall confirm necessary budget for land acquisition and resettlement estimated from the results of Census including socio-economic survey, inventory of loss, and replacement cost survey, and proceed with necessary steps to secure and disburse budget for implementation. Prospective major budgetary items are as below;

- Land Acquisition Cost
- Resettlement Compensation Cost including Allowances
- Cost for Internal / External Monitoring
- Terminal/Post Evaluation
- Cost for Income Restoration Program
- Cost for Resettlement Site Construction etc.

d) Stakeholder Meeting

The 1st Stakeholder Meeting will be organized through the process as below;

- DOR shall have internal meeting to decide principle policy for right of way and compensation
- DOR shall have pre-meeting before stakeholder meeting with local authorities
- DOR will organize Stakeholder meeting at several places along the road

e) Tentative Schedule

The tentative schedule of environmental and social consideration procedure is shown in the table below.



Tentative Schedule

Year Month	2014				215				Cont
	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	
Contract with RAP Consultant	▲								
Local Authority Consultation		▲							
Past ROW declaration study & IEE Review									
Stakeholder & Institutional Analysis									
Cadastral Survey									
Replacement Cost Survey									
1st Public Meeting with cut-off-date declaration			▲						
Census & Inventory of Loss Survey									
Focus Group Meeting & Needs assessment for Income Restoration									
RAP and VCDP Drafting									
2nd Public Meeting with survey result							▲		
RAP and VCDP Submission to DOR							▲		
Presentation RAP and VCDP and coordination with CDC							▲		
Support RAP approval process									

until
September
(Scheduled)

f) Special Important Items Being Implemented by Nepalese Side after the OD Study

Because the SD Project is planned as a grant aid project, schedule including land acquisition and resettlement until construction bidding after Exchange of Note (E/N) may be very tight comparing to JICA's Loan Project. Therefore, Nepalese side shall confirm and prepare for critical items as below, which should be implemented appropriately and swiftly in the limited period to avoid any delay for bidding and following construction.

- Fixing compensation unit price with Compensation Determination Committee (CDC) complying with RAP and results of Replacement Cost Survey
- Preparation for contract with Project Affected Persons and modification of property inventory
- Negotiation, Contract and Payment with sufficient pre-period before dead line for land clearance
- Monitoring and request for structure demolish after compensation

Appendix-5-3 Technical Notes (3)

TECHNICAL NOTES
ON
THE PREPARATORY SURVEY
ON
THE PROJECT FOR THE IMPROVEMENT OF SURYABINAYAK-DHULIKHEL ROAD
IN
THE FEDERAL DEMOCRATIC REPUBLIC OF NEPAL

The Preparatory Survey Team of Japan International Cooperation Agency (JICA) conducted third field survey (December 16, 2014 – December 24, 2014) including review of existing documents and held several discussions on the technical issues of the project with the officials of Department of Roads (DOR), which is the implementing agency for “The Project for the Improvement of the Suryabinayak–Dhulikhel Road in the Federal Democratic Republic of Nepal”.

In the course of discussions, the Survey Team explained to DOR on the contents of the Interim Report (2) and obtained basic agreement from DOR. In addition, the Survey Team and DOR (hereinafter referred to as “Both sides”) reached to an agreement on the matters mentioned in Attachment-1.

Kathmandu, 23 December, 2014



Mr. Sanjaya Kumar Shrestha

Deputy Director General

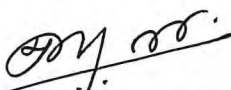
Foreign Cooperation Branch
Department of Roads (DOR)


for 

Dr. Gose Shingo

Chief Consultant
Preparatory Survey Team
Japan International Cooperation Agency (JICA)

WITNESSES:



Mr. Roshan Lal Shrestha

Project Manager

Suryabinayak-Dhulikhel Road Improvement Project
Department of Roads (DOR)

1. Confirmation of Project Scope

During the First and Second Field Survey, the Department of Roads (DOR), requested some scopes to be undertaken by Japan side with view to enhance positive outcome of the project immediately after completion of the project. The Survey Team reviewed the request during its study in Japan and in Nepal (Second Field Survey), prioritized the scopes and determined the items to be undertaken by each side as mentioned in Table-1.

Table-1 Results of Discussion Regarding Project Scope

Priority	Items Agreed during First & Second Field Survey	Results of Discussion during Third Field Survey
(1) Objective Section	The objective section of the project will be as to the request Start point: Suryabinayak, Bhaktapur District (End point of Kathmandu-Bhaktapur Road) End point: Dhulikhel, Kavrepalanchowk District (the intersection between Arniko Highway and Sindhuli Road)	○ As agreed in the Technical Notes signed during First Field Survey (October 13, 2014) ○ The length of the existing road was 15.65km, and that of after improvement is assumed 14.91km.
(2) Alternative Route Study in Sanga Pass	Potential alternative routes for the bypass alternative selected at Sanga area where significant changes of alignments are required for improvement were further studied based on the results of topographic survey and geo-technical investigations. T	○ DOR agreed on proceeding with the outline design on the alignment recommended in Section 3.1 "Identification of Alignment" in the IT/R(2). ○ DOR also agreed to apply a 200m bridge along the alignment and the type to be applied for the bridge as recommended in Section 3.3 "Comparative Study of Bridge Type as Sanga" in the IT/R(2). ○ DOR further agreed to adequately maintain the existing road at the bypass.
(3) Number of Lanes	The Traffic demand forecast results indicates justifiable results for widening to 4-lanes for the entire stretch of the objective section.	○ The outline design will be carried out for the entire stretch accordingly.
(4) Bus bays	Bus bays to be provided on the main road will be undertaken by Japan side. However, the bus shelters shall be responsibility of Nepal side.	○ Where service roads will be undertaken by Japan side, bus bays will be provided at the outer side of service road to secure safe and stable traffic flow along the main road. At other locations, it will be provided beside the main road. In both cases, bus shelters shall be undertaken by Nepal side.
(5) Service Tracks	Service tracks are classified and prioritized in the manner shown below and will be undertaken by Japan side in the order of its priority. In this context, the sections where service roads are necessary will be prioritized into the following manner. • P-1: Service road required at present (built-up area) • P-2: Service road required in the near future (development potential), and • P-3: Service road required in far future or may not need at all. In order to secure traffic safety and smooth traffic flow by segregating the through traffic with the access traffic to/from abutting houses, sections classified as P-1 will be provided by Japan side. In addition, the sections within P-2 having development potential by the completion of the project will also be provided taking the project cost into consideration.	○ Land use of the objective section was studied and sections having potential for development by the completion of the project was identified. The section from Jagati to Sipadole Khola Bridge is added in the sections (total length 7.32 km) mentioned in Section 3.2 "Scope of Service Track" in the IT/R(2). The total length to be undertaken by Japan side will thus be 7.60km (the total length during 2nd Field Survey was 6.32km). ○ The pavement structure might vary depending on the project cost and the impact to the project. ○ DOR understood that carrying out detailed design for sections that will not be undertaken by Japan side will not endorse positive outcome of the Project and agreed to exclude the scope of detailed design it had requested for sections that will not be undertaken by the Japan side, such that the provision of service track by Nepal side will be easy and consistent with the main road.

Priority	Items Agreed during First Field Survey (July, 2014)	Results of Discussion during Second Field Survey (October, 2014)												
(6) Pedestrian Bridge	Undertaking of pedestrian bridges where Japan will undertake provision of service road and where provision of pedestrian bridge is deemed to have significant positive impact to the project might be undertaken by Japan side depending on the project cost. In addition, provision of pedestrian bridges at other sections will be undertaken by Nepal side in future. On the other hand, as a temporary measure, pedestrian crossings will be provided at locations where the GON plans to provide pedestrian bridges in the future.	○ The locations where pedestrian bridge and pedestrian crossing will be provided by Japan side as mentioned in Section 3.4 “Pedestrian Bridge” are as follows; <table><tr><td>Surya Binayak</td><td>Jagati</td><td>Banepa</td><td>KTM University</td></tr><tr><td>1</td><td>1</td><td>3</td><td>1</td></tr><tr><td colspan="4">TOTAL 6 Locations</td></tr></table>	Surya Binayak	Jagati	Banepa	KTM University	1	1	3	1	TOTAL 6 Locations			
Surya Binayak	Jagati	Banepa	KTM University											
1	1	3	1											
TOTAL 6 Locations														
(7) Traffic Signal	<u>Undertaking of traffic signal by Japan is excluded</u> from the project scope, as securing uninterrupted and stable power supply and sustainable maintenance cannot be guaranteed. However, for easy provision by the GON in future, the intersections will be planned in line with the future demand and conduits for the signals will be planned and installed. However, foundations will be excluded.	○ Meeting was held with Metropolitan Traffic Police where agreement was reached on undertaking traffic control at the intersections manually by traffic police to secure safety of pedestrians until traffic signals are provided. ● Formulating a traffic signal installation plan at this stage is too early and could be inconsistent. DOR requested to install the conduits by assuming the potential location of traffic signals.												
(8) Street Lights	<u>Undertaking of street lights by Japan is also excluded</u> from the project scope, as securing uninterrupted and stable power supply and sustainable maintenance cannot be guaranteed. However, for easy provision by the GON in future, conduits for the street lights will be planned and installed if solar powered is not considered. Also, foundations for street lights will also be excluded.	● Like traffic signal, formulating an installation plan at this stage is too early and could be inconsistent. DOR requested to install the conduits by assuming the potential location of lights to be installed in future.												
(9) Traffic surveillance System	Traffic surveillance system, (CCTV Cameras and control center) might be included in the scope of the project after the analysis in Japan, if it finds that this will have positive impact on the project outcome and is economically feasible and justifiable.	○ <u>Traffic surveillance system will be excluded</u> from the project scope as agreed in the T/N during 2nd Field Survey.												
(10) Viaduct and Underpass	If a viaduct or/and underpass is required in connection with improving the objective road, it might be undertaken by Japan side. However, provision in the future will be undertaken by GON under its expense.	○ Underpass for the main road will be provided at Sanga Pass to secure intersection with the existing road. Underpass is planned to be provided as it is required to lower the finished level from the existing level.												

Legend - ○ : Agreed Items ● : To be confirmed later

2. Undertaking by the Recipient Country

The assumed items that are required to be undertaken by Nepal side for implementation of this project are listed in **Table-2**. The Survey Team requested and DOR assured to take proper and timely action with regards to the listed undertaking items. Among the items listed in the table, resettlement of project affect persons, land acquisition, and relocation of utilities are requested to be executed under the stipulated timeframe to avoid possible delay in the implementation of the project.

Signature

Signature

Table-2 Undertakings by the Recipient Country

Undertakings (Agreed Items until 2 nd Field Survey)	Results of Discussions until 3 rd Field Survey
(1) Acquisition of land and relocation of houses and Property - Provision of relevant information by April, 2015 - Allocating budget in the fiscal year 2015	○ The land acquisition cost according to the surveys and studies conducted, is estimated to be significantly huge. This was conveyed to DOR during the 3 rd Field Survey and in Section 3.6 "Area of Land Acquisition" in IT/R (2). The approx. land area calculated is 150,000 m ² and the cost based on market price is approx. 2.0 billion Japanese Yen.
(2) Relocation of public and religious facilities - Provision of relevant information by April, 2015 - Allocating budget in the fiscal year 2015	○ Meeting was conducted with DOR to request allocating budget for land acquisition in the next fiscal year. DOR assured it will commence necessary process for allocation of budget ○ The Survey Team will provide information and data relating to the relocation of houses, public and religious facilities by April, 2015.
(3) Provision of open land for use as construction yard, stock piling yard, camp yard, project office and securing and leasing land for construction road - Candidate location is as shown in Section 2.7.2 (2) in IT/R(2) - Obtaining basic agreement for use from the land owner by 3rd Field Survey (end of December, 2014)	○ Basic agreement with the land owner for use as yards for construction, stock piling, camps, and project office has not been obtained yet. ○ Interview survey was conducted at the candidate site, which disclosed that the candidate site is owned by multiple land owners and a housing plan is on-going at the candidate site. Therefore, reaching basic agreement including identifying other candidate sites in the vicinity was re-requested to the DOR. The target was set to end of January, 2015. ● To allocate the cost required for the land to be used as yards for construction, stock piling, camps, and project office.
(4) Designating/Securing borrow pits, disposal sites, waste dumping sites - Candidate location is as shown in Section 2.7-2 in IT/R(2) - Obtaining basic agreement for use from the land owner by 3rd Field Survey (end of December, 2014) (DOR)	○ Basic agreement with the land owner of candidate borrow pit land was not obtained. ● Survey Team re-requested to reach basic agreement with the land owner. The target date is set to end of January, 2015.
(5) Relocation of electric, communication utilities including water pipes, wells and other obstacles for construction - Provide relevant documents by DOR by 3rd Field Survey (end of December, 2014) - Items to be affected will be reported to the GON during 4th Field Survey (scheduled in May, 2015)	○ Documents and information relevant to relocation utilities such as electric, communication utilities, water pipes, wells etcetera have not been completely provided by the DOR. ● Survey Team has employed a local consultant to collect the documents/information required from the organizations concerned with help of DOR. The target date for collection is set to end of January, 2015.
(6) Provision of future plans of traffic signals and street lights Provide relevant information by 3rd Field Survey (end of December, 2014)	○ The future plans of traffic signal and street lights were not made available ● DOR requested to assume the potential location of the signals and lights and install the conduits accordingly.

3. Items to be Confirmed

- Recently, the first Stakeholders Meeting at Nalinchowk/Palanse, Bhaktapur and Banepa, Kavrepalanchowk concluded on November 9, 2014. The meetings indicated that there could be serious issues regarding Right of Way, no reply from government regarding past court decision, and appeal from Arniko Highway struggle committee for invalidity of past ROW.
- Considering the above issues, a meeting was held November 21, 2014 between JICA Nepal Office and DOR to discuss on the measures against the above issue. In the course, both sides





agreed on the measures to avoid possible risk and actions that DOR shall take by the 3rd Field Survey. The actions and its status are as mentioned in Table-3.

Table-3 Steps to be taken for Solving Issues of 1st SHM

Measures agreed during the Meeting with JICA Nepal Office	Implementation Status
Report to JICA Nepal Office: - Petition, Judgment, and Government actions of past court cases regarding ROW issues filed by residents along SD Road - Details of past request letters on ROW issues from residents and Government actions against that - Details of Banda along SD Road in July 2013 and its results	○ DOR made available the Supreme Court verdict against the case files by residents along the SD Road. ○ DOR (DDG and Project Manager) held a meeting December 16, 2014 with the representatives of the Arniko Highway Struggle Committee. Although the meeting was concluded without specific or concrete results, it however opened a way for DOR for further discussion with the affected persons.
2nd Set Period: After fulfilling of the 1st Set Period until March 2015 (the Second SHM)	Report to JICA Nepal Office: - Must DOR participation in focus group meeting (special small meeting for vulnerable affected peoples) - DOR regular participation in the field surveys of Census and property survey - Continue discussion on land issues within ROW and reach principle agreement on compensation policy with residents and AHSC by the second SHM (March 2015)
3rd Set Period: After the 2nd SHM and onward phases	Report to JICA Nepal Office: - Must DOR organization / participation in the Second SHM - DOR's paying role for EIA approval process including obtaining VDC letters same as IEE following the schedule which was agreed between JICA headquarters mission before
Continuity of other Undertakings	DOR agreed to carry out other undertakings mentioned in the T/N signed during 2nd Field Survey (October 13, 2014)

4. Other Items

- Request was made by DOR for changing the portion “in the Federal Democratic Republic of Nepal” to “in Nepal” only.
- DOR informed that Mr. Roshan Lal Shrestha has been appointed as the Project Manager for this project.







Appendix-6 RAP報告書

Government of Nepal
Ministry of Physical Planning and Works
DEPARTMENT OF ROADS
Foreign Cooperation Branch
Babarmahal, Kathmandu, Nepal

Suryabinayak- Dhulikhel Road Improvement Project

RESETTLEMENT ACTION PLAN DRAFT

November 2015

Submitted by:

CTI Engineering Co.Ltd.

Tonichi Engineering Consultants Inc

In Association with

Full Bright Consultancy Pvt. Ltd

Kathmandu, Nepa

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Annex 2: Affected Structures with Estimated Cost Amount

Annex 3: Estimated comparative Cost (Market & Govt.) for Land Acquisition

Annex 4: Attendance of Public meetings/discussion

Annex 5: Census/Socio-economic Household Survey Questionnaire

Annex 6: Replacement Cost Survey Report

Abbreviations

ADB	Asian Development Bank
AHSC	Arniko Highway Struggle Committee
CDC	Compensation Determination Committee
CDO	Chief District Officer
DDC	District Development Committee
DLRO	District Land Survey and Revenue Office
DOR	Department of Roads
EIA	Environmental Impact Assessment
ESMF	Environmental and Social Management Framework
GESU	Geo-Environment and Social Unit
GON	Government of Nepal
IEE	Initial Environmental Examination
JICA	Japan International Cooperation Agency
NGO	Non Governmental Organization
NRs	Nepal Rupees
OP	Operational Policy of World Bank
PAF	Project Affected Family
PAP(s)	Project Affected Person(s)
PCU	Program Coordination Unit
RAP	Resettlement Action Plan
ROW	Right of Way
USD	United States Dollar
VDC	Village Development Committee
WB	World Bank

Glossary of Terms

Assistance	Additional support provided to Project Affected Persons (PAPs) under specific conditions who are losing assets (particularly productive assets), incomes, employment or sources of living, to supplement the compensation payment for acquired assets to achieve, at a minimum, the full restoration of living standards and quality of life.
Cut-off-date	The date that the project is approved and the project landmarks are made. Displaced Persons / Project Affected Persons (PAPs) and local communities will be informed of the cut-off date at the stake holder meetings. Any illegal persons moving into the project area after that date will not be entitled to compensation and assistance under the Project.
Eligibility / Entitlement	The range of compensation, assistance measures and assessments comprising income restoration support, moving assistance, income assistance, relocation and resettlement assistance to the PAPs to restore their economic and social facilities depending on the type and severity of their losses.
Income restoration	Livelihoods restoration refers to that compensation for PAPs who suffers loss of income sources or means of livelihoods to restore their income and living standards to the pre- displacement levels.
Inventory of Loss (IOL)	The process of tally, location, measurement and identification of replacement cost of all fixed assets that will be recovered or adversely affected by, or because of, the project. These include, (without limitation or being in an exhaustive list) lands used for residence, business, agriculture, ponds, dwelling, stalls and shops; other structures such as fences, tombs, and wells; trees with commercial value; and sources of income and livelihood. It also includes assessing the severity of the impacts on the PAPs' affected land, property, assets livelihood and productive capacity.
Poverty Line	The level of income below which an individual or a household is considered poor. According to Central Bureau of Statistics (CBS) Household survey 2011, yearly income less than NRs 114,808 (USD 1,147) for average family size 5.57 is considered poor. The determination of poor households under the

Project will be based on the census/ socio-economic survey that affected household falls below the poverty line.

Replacement cost A method of valuation of assets (including land, shelter, access to services, structures, crops, etc.) that helps determine the amount of compensation sufficient to replace lost assets, covering transaction costs, which may include taxes, fees, transportation, labor, etc. With regard to land and structures, "replacement cost" is defined as follows: For agricultural land, it is the pre-project or pre-displacement, whichever is higher, market value of land of equal productive potential or use located in the vicinity of the affected land, plus the cost of preparing the land to levels similar to those of the affected land, plus the cost of any registration and transfer taxes. For land in urban areas, it is the pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes. For houses and other structures, it is the market cost of the materials to build a replacement structure with an area and quality similar to or better than those of the affected structure, or to repair a partially affected structure, plus the cost of transporting building materials to the construction site, plus the cost of any labor and contractors' fees, plus the cost of any registration and transfer taxes. In determining the replacement cost, depreciation of the asset and the value of salvage materials are not taken into account, nor is the value of benefits to be derived from the project deducted from the valuation of an affected asset.

Resettlement The RAP, in accordance with JICA's Guidelines for Environmental and Social Considerations and World Bank's Operational Policy on Involuntary Resettlement (OP 4.12), covers the involuntary taking of land that results in (i) relocation or loss of shelter, (ii) loss of assets or access to assets; or (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location.

Severely Affected Persons (SAP) / Household (SAH) PAPs/household that is affected by the project as:
a. There is a loss of land or income such that the affected family fall below the poverty line; and/or
b. There is a loss of residential house such that the family members are physically resettled

Vulnerable Groups and Individuals at risk Those who might suffer disproportionately from adverse project impacts and/or be less able to access the project benefits and compensation, including livelihood restoration and assets compensations, when compared to the rest of the PAPs. Vulnerable peoples include people who, by virtue of gender, ethnicity, age, physical or mental disability, economic disadvantage or social status, may be more heavily affected by economic or physical displacement than others and who may be more limited than the population at large in their ability to claim or take advantage of resettlement assistance and related development benefits. Vulnerable people can be an entire group (like an ethnic minority community), or individual households (HHs).

1. Project Description

1.1 Background

The Arniko Highway is an important link to the hills in the central and eastern regions of Nepal that links capital city Kathmandu and Chinese border of Kodari with 114 km black top road. This Highway is also known as Kodari Highway by the name of its last joining point Kodari. This road is a part of Nepal's strategic road network. It is the only road link in operation with China. The Arniko Highway was constructed under Nepal-China cooperation which was started in 1969, completed on 1971, and officially came into service from January 1972. In the national level, Arniko Highway has political and economic significance to develop the trade and commerce in Nepal. This Arniko Highway has played vital role in serving the populations of Kavrepalanchok, Sindhupalchowk, and Dolakha districts via Lamosangu- Jiri Road, Dolalghat- Chautara and others respectively. Besides this, the Arniko Highway has connected with Terai through the Dhulikhel to Bardibas as BP Highway.

The traffic volume of Arniko Highway is very high while connecting with the BP Highway it becomes further busiest route. Traffic volume of Dhulikhel to Kathmandu section is also increasing day by day because Banepa and Dhulikhel are developing as bigger market centers that linked with Kathmandu, middle-east Tarai region and the Chinese boarder. Suryabinayak to Koteswor (Kathmandu) section road upgrading works has already completed in the grant assistance of the government of Japan. In this context, the Government of Nepal has requested the Government of Japan to extend and widening of a section of Arniko Highway from Suryabinayak to Dhulikhel (hereinafter referred as "the SD Road").

1.2 Project Scope

The proposed Suryabinayak–Dhulikhel Road Improvement Project (hereinafter referred as "the Project") falls under Bhaktapur and Karvepalanchowk Districts. The road alignment passes through Suryabinayak (Starting Point), Jagati, Bhatedhikuro, Nalinchowk, Palase, Sanga Chowk, Bhaishapati, Pul Bazar, Banepa and Dhulikhel as an end point. The total length of this road section for the upgrading works consists approximately 15 km.

Figure 1.2-1 shows the project section from Suryabinayak to Dhulikhel.

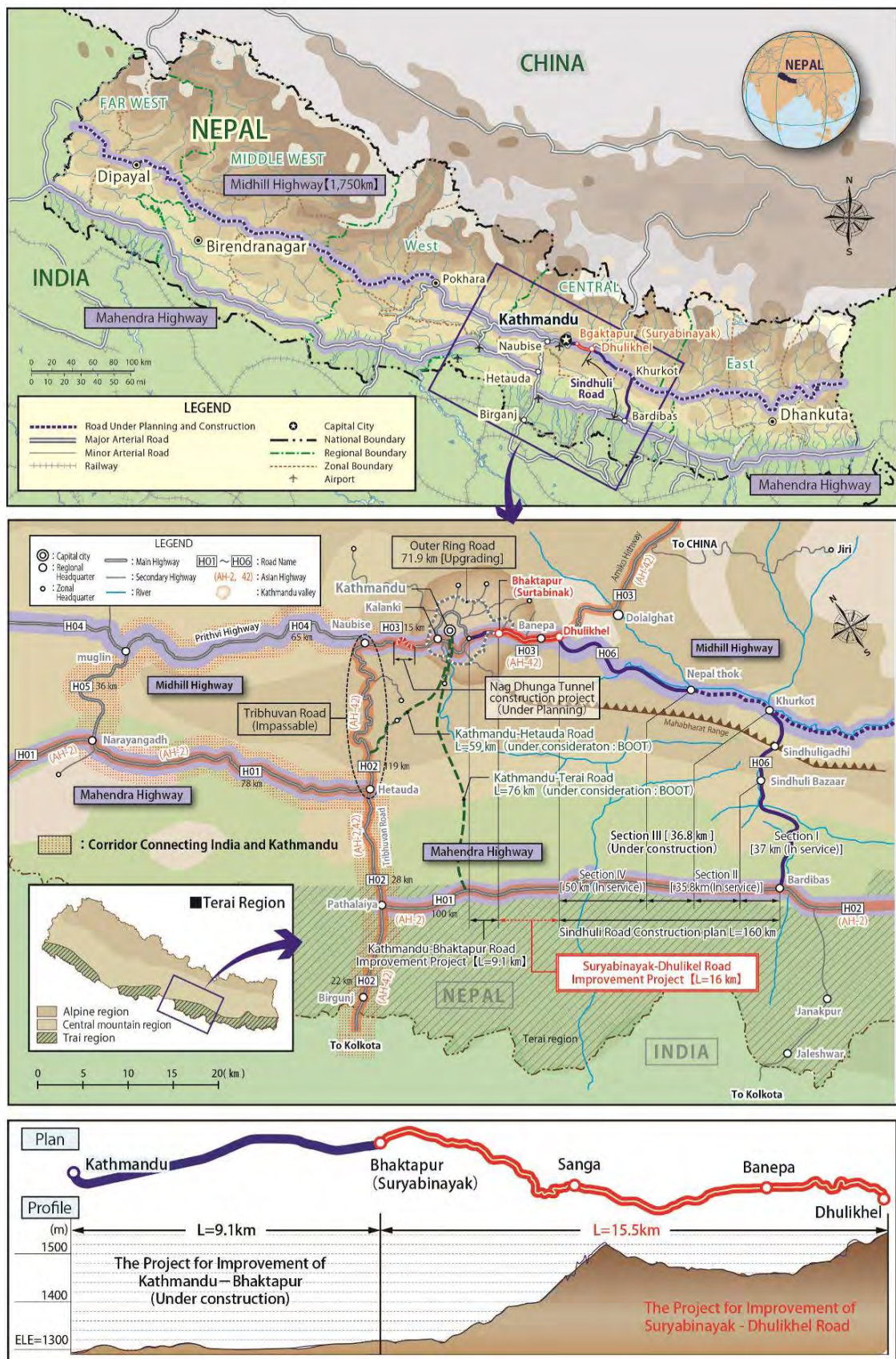


Figure 1.2-1 The Project Section

1.3 Project Components

The project has the principle objective of widening the existing road except for a section at Sanga where new road will be planned, it is extremely important to ensure safe and smooth traffic flow for the existing traffic. The widening work can be divided into the following two cases.

CASE-1: Where service roads are constructed (refer to Figure 1.3-1):

After the construction of service roads (up to sub base course) is completed, these roads will be open to the existing traffic.

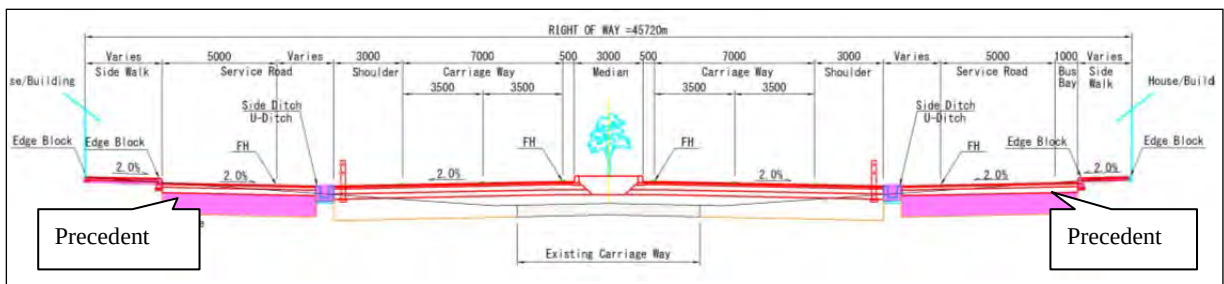


Figure 1.3-1 Secure of existing traffic in case of constructing service roads

CASE-2: Where service roads are not constructed (reference of Figure 1.3-2):

After completion of the widening work, the existing traffic will be made to detour there. In addition, the temporary road for construction will be provided at the foot of slope.

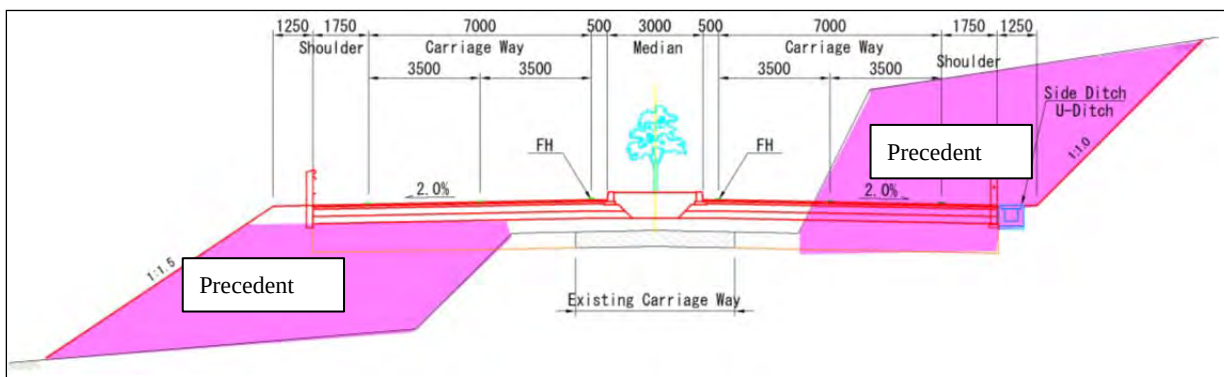


Figure 1.3-2 Secure of existing traffic in case of not constructing service roads

2. Potential Impact

2.1 Estimated Impacts

2.1.1 Positive Impacts

The SD road is the only trunk road connecting Kathmandu and major municipalities and villages, such as Sanga, Banepa, and Dhulikhel. Increasing traffic capacity of the SD Road will contribute to regional connection and development, especially transportation, logistics of farming products, socio-economic investment, commuting, and access to social facilities including hospitals. According to the development of Kathmandu City area, the east end point of the SD Road, Dhulikehl would be considered as one of the satellite town. Thus, improvement of the SD road will bring much positive impact in the project area and surrounding regions.

2.1.2 Negative Impacts

Land acquisition and resettlement will be required by the project components of road widening, curve improvement, construction of road-related facilities, etc. Displaced households will have negative impacts on their livelihood, production level, and living standards, especially vulnerable groups who occupy the land within right of way (ROW). Negative impacts are elaborated in the following sections.

2.2 Impact Areas

The Project is located in two districts of Bhaktapur and Kavrepalanchok. Most of the SD Road sections have ROW with land clearance such as Banepa Town, however, there have been observed some scattered local houses in Jagati, Nalinchowk, Sanga, and Dhulikel, etc. Major impact by land acquisition may be caused at such areas with private properties within ROW. The project affected area, including some Village Development Committees (VDCs) and Municipalities, are presented in Table 2.2-1 and Figure 2.2-1.

Table 2.2-1 The VDCs included in the Project Affected Area

District	VDC/Municipality	Ward No	Affected Households
Bhaktapur	Bhaktapur Municipality	12,11,7,6,2	30
	Sipadol VDC	1,2,8,9	70
	Nakhel VDC	9,8,7,1	33
	Chitapol VDC	1,2	48
Kavrepalanchok	Nasikasthan Sanga VDC	4,3,1,6	76
	Ugratara Janagal VDC	4,3,1,7,6	38
	Banepa Municipality	5,8,6,10,11	29
	Dhulikhel Municipality	6,7,4	37
Total			361*

Source: JICA Survey Team January 2015

* In addition to this number, 18 institutes are estimated to be affected



Source: IEE Report of Upgrading/Widening of Amiko Highway to Six Lane Standard - Suryabinayak-Dhulikhel Section, 2011

Figure 2.2-1 The VDCs included in the Project Affected Area

2.3 Avoidance and Minimization of Impacts

Negative impacts caused by land acquisition and resettlement should be avoided as much as possible. If the situations cannot avoid such kinds of impact with possible measures, the impact should be minimized with technical and socio-economical means. Especially during the designing phase, the following points were considered in discussions of road alignment.

- Secure the traffic and pedestrian safety on the SD road and vicinity.
- Minimize the volume of soil disposal
- Minimize the number of persons required involuntary resettlement
- Avoid or minimize negative impacts on resource use, such as farmland, water and forest
- Avoid negative impacts on local cultural and religious places and activities.

During the discussions of road alignment, avoidance and minimization of affected households were taken into considerations in different level of route alternatives.

In addition, the following Nepali-specific conditions shall be taken into consideration formulate the most feasible and realistic schedule to minimize impacts on any properties and/or people's daily life.

- Nepali calendar and holidays.
- Agriculture season and off-season in the surrounding area of the ROW
- Dry season and Rainy season.
- Acceptability of night shift working

2.4 Outline of the Possible Impact

Based on the results of the Census / Socio-economic survey conducted in the period of January to February 2015 along the road alignment (Suryabinayak to Dhulikhel) under the JICA preparatory Survey, estimated number of 2,202 persons of 361 households and 18 institutions are likely to be affected on their structure and land by the Project. Within the ROW of the SD road, there are observed some local temples, stone spout, communal wells, and other public/semi-public facilities related to people's life. Land acquisition and resettlement process should deal with such cases appropriately as same as the case of private properties within the affected areas. The RAP will be updated during the following detail design (D/D) phase according to final alignment and design.

Based on the relevant field surveys, total number of 379 households/institutions likely to be affected by the Project. The 301 owners of structures are still staying in existing ROW illegally. The affected 18 institutions also need to be compensated. The summary of PAPs are shown in Table 2.4-1.

Table 2.4-1 Summary of the PAPs

Type of Loss	Number of Project Affected Household			Number of Project Affected Persons		
	Legal	Illegal	Total	Legal	Illegal	Total
Required for displacement						
1. House Holds (Structure owners within the ROW)	-	301	301	-	1,836	1,836
2. House Holds (Structure owners on private land)	35	-	35		214	214
3. Institutions (government offices, temple, etc.)	-	18	18		-	0
Sub-Total	35	319	354		2,050	2,050
Not required for displacement						
4. Land owner	25	-	25	152	-	152
Grand Total (1-4)	60	319	379	152	2,050	2,202

Source: Census/Socio-economic Survey, Jan-Feb 2015

2.5 Elements of Impact

2.5.1 Land

The Project alignment and impact zones were mapped out on the cadastral maps collected from the Survey Office in Bhaktapur and Kavrepalanchok during December 2014 to January 2015. These activities are divided into field verification, cadastral map scanning, cadastral survey in the field, and cadastral map digitization to find out affected land.

Land is one of the major private properties affected by the Project. Project affected land is classified into two major types: (1) land within the existing ROW, and (2) land beyond the existing ROW (private owned land). The cadastral survey shows that approximately 14 hector private land will be required for the Project including new the alignment bypass area of Nalinchowk to Sanga and other curve improvements along the road. The necessary land areas in each VDC are shown in Table 2.5-1.

Table 2.5-1 Required Land Acquisition

S.N.	VDCs/Municipalities	Private Land (Sqm)
1	Bhaktapur	670
2	Chitpol	79,114
3	Nangkhel	15,583
4	Sipadol	2,000
5	Banepa	4,222
6	Dhulikhel	24,300
7	Nasikasthan Sanga	13,615
8	Ugratara Janagal	1,191
Total		140,695

Source: Cadastral Survey, Jan-Feb 2015

2.5.2 Structures

Residential, business, and institutional structures are three major types of project affected structures across the project areas. There are few residential structures with small business along the road, however, the other structures were set backed after the Road Act 2031. There still are a lot of structures within ROW for the business purpose to rent in or rented out. The Project will cause resettlement of 451 houses/structures (336 house owners). Out of them, 18 houses/structures are belonging to institutions. Full results of structures inventory of loss are shown in Annex 2.

Table 4.3 Resettlement Needed House/Structures

No.	Type	Number of House structures
1	Simple Hut/Shed	12
2	Thatched roof, walls constructed with bamboo and mud/stone	32
3	Tile/iron roof, walls constructed with brick/ mud/stone	151
4	Iron sheet/roofing with stone/ brick wall/cemented plaster	156
5	RCC Building	81
6	Movable kiosk /wall/fence etc.	19
Total		451

Source: Census/Socio-economic Survey, Jan-Feb 2015

2.5.3 Trees and Crops

According to the results of the field surveys, there were observed 320 trees along the SD Road (belonging to the government) and 293 trees belonging to the Community Forest which have to be cut down for the Project. None of the private trees were counted with the affected land within the planned road alignment.

There are some farming areas in both within and beyond ROW and different kinds of crops including rice are grown. It is not necessary to pay compensation for the crops, if a project provides sufficient time (at least 6 months) for harvesting the crops. However, there will be required to be paid some compensation for the crops, in the case of short notification (less than 6 months) by the Project to the crop owners.

2.5.4 Loss of Public Resources and Utilities

There are some natural resources such as spring water including wells, perennial rivers and forest areas around Sanga pass section. Among that, the water-related utilities are used by community for their daily life. These facilities have been made and maintained by specific individual and/or community people since long. The followings are the major public utilities falls under the ROW of the SD Road:

(1) Traditional use of water spouts

Some water spouts are located along the road and some of them are within ROW. These are the substantial water resource for the communities nearby, such as the point in Bhaktapur and the point near Sanga in Kavrepalanchowk district. Generally the local people want to relocate all such water related utilities while the Project implementation.

(2) Seasonal Irrigation Canals

Being in the monsoon climatic zone, Nepal receives excessive rainfall in the rainy season / the summer with the duration between May to September in general. The monsoon rain does not come in regular basis, therefore, the farmers have to depend on perennial rivers for irrigation to their paddy field and the other farming activities. Therefore, different communities have built canals in different locations for their agriculture use. They have made some drainage canals along the both sides of road that may be disturbed by the Project. Therefore, the Project should rehabilitate such utilities in appropriate way.

(3) Electric/telecommunication poles

Electric and telecommunication pole is one of the major obstacles for the Project that is extended along the whole road section. Electric and telecommunication poles located in the edges of the existing road have to be relocated to outside of ROW or project required

width at each section before construction started by responsible authorities. These all electric and telecommunication poles are made of cement, metal and wooden materials. As per the existing engineering design, total of 588 electric poles and 490 telecommunication poles are required to be relocated.

2.5.5 Temporary Loss of Land

The project requires some temporary land for the construction activities, construction yards/camp site, project office and stock piling area, etc. These required temporary land should be managed by the contractor as per the agreement made between the project owner. Compensation for the temporary land use (lease) should be provided to the affected owners, if the land is belonging to private property. It is preferable to use state land for the temporary purpose to reduce adverse impact on private land and to save cost of the Project.

3. Objectives and Scopes of the RAP

3.1 Aim of the RAP

The aim of the RAP is to provide the policy and procedures of land acquisition, compensation and resettlement of affected persons. It has been prepared based on the findings of resettlement impact surveys conducted during the project designing period under the JICA's Preparatory Survey. The surveys identified the impact on property and income sources of PAPs with documentation of loss of properties within the expected project affected areas.

The RAP identifies safeguard measures including compensation, resettlement and rehabilitation assistances to the PAPs consistent with JICA's Environmental and Social Considerations Guidelines (2014) (hereinafter referred to as "the JICA's Environmental Guidelines") to fulfil any policy gaps between Government of Nepal (GON) and JICA. According to the JICA's Environmental Guidelines, 7. Involuntary Resettlement of Appendix-1 shows that: "It is desirable that the Resettlement action plan include elements laid out in the World Bank Safeguard Policy OP 4.12 (hereinafter referred to as "OP 4.12"), annex A".

The RAP is designed based on the following important items:

- Laws, Regulations, and Policies by the GON related to land acquisition and resettlement;
- OP 4.12 and its relevant Annex and Involuntary Resettlement Sourcebook issued by the World Bank;
- ESMF and other good practices in Nepal;
- Civil design of the Project;
- Results of socio-economic survey and census of the PAPs;
- Results of inventory of losses (IOL) survey for land, assets attached to land and livelihoods of PAPs;

- Results of replacement cost survey (RCS)
 - Results of stakeholder meeting (SHM) and focus group meeting (FGM) with PAPs;
- etc.

The RAP will be updated after the finalization of technical designs, such as detailed design (DD), and further property survey and socio-economic surveys by GON. The RAP particularly addresses the following adverse impacts associated with the Project. The social considerations have been incorporated into road design, however, geological and topographical factors, as well as land use situation and settlement patterns, require the acquisition of private property for road construction.

3.2 Right of Way (ROW)

As per Nepal Government's Road Standard, all roads that are designated as highways have a ROW of 25 m on either sides from its centerline. In the context of the Arniko Highway, GON had proclaimed the public road between Kathmandu to Kodari as a highway based on the Highway Act 2021. GON then has published a notice in the gazette on 11/11/2021 declaring the 25 yards (equal to 22.8 m) of widths in each side from the central line of the road as ROW which was later amended as 25 m.

In addition to the above mentioned incident, as per the Supreme Court's decision, the GON decided that in a section of the Arniko Highway between Sanga Chock to Banepa (Chandeshwori River) has 25 yards (or 22.8 m) as ROW (as per National Gazette of 11 March 2002). Thus, ROW of whole Arniko Highway (144km) from Kathmandu to China border Kodari, has been declared several times in different sections as Table 1.3-1.

Table 1.3-1 Declaration on ROW of the Project

Time	Document	Ministry	ROW	Section	Grounds
1964/11/11 [2021]*	Rajpatra (Gazette)	Ministry of Physical Planning and Works (MoPPW)**	25 yards	Kathmandu-Kodari (Arniko Highway)	Public Road Act 2021(Article 2 &3)
1977/3/20 [2034]	Rajpatra (Gazette)		25 meter	Kathmandu- Bhaktapur	Public Road Act 2031(Article 3)
2001/11/27 [2058]	IEE Report		25 yards	Sanga (Chowk)- Banepa (Chandeshwari Khola) 20km+870 to 26km+585	Public Road Act 2031(Article 3)

*Bikram Sambat (Nepali Calender)

** Already restructured to MOPIT

In addition to the Government's declarations, due to past unclear situations and processes regarding ROW, several Supreme Court cases have been observed on ROW of SD Road as Table 1.3-2.

Table 1.3-2 The VDCs included in the Project Affected Area

Time	Complaints	Decision
2001/11/1 [2058]	Acquiring the land 25 m both sides from centerline of Arniko Highway without compensation of the land [Location: Bhaktapur]	Dismissed all the processes of land acquisition and coded that to use land compensation measures written in article 4 of Public Road Act, 2031
2005/1/30 [2062]	Acquiring the land 25 m both sides from centerline of Arniko Highway without compensation of the land from Sanga Bhanjyang to Dhullikhel	

*Bikram Sambat (Nepali Calender)

According to the past record as above, ROW of the SD Road is considered as Figure 1.3-1.

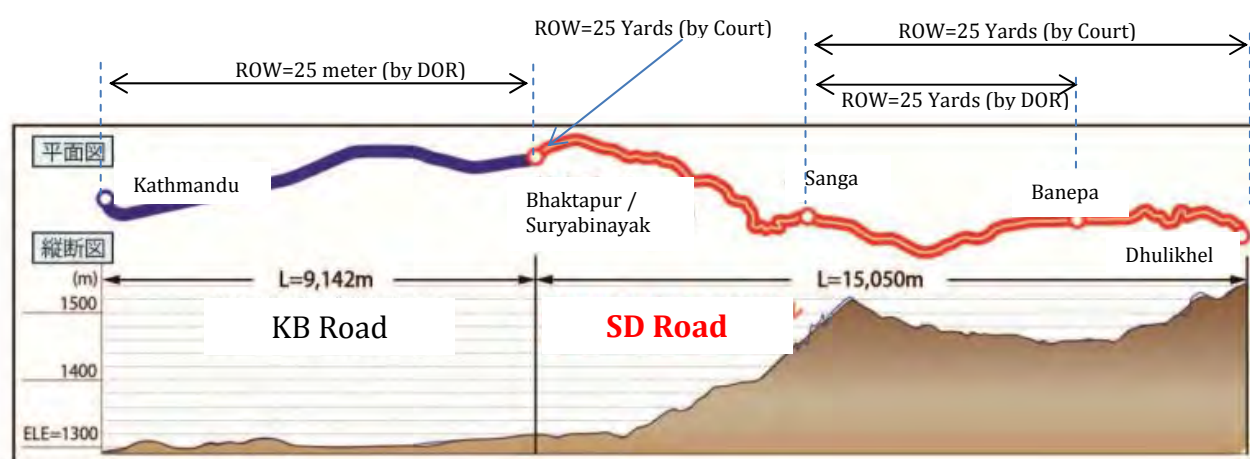


Figure 1.3-1 Declared ROW for the SD Road Sections

Though most people have set back from the defined ROW, however they are still utilizing the remaining land as business purpose and agriculture activities. Some of them are paying land levy to local taxation offices. In such areas, they have constructed temporary structure for business purpose or cultivated for agricultural production and even rented to others.

Considering legal validity and court decisions as well as the principle of the JICA Guidelines for Environmental and Social Considerations, it is requested to apply ROW of 25 yards for the Project to cover adverse impacts appropriately and logically.

3.3 Scope of the RAP

To set the scope of the RAP, available documents published from the DOR, JICA's reports prepared by the study team, and other relevant documents collected from different sources were reviewed while preparing the RAP. At the same time, formal and informal discussions and stakeholder meetings were also held at different levels and opportunities in order to access information related to the Project and opinions from PAPs. The RAP was prepared based on the methodology includes the census survey, the socio-economic survey including the cadastral survey, the inventory of loss (IOL) survey, the replacement cost survey (RCS) for the potentially affected persons elaborated in the following chapters.

4. Socio-Economic Status

The field surveys regarding land acquisition and resettlement for the Project are intended to obtain the socio-economic information of the PAPs. The information obtained from household survey is useful for two major perspectives. First, the information formed the basis for the preparation for RAP, and second; they will be used it in course of monitoring and evaluation of project impact.

4.1 Population

Of the total estimated households likely to have impacts on their land and structures are estimated as 361 households. For the Census / Socio-Economic survey, among the total households, 272 (75.0%) households could be reached to obtain detailed questionnaires on socioeconomic status as the sample survey. According to local people, some absentee's households were currently living outside from the project location, even in other countries, during the survey period for their jobs. Finally, all affected households and their affected property will be surveyed during the detail design phase while updating the RAP.

According to the Population Census 2011 of Nepal, total population of the project affected VDCs and Municipalities is reported as 154,873 where proportionate of male and female population is 77, 250 (49.9%), and 77,623 (50.1%), respectively. Average family size is 4.5 persons that is less than the national average.

The population of the project affected VDCs/municipalities is presented as Table 4.1-1.

Table 4.1-1 Household and Population of Affected VDCs & Municipality

VDC	No. of House Holds	Male	Female	Total	Ave. House Hold Size
Bhaktapur Municipality	17,639	41,081	40,667	81,748	4.6
Sipadol	2,278	4,862	5,014	9,876	4.3
Nangkhel	1,225	2,703	2,806	5,509	4.5
Chitapol	1,274	2,758	2,861	5,619	4.4
Nasikasthan Sanga	1,305	2,935	3,186	6,121	4.7
Ugratara Janagal	1,634	3,464	3,489	6,953	4.3
Banepa Municipality	5,540	12,325	12,439	24,764	4.5
Dhulikhel Municipality	3,279	7,122	7,161	14,283	4.4
Total	34,174	77,250	77,623	154,873	4.5

Source: Census 2011, Central Bureau of Statistics (CBS)

The socio-economic status of PAPs is based on the information obtained from 272 (75.0%) households of the total affected households/landowners. The total population of surveyed households is 1,680 where 862 (51.31%) are male and 818 (48.69%) female. Detail of surveyed household is attached as Annex 1.

The population composition of project affected surveyed households is presented in Table 4.1-2

Table 4.1-2 Distribution of Project Affected Households

District	VDC/Municipality	Households	Male	Female	Total
Bhaktapur	Bhaktapur Municipality	27	90	94	184
Bhaktapur	Chitpol	22	69	60	129
Bhaktapur	Nangkhel	26	90	74	164
Bhaktapur	Sipadol	49	171	169	340
Kavre	Banepa Municipality	20	59	48	107
Kavre	Dhulikhel Municipality	23	87	71	158
Kavre	Nasikasthan Sanga	73	221	217	438
Kavre	Ugratara Janagal	32	75	85	160
Total		272	862	818	1,680

The age distribution of PAPs was analyzed. The survey shows that the population between 0 to 14 years which is defined as 'minor age' covers 20.71% while other dependent aged group (>60 years) population covers by 9.82 % . More than two-third (69.46%) of the project affected population are known as economically active population age group (15-59 years).

The table 4.1-3 shows the distribution of different age group populations across the SD Road.

Table 4.1-3 Population Size by Age Group

Districts	VDC/ Municipality	HHs	Less than 4 Years	5-14 Years	15-59 Years	More than 60 Years	Total
Bhaktapur	Bhaktapur Municipality	27	12	15	135	22	184
Bhaktapur	Chitpol	22	4	10	96	19	129
Bhaktapur	Nangkheh	26	11	22	116	15	164
Bhaktapur	Sipadol	49	32	43	243	22	340
Kavre	Banepa Municipality	20	8	23	69	7	107
Kavre	Dhulikhel Municipality	23	19	19	104	16	158
Kavre	Nasikasthan Sanga	73	26	68	293	51	438
Kavre	Ugratara Janagal	32	7	29	111	13	160
	Total	272	119	229	1,167	165	1,680
	%		7.08	13.63	69.46	9.82	100

Source: Census/Socio-economic Survey, Jan-Feb 2015

As indicated by the results of household surveys, most of the female in the project area are mainly responsible for caring and bearing children, daily house affairs, small domestic businesses, and agricultural works. During the stakeholder meetings or the focus group meetings, the presence of female participants were lower than male. The Socio-economic survey shows that 21 households (8% of surveyed households) are women headed.

4.2 Ethnic Composition

Ethnic composition plays vital role still in various Nepalese societies that reflect directly in the socio-economic status and living standard of the people. Therefore, ethnicity, culture, and religions are also important factors needing attention when new projects are conceived, designed, and implemented in the area. The responses of these social attributes to outside interventions should be considered according to the social value and attitude prevailing in the societies as like tradition.

Among the total affected household, about 68 % of all households are Janajati (mainly Newar and Tamang by castes) ethnic groups along the project area where 11.03 % are Brahmin and 15.81 % are Chhetri. Few of Dalit¹ and others population were found residing nearly 5 percent across the project area.

Ethnic composition of the project affected households is shown in Table 4.2-1

Table 4.2-1 Ethnic Composition of Affected Households (HHs)

District	VDC	HHs	Brahmin	Chhetri	Janjati	Dalit	Others	Total
Bhaktapur	Bhaktapur Municipality	27	-	-	26	-	1	27
Bhaktapur	Chitpol	22	-	8	13	1	-	22
Bhaktapur	Nangkhel	26	2	13	8	1	2	26
Bhaktapur	Sipadol	49	1	10	37	-	1	49
Kavre	Banepa Municipality	20	6	3	6	1	4	20
Kavre	Dhulikhel Municipality	23	5	5	12	1	-	23
Kavre	Nasikasthan Sanga	73	6	-	66	1	-	73
Kavre	Ugratara Janagal	32	10	4	17	1	-	32
	Total	272	30	43	185	6	8	272
	%		11.03	15.81	68.01	2.21	2.94	100

Source: Census/Socio-economic Survey, Jan-Feb 2015

¹ A member of a South Asian group of people traditionally regarded as untouchables or outcastes

4.3 Occupational Status

The census/socio-economic survey shows that more than one third (35.3%) of populations depend on trade/business likewise agriculture and households work cover 17.9 and 18 % respectively. 13.7 % of the project affected population depends on different service sectors.

Dependency on labor, foreign employment, and pension are also recorded. Occupational status is shown in Table 4.3-1.

Table 4.3-1 Occupational Status of Surveyed population

Occupation	Bhaktapur District				Kavrepalanchok District				Total	%
	Bhaktapur	Chitpol	Nangkhel	Sipadol	Banepa	Dhulikhel Municipality	Nasikasthan Sanga	Ugratara Janagal		
Agriculture	6	12	29	22	6	17	52	35	179	17.9
Business/Trade	38	25	16	78	36	41	92	27	353	35.3
Service	20	17	21	26	9	8	27	9	137	13.7
Domestic work	24	14	13	29	6	2	68	24	180	18.0
Labour	7	5	6	7	2	6	6		39	3.9
Foreign Employment	4	6	3	4			10	1	28	2.8
Others	14	12	6	12	4	11	16	9	84	8.4
Total	113	91	94	178	63	85	271	105	1,000	100.0

Source: Census/Socio-economic Survey, Jan-Feb 2015

4.4 Educational Status

The overall educational status of the project affected population is comparatively high. The census/socio-economic survey shows that about 88 % of the populations are literate. Of the total population, 44 percent of the literate populations are having higher degrees (+2 to Bachelor). Nearly 8 percent of the literate population can read and write only that means they gained or sustained their knowledge by non-formal education or somewhere else. However, 12 % project affected populations are mentioned illiteracy of them.

The table 4.4-1 presents the educational status of the project affected surveyed population.

Table 4.4-1 Educational Status of the Project Affected Population

District	VDC/ Municipality	Illiterate	Read and write only	1-10 class	10 Class passed	Certifi cate level passed	Passed Bachelo r level or above	Total
Bhaktapur	Bhaktapur Municipality	24	16	44	25	33	30	172
Bhaktapur	Chitpol	17	9	37	20	27	15	125
Bhaktapur	Nangkheh	10	13	67	25	31	7	153
Bhaktapur	Sipadol	30	22	114	43	55	44	308
Kavre	Banepa Municipality	16	6	42	17	12	6	99
Kavre	Dhulikhel Municipality	11	12	49	23	26	18	139
Kavre	Nasikasthan Sanga	55	36	145	89	65	22	412
Kavre	Ugratara Janagal	26	10	67	28	15	7	153
Total		189	124	565	270	264	149	1,561
%		12.1	7.9	36.2	17.3	16.9	9.5	100.0

Source: Census/Socio-economic Survey, Jan-Feb 2015

4.5 Skill Availability

Very limited members among surveyed PAPs seem to have acquired competitive skills on various activities from which they would increase their income. 52 persons out of 109 persons of PAPs have computer knowledge and 23 have different technical knowledges. In addition, 8 persons have sewing skill and another 7 have driving skill. Carpenter, mason and some other kinds of skill holders are also found in PAPs.

Table 4.5-1 presented the skills availability of the surveyed PAPs.

Table 4.5-1 Status of Skill persons of Surveyed households

District	VDC	Mason	Carpenter	Sewing/cutting	House wiring	Driving	Technical work	Computer	Others	Total
Bhaktapur	Bhaktapur Municipality		1				2	8		11
Bhaktapur	Chitpol							12		12
Bhaktapur	Nangkhel	1		2		2		16		21
Bhaktapur	Sipadol		2				9	1		12
Kavre	Banepa			3		1	10		2	16
Kavre	Dhulikhel			3		1	1	14	3	22
Kavre	Nasikasthan Sanga		1		1	2	1	1	5	11
Kavre	Ugratara Janagal					1			3	4
	Total	1	4	8	1	7	23	52	13	109

Source: Census/Socio-economic Survey, Jan-Feb 2015

The skill availability among PAPs will be a major factor for their consideration in being employed in the project construction and its related activities. The expectation of PAPs from the project is that the project should be given priority to them for employment during construction period.

4.6 Household Income

Around 7% of affected households falls in the low income group. Their annual income is less than NRs. 50,000 per year. About 40.4 % of the project affected households are in a range of annual income between NRs 100,000 to 200,000 per year that falling medium level income group. Similarly (37.5% of the surveyed households have annual income between NRs 200, 000 to 500,000. It can be said that around 15 % of the households are in a high income group with their annual income of over NRs 500,000.

Average annual income of the project affected households by VDCs/Municipalities is shown in Table 4.6-1

Table 4.6-1 Average Annual Income range of the Surveyed Households

VDC/ Municipality	< 0.05 Million NRP	0.1-0.2 Million NRP	0.2-0.5 Million NRP	> 0.5 Million NRP	Total
Bhaktapur	1	7	12	7	27
Chitpol	0	10	9	3	22
Nangkhel	0	9	12	5	27
Sipadol	2	14	24	9	49
Banepa	1	12	6	1	20
Dhunikhel	2	8	9	4	23
Nasikasthan Sanga	2	35	26	10	73
Ugratara Janagal	11	15	4	2	32
Percentage	7.0	40.4	37.5	15.1	272

Source: Census/Socio-economic Survey, Jan-Feb 2015

4.7 Food Sufficiency from own Agriculture Production

Food sufficiency is measured in terms of months that the families' sufficiency of own farm production to household's needs. According the results of the survey, only 2.2% households have food sufficiency for the whole a year. A majority (81.99%) of the households have only food sufficiency less than 3 months by their own production because most of the households depend on business and wage based occupations. Nearly one-tenth of the households' have food sufficiency up to 3 to 6 months. The survey results on food sufficiency has categorically analyzed by the food sufficiency status up to 3 months, 3 to 6 months, 6 to 12 months and above 12 months.

The food sufficiency status of surveyed household is presented Table 4.7-1.

Table 4.7-1 Food Sufficiency Status among Project Affected Areas

District	VDC/Municipality	Less than 3 Month	3 to 6 Months	6 to 12 Months	12 or more the 12 months	Total
Bhaktapur	Bhaktapur Municipality	26			1	27
Bhaktapur	Chitpol	21		1		22
Bhaktapur	Nangkhel	25		1		26
Bhaktapur	Sipadol	41	2	6		49
Kavre	Banepa Municipality	20				20
Kavre	Dhulikhel Municipality	20	1	2		23
Kavre	Nasikasthan Sanga	55	11	4	3	73
Kavre	Ugratara Janagal	15	11	4	2	32
	Total	223	23	18	6	272
	%	81.99	9.19	6.62	2.21	100

Source: Census/Socio-economic Survey, Jan-Feb 2015

4.8 Fulfillment of Food Deficiency

The households resort to several other supplementary sources to make up the food deficit. About 74 % households make their food deficit by business activities. Similarly 15% household by wage labor and 11 % households depends on remittance.

Table 4.8-1 is presented the fulfillment of food deficiency of survey households:

Table 4.8-1 Fulfillment of Food Deficiency

Districts	VDC/Municipality	Business	Wage labor (Local)	Remittance	Total
Bhaktapur	Bhaktapur Municipality	19	2		2
Bhaktapur	Chitpol	13	1		1
Bhaktapur	Nangkhel	7	4		4
Bhaktapur	Sipadol	40	-		
Kavre	Dhunikhel Municipality	16	-	1	1
Kavre	Nasikasthan Sanga	47	22	11	33
Kavre	Ugratara Janagal	14	2	11	13
	Total	156	31	23	210
	%	74	15	11	100

Source: Census/Socio-economic Survey, Jan-Feb 2015

4.9 Acceptance / Impression of the Project

Based on the interview survey, different acceptance / impression of the project were observed among PAPs as described in Table 4.9-1. PAPs has not given specific amount of compensation and assistance, therefore, the interview just provided simple alternative, such as Good and Bad. As a results, around 10% showed "Bad" impression while more than 85% selected "Good" or "Good and Bad". People who selected "Good and Bad" had intention that they have to consider conditions, such as compensation for land within ROW.

Table 4.9-1 AP's Acceptance / Impression of the Project

District	VDC/Municipality	Don't Know	Bad	Good	Good and Bad	Very good	Total
Bhaktapur	Bhaktapur Municipality	1	2	1	23		27
Bhaktapur	Chitpol		2	2	18		22
Bhaktapur	Nangkhel	1	1	4	20		26
Bhaktapur	Sipadol		5	5	39		49
Kavre	Banepa Municipality				20		20
Kavre	Dhulikhel Municipality		5		17	1	23
Kavre	Nasikasthan Sanga	6	7	12	48		73
Kavre	Ugratara Janagal	6	5	1	20		32
Total		14	27	25	205	1	272
%		5.15	9.93	9.19	75.37	0.37	100

Source: Census/Socio-economic Survey, Jan-Feb 2015

4.10 Physical Relocation

Major number of PAPs have agreed to physical relocation or set back their affected properties if they get proper compensation amount. However, some PAPs showed their opinion that compensation for land within ROW is needed for their relocation. ROW has been declared and court decision also support that the land within ROW is not eligible for compensation. Structures within ROW should be compensated, and if the PAP become landless due to the loss of land within ROW, assistance are provided cash or assistance in kind.

4.11 Compensation Mode

Around 79 % of PAPs put first priority on cash compensation, while nearly 5 % of them have perceived structure for structure and land for land compensation in kind. Some people didn't have clear idea or opinion regarding the compensation mode.

According to the Land Acquisition Act 1977, the modality of compensation payment will determined by the project proponent and the authoritative Compensation Determination Committee (CDC) in district level. The results of opinion from the affected households are shown in Table 4.11-1.

Table 4.11-1 Perception about Compensation Modes

District	VDC/Municipality	Not Answer	Cash	Land for Land	House for house	Land for land & house for house	Total
Bhaktapur	Bhaktapur	2	25				27
Bhaktapur	Chitpol		16	2	4		22
Bhaktapur	Nangkhel	2	18	3	2	1	26
Bhaktapur	Sipadol	3	46				49
Kavre	Banepa		19		1		20
Kavre	Dhulikhel	1	22				23
Kavre	Nasikasthan Sanga	6	41	11	7	8	73
Kavre	Ugratara Janagal		27		1	4	32
Total		14	214	16	15	13	272
	%	5.15	78.68	5.88	5.51	4.78	100

Source: Census/Socio-economic Survey, Jan-Feb 2015

5. Stakeholder Meeting and Information Disclosure

During the survey, stakeholder meeting (SHM) has been conducted with aim to collect

information and opinion from the residents nearby planned project sites based on the JICA's Environmental Guidelines and Nepali legal framework of EIA. The process may reduce or eliminate potential negative impacts of the project for the local residents and prepare in advance to deal with the remaining impact caused by the project preparation, implementation and operation. Main objectives of the SHM are:

- (1) Dissemination of information on the Project plan to project-affected-people and local communities.
- (2) Collection of opinions and comments of project-affected-people and local communities on the Project plan, particularly on the proposed impact mitigation measures.
- (3) Promotion of the active participation of project-affected-people and local communities into the Project implementation from the early stage of the Project planning.
- (4) In particular, promoting the participation of project-affected-people and local communities into the tasks relating to compensation, resettlement, and land clearance for the Project.
- (5) Ensuring the accountability of the tasks relating to land acquisition, compensation, resettlement, and livelihood restoration.

According to the JICA's Environmental Guidelines, it is required to organize 2 times of SHMs for a Category A project as this project. The first SHM, which is conducted at the time of discussing draft scoping document according to EIA preparation, should include the following items:

- (i) dissemination of information on the Project (background, development needs, etc.);
- (ii) explanation on anticipated impacts;
- (iii) collection of participants' opinions/comments on the Project.

The second SHM, which is conducted at the time of draft survey report with the results of scoping, should have the following items:

- (i) explanation on mitigation measure;
- (ii) promotion of public participation into the Project implementation.

In parallel with the stakeholder meetings, the following public involvement activities have been done to understand people's opinion and situation deeper.

- Government - Representative of PAPs Meeting
- Focus Group Discussion

5.1 Types of Consulted Persons

Each representative of the governmental organizations and the community groups such as the following organizations and groups were participated in the stakeholder meeting and other public participation opportunities.

- Village Development Committee (VDC/ Municipalities Representatives: though there are no elected representatives at present, but the VDC secretary/ Executive Officer has deputed as VDC/ Municipalities chief or office-in-charge by law, so the VDC secretary/ Executive Officer was included as a responsible source of information and major stakeholders in the area
- Political party representatives from different political bodies
- Facilitator of the discussion

5.2 The First Stakeholder Meeting

5.2.1 Outline

The first SHM were organized at 2 districts in November 2014. In a SHM, firstly the project outlines including purposes, benefit, planned affected area, expected negative impacts are explained to the participants and followed by questions and answer session. At the same time, participants were informed that the timing of the census survey, socio-economic survey and IOL following the SHM is considered cut-off-date to determine eligible persons and properties. The attendance of participants in SHMs is attached in Annex 4. The schedule and outline of each SHM is shown in Table 5.2-1.

Table 5.2-1 Overview of the 1st Stakeholder Meeting

Date	Interaction Location	Number of Participants		
		Male	Female	Total
9 Nov 2014	Chitpol-Palanse Bhaktapur	73	2	75
9 Nov 2014	Banepa, Kavrepalanchok	71	5	76

5.2.2 Issues Raised in the SHMs

The major queries raised by the participants and response during the 1st SHM are summarized in Table 5.2-2. In addition to the issues in the table, some people consider the project is acceptable if the government pay compensation properties including land existing within ROW, and some comment during the SHMs were also related to such thoughts.

Table 5.2-2 Summary of the 1st Stakeholder Meeting

Date	Location	Main Issues from Participants	Explanation to Participants
9 Nov 2014	Chittpol	- Should be cleared about legal provision - Pay compensation of all affected land and structures within 25 meter ROW each side from center line of the road - Some people are still paying land levy and cultivating / utilizing of the land where the government declared ROW	-The concerning authority will study the all legal provision - The government has published 25 meter ROW each side from center line of the road. Therefore, the government will pay no compensation for land within the area of ROW. -The concerning local government authorities in charge of the land use and land levy will provide provisions to the situation
9 Nov 2014	Banepa	- The 75 fit ROW (equal to 25 yards) should declare along the Highway - Compensation should be paid for all project affected land, structures, and business eateries etc. It should be paid based on the market price. - The Project should pay attention to Severely Affected Persons (SAPs) in terms of compensation and assistances	- It requires government decision - RAP will regulates that the compensation for the project affected assets should be based on replacement cost - It is general to pay attention to SAPs during discussing a RAP and the Project also consider it.

5.3 The Second Stakeholder Meeting

The second stakeholder meeting will be held in following surveys. DOR shall organize the second stakeholder meetings to explain the result of scoping and surveys related to resettlement following ESMF procedures.

5.4 Focus Group Meeting (FGM)

5.4.1 Outline

Besides the SHMs, there were held several rounds of informal meetings with representatives of Arniko Highway Struggle Committee (AHSC), political party representatives as well as PAPs. During the meeting with local people and representatives, they raised their concerning issues regarding ROW and compensation payment for the land within ROW. Intensive FGM with AHSC in two districts of Kavrepalanchok and Bhaktapur were organized in March 2015. The schedule and outline of FGM is shown in Table 5.3-1.

Table 5.3-1 Overview of the Focus Group Meeting

Date	Interaction Location	Number of Participants		
		Male	Female	Total
24 March 2015	Bhaisepati, Kavrepalanchok	7	5	12
24 March 2015	Jagati, Bhaktapur	9	7	16

5.4.2 Issues Raised in the FGMs

The major queries raised by the participants and response during the FGMs are summarized in Table 5.3-2

Table 5.3-2 Summary of Public Consultation/meetings

Date	Location	Main Issues Raised in Public Meeting	Project Team Explanation
24 March 2015	Sanga	- Appropriate and reasonable compensation should be provided to the affected people - Consultation with local people should be done at the time of construction - Employment opportunity will be generated in construction period - The Project should be rehabilitate all historical and cultural monuments such as temple, resting road side rest house (Chautara) etc. in an appropriate places	- CDC will determine and distribute compensation without bias - Opportunity will be given to the local labor in construction activities - Recovery of historical and cultural assets will be discussed
24 March 2015	Jagati	- The people who will be landless should be addressed - Business disturbance allowance should be paid to affected people - Government has issued double Land Holding Certificate without consensus of related road side people - The Project should consider SAPs while providing compensation	- RAP and concerning government agencies will make clear about the issues raised. - It is general to pay attention to SAPs during discussing a RAP and the Project also consider it.

5.5 Information Disclosure and Public Information

Information disclosure regarding the project is an important part of the project preparation and implementation to ensure that the PAPs are timely and fully informed of land acquisition, compensation and resettlement. This will also enable the PAPs to participate in and express

their desires on resettlement policy and programs. Representatives of each district and VDCs in the project area, and leaders of the communities shall co-ordinate with DOR to implement information disclosure and public information appropriately.

The drafted RAP should be disclosed on the website of related VDCs as well as JICA's website. Following documents in implementation stage related to land acquisition and resettlement also have to be disclosed at district offices and VDCs for public interests.

The agencies and individuals affected by land acquisition and resettlement, the representative of local government including districts and VDCs in the Project site as well as the project owner shall participate in the public information meeting during the land acquisition processes such as property measurement survey, negotiation and compensation, and resettlement in the implementation stage.

The PAPs may ask for information about compensation policy anytime without having to wait for the public information campaign. PAPs may take part in the planning process and assist the project owner and local authorities in conducting public consultation, inform them of issues relating to compensation, assistance and resettlement that are under concern of PAPs through communication channels.

6. Legal Framework

Land acquisition and involuntary resettlement caused by the Project shall be planned, implemented, and monitored properly based on the JICA's Environmental Guidelines with World Bank's Operational Policy and Nepalese domestic laws and regulations represented by Environmental and Social Management Framework (ESMF) of DOR. DOR had developed a common tool of the safeguard policy, the Road Sector Wide Environmental and Social Management Framework (ESMF) and its contents may fulfill major safeguard policies/guidelines of international organizations, such as JICA, the World Bank (WB), and the Asian Development Bank (ADB).

Land policy in Nepal has been changed intricately during past historical regimes. As an epoch-making event, after Land Act (1964) was enacted, it is said that agricultural land reformation to individuals from royal owned land was promoted. However, prior to 1990, there was no official constitutional obligation for the State to pay compensation for the acquisition of personal property². For the first time, Constitution (1970) expressed private property right clearly as "No person shall be deprived of his property save in accordance with the law", and

² Profile on Environmental and Social considerations in Nepal, 6-1, JICA

following tentative Constitution (2007) elaborated more about expropriation of private property by the state for public purposes.

In addition to above mentioned policies, DOR had been done a feasibility study for the SD Road including Initial Environmental Examination (IEE) which includes rough survey on land acquisition and resettlement. The IEE report is also one of the resource to discuss the RAP.

This chapter provides summary of major legal document regarding land acquisition and resettlement as following, based on IEE³ report and other relevant documents. Any policy gaps between above mentioned international policies/standards and Nepalese country system would be coordinated and solved by project specific measures in the RAP.

6.1 Domestic Law and Regulations

6.1.1 Land Acquisition Act (1977)

The Land Acquisition Act, 1977 (2034 BS), has been enacted to integrate the laws for Acquisition of Land, 1962, and partially updated in 1993 by its subsequent amendment. The section 3 of the Act empowers the government to acquire land at any place, for the purpose of public works by providing the required compensation to its owners. The Act obliges the government to consider the compensation for acquisition of land for the benefit of the local people. Article 12 established Compensation Fixed (Determination) Committee as a leading organization for fixing compensation unit price.

Steps of Land Acquisition plan as per Land Acquisition Act 1977 are presented in Figure 6.1-1.

³ Initial Environmental Examination, Upgrading/Widening of Arniko Highway to Six Lane Standard, DOR, 2011



Figure 6.1-1 Land Acquisition Process (Based on land Acquisition Act 1977)

6.1.2 Land Acquisition Guidelines (1989)

The Land Acquisition Guidelines and guidelines pursuant to section 16 and 17 of the Land Acquisition Act 1977 specify two categories of affected families, namely Project Affected Families (PAF) and Seriously Project Affected Family (SPAF). A PAF consists of the members of a household including elderly dependents and minor children (under 18 years) residing under one roof and operating as a single economic unit, who are adversely affected by the project. SPAF is defined as a family who loses over 25% of its total land holdings or whose land is reduced to an uneconomic holding (less than 5.0 katha) or who is being displaced.

Under these guidelines the concerned officials, with the assistance of the project team, are to carry out assessments of project affected families to identify their standard of living and types of assets. Valuation of land and asset lost were to be based on comparative market values of similar assets in the vicinity. The guidelines also included arrangements for rehabilitation of project-affected families. For PAF's, the compensation package includes cash for assets acquired or damaged by the project and a rehabilitation grant (assistance allowance) to cover any suffering and hardship. For SPAF's, the compensation additionally include employment for one family member and provision of skill training.

The Guidelines specify the establishment of an Acquisition and Rehabilitation Committee (also known as Compensation Fixation Committee, “CFC”) consisting of the concerned Chief District Officer (Chair), Land Revenue Officer, representative of the District Development Committee (DDC) and the Project Manager and others as deemed necessary. The Committee is responsible for acquiring land and paying compensation. In 1993, a second set of guidelines reduced the Acquisition and Rehabilitation Committee to a four-member Compensation Fixation and Rehabilitation Management Committee by dropping the Land Revenue Officer and other governmental appointees. The functions and powers of the committee were clarified, as were methods of payment and means of ensuring fair valuation of land quality.

6.1.3 Public Road Act (1974)

The Public Road Act, 1974 has been enacted to ensure the construction and operation of the road projects smoothly. Section 3 of the Act empowers GON to prohibit the construction of permanent structures (buildings) in the prescribed distance from the road, i.e. the Department of Roads (DOR) has the authority over everything within the boundaries of the road. The DOR may acquire temporarily the land and other property adopting compensatory measures during the construction, rehabilitation and maintenance of the public road (Sections 14 and 15). The Act obliges the DOR to plant trees on both sides of the road and handover it to the local bodies (VDC or municipality) for their management (Section 16). The Act also empowers the DOR to operate quarries and borrow pits and other facilities during the road construction (Section 17). In sum, the Act facilitates the construction of this road by even acquiring land and property including for the execution of construction materials and development of other facilities during road construction through compensation as negotiated and as well as to maintain greenery along the roadside.

6.1.4 Public Road Management and Land Acquisition Directives, DOR, (2002)

The DOR has published a directive for Public Road Management and Land Acquisition in 2002 for the use in road management and land acquisition in DOR's Sector Wide use. This Directive specifies two categories of affected families, Project Affected Families (PAF) and Seriously Project Affected Family (SPAF). A PAF consists of the members of a household including elderly dependents and minor children (under 18 years) residing under one roof and operating as a single economic unit, who are adversely affected by the project. SPAF is defined as a family who loses over 25% of its total land holdings or whose land is reduced to an uneconomic holding (less than 5.0 katha) or who is being displaced.

Under this Directive the concerned officials, with the assistance of the project team, are to carry out assessments of project affected families to identify their standard of living and types of assets. Valuation of land and asset lost were to be based on comparative market values of

similar assets in the vicinity. The Directive also included arrangements for rehabilitation of project-affected families. For PAF's, the compensation package includes cash for assets acquired or damaged by the project and a rehabilitation grant (assistance allowance) to cover any suffering and hardship. For SPAF's, the compensation additionally include employment for one family member and provision of skill training.

6.1.5 Environmental and Social Management Framework, DOR, (2007)

This Environmental and Social Management Framework report (ESMF) is prepared for the Department of Roads (DOR) to compile in an overview and guidance manner, various safeguard and compliance aspects of environmental and social issues related with the Sector Wide Road Program and the Priority Investment Plan Study for Nepal's Strategic Road Network (SRN) planning for 2007 to 2016. The Study commenced in September 2005 and was completed in December 2006. The ESMF intends to provide technical and managerial inputs and guidance into the design of the strategic roads (both designated for rehabilitation and, to lesser extent, to new construction), through identification of key environmental and social issues related to the foreseen projects (hereunder referred as "SRN sub-projects"), mitigate potential impacts and concerns and, devise opportunities to enhance the benefits. The framework integrates in a step-wise approach the most important environmental and social considerations into all stages of project preparation, implementation, monitoring and operation and is applicable to all future sub-projects funded under the SRN program. The ESMF is applicable to all proposed subproject activities and through all stages of the subproject cycle, i.e. from pre-planning, planning and design, implementation to post-implementation. The design flow of ESMF activities will be coordinated and integrated into the project cycle.

6.1.6 Land Acquisition, Resettlement and Rehabilitation Policy (not yet enforced as of 2015)

The government, Ministry of Land Reform, has prepared Land Acquisition, Resettlement, and Rehabilitation Policy under technical assistance with ADB, however, the policy has not yet been enacted in Nepalese Gasett. The drafted policy emphasizes scientific standards for land valuation and extension of compensation equivalent to minimum market value of land. A provision in the policy allows the government to take action against those who try to disrupt land acquisition process or create hurdles for the project. In this regard, the policy has stressed on the need to first assessment of socio-economic impacts of a project. All expenses related to land acquisition, compensation and implementation of resettlement and rehabilitation plans should be considered as a project cost.

6.2 JICA's Policy on Involuntary Resettlement

The policy provisions on involuntary resettlement of JICA is shown in the JICA's Environmental Guidelines. And item 3 of Article 2.6 in this guideline describes that "JICA confirms that projects do not deviate significantly from the World Bank's Safeguard Policies". Therefore, the main documents relevant to the land acquisition and resettlement of the Project are:

- JICA Guidelines for Environmental and Social Considerations (2010)
- The World Bank's Safeguard Policies (Operational Policy / Bank Policy 4.12 and its Annex in particular)
- Involuntary Resettlement Sourcebook (the World Bank)

Item 2 of Article 1.6, "Requirement of project proponents" of the JICA's Environmental Guidelines describes that involuntary resettlement in case of Category A project must be fulfill Article 7, "Involuntary Resettlement" of Annex 1 "Environmental and social consideration required for intended project": "it is desirable that the resettlement action plan include elements laid out in the World Bank Safeguard Policy, OP. 4.12, Annex A".

JICA's fundamental policy on involuntary resettlement is shown in Table 6.2-1

Table 6.2-1 JICA's Policy on Involuntary Resettlement

I. The Government of recipient country will use the Project Resettlement Policy (the Project Policy) for a JICA's project specifically because existing national laws and regulations have not been designed to address involuntary resettlement according to international practice, including JICA's policy. The Project Policy is aimed at filling-in any gaps in what local laws and regulations cannot provide in order to help ensure that PAPs are able to rehabilitate themselves to at least their pre-project condition. This section discusses the principles of the Project Policy and the entitlements of the PAPs based on the type and degree of their losses. Where there are gaps between the recipient country legal framework for resettlement and JICA's Policy on Involuntary Resettlement, practicable mutually agreeable approaches will be designed consistent with Government practices and JICA's Policy.
II. Land acquisition and involuntary resettlement will be avoided where feasible, or minimized, by identifying possible alternative project designs that have the least adverse impact on the communities in the project area.
III. Where displacement of households is unavoidable, all PAPs (including communities) losing assets, livelihoods or resources will be fully compensated and assisted so that they can improve, or at least restore, their former economic and social conditions.
IV. Compensation and rehabilitation support will be provided to any PAPs, that is, any person or household or business which on account of project implementation would have his, her or their: Standard of living adversely affected; Right, title or interest in any house, interest in, or right to use, any land (including premises, agricultural and grazing land, commercial properties, tenancy, or right in annual or perennial crops and trees or any other fixed or moveable assets, acquired or possessed, temporarily or permanently; Income earning opportunities, business, occupation, work or place of residence or habitat adversely affected temporarily or permanently; or Social and cultural activities and relationships affected or any other losses that may be identified during the process of resettlement planning.
V. All affected people will be eligible for compensation and rehabilitation assistance, irrespective of

- tenure status, social or economic standing and any such factors that may discriminate against achievement of the objectives outlined above. Lack of legal rights to the assets lost or adversely affected tenure status and social or economic status will not bar the PAPs from entitlements to such compensation and rehabilitation measures or resettlement objectives. All PAPs residing, working, doing business and/or cultivating land within the project impacted areas as of the date of the latest census and inventory of lost assets(IOL), are entitled to compensation for their lost assets (land and/or non-land assets), at replacement cost, if available and restoration of incomes and businesses, and will be provided with rehabilitation measures sufficient to assist them to improve or at least maintain their pre-project living standards, income-earning capacity and production levels.
- VI. PAPs that lose only part of their physical assets will not be left with a portion that will be inadequate to sustain their current standard of living. The minimum size of remaining land and structures will be agreed during the resettlement planning process.
 - VII. People temporarily affected are to be considered PAPs and resettlement plans address the issue of temporary acquisition.
 - VIII. Where a host community is affected by the development of a resettlement site in that community, the host community shall be involved in any resettlement planning and decision-making. All attempts shall be made to minimize the adverse impacts of resettlement upon host communities.
 - IX. The resettlement plans will be designed in accordance with recipient country's Involuntary Resettlement Policy and JICA's Policy on Involuntary Resettlement.
 - X. The Resettlement Plan will be translated into local languages and disclosed for the reference of PAPs as well as other interested groups.
 - XI. Payment for land and/or non-land assets will be based on the principle of replacement cost.
 - XII. Compensation for PAPs dependent on agricultural activities will be land-based wherever possible. Land-based strategies may include provision of replacement land, ensuring greater security of tenure, and upgrading livelihoods of people without legal land titles. If replacement land is not available, other strategies may be built around opportunities for re-training, skill development, wage employment, or self-employment, including access to credit. Solely cash compensation will be avoided as an option if possible, as this may not address losses that are not easily quantified, such as access to services and traditional rights, and may eventually lead to those populations being worse off than without the project.
 - XIII. Replacement lands, if the preferred option of PAPs, should be within the immediate vicinity of the affected lands wherever possible and be of comparable productive capacity and potential⁴. As a second option, sites should be identified that minimize the social disruption of those affected; such lands should also have access to services and facilities similar to those available in the lands affected.
 - XIV. Resettlement assistance will be provided not only for immediate loss, but also for a transition period needed to restore livelihood and standards of living of PAPs. Such support could take the form of short-term jobs, subsistence support, salary maintenance, or similar arrangements.
 - XV. The resettlement plan must consider the needs of those most vulnerable to the adverse impacts of resettlement (including the poor, those without legal title to land, ethnic minorities, women, children, elderly and disabled) and ensure they are considered in resettlement planning and mitigation measures identified. Assistance should be provided to help them improve their socio-economic status
 - XVI. PAPs will be involved in the process of developing and implementing resettlement plans.
 - XVII. PAPs and their communities will be consulted about the project, the rights and options available to them, and proposed mitigation measures for adverse effects, and to the extent possible be involved in the decisions that are made concerning their resettlement.
 - XVIII. Adequate budgetary support will be fully committed and made available to cover the costs of land acquisition (including compensation and income restoration measures) within the agreed implementation period. The funds for all resettlement activities will come from the Government.
 - XIX. Displacement does not occur before provision of compensation and of other assistance required for relocation. Sufficient civic infrastructure must be provided in resettlement site prior to relocation. Acquisition of assets, payment of compensation, and the resettlement and start of the

⁴ Agricultural land for land of equal productive capacity means that the land provided as compensation should be able to produce the same or better yield the AP was producing on his/her land prior to the project. The production should be in the planting season immediately following the land acquisition. It can be for a future period if transitional allowance equal to the household's previous yield is provided to the AP household while waiting for the land to get back to the same productivity as the previous land.

livelihood rehabilitation activities of PAPs, will be completed prior to any construction activities, except when a court of law orders so in expropriation cases. (Livelihood restoration measures must also be in place but not necessarily completed prior to construction activities, as these may be ongoing activities.)

XX. Organization and administrative arrangements for the effective preparation and implementation of the resettlement plan will be identified and in place prior to the commencement of the process; this will include the provision of adequate human resources for supervision, consultation, and monitoring of land acquisition and rehabilitation activities.

XXI. Appropriate reporting (including auditing and redress functions), monitoring and evaluation mechanisms, will be identified and set in place as part of the resettlement management system. An external monitoring group will be hired by the project and will evaluate the resettlement process and final outcome. Such groups may include qualified NGOs, research institutions or universities.

Cut-off-date of Eligibility

The cut-off-date of eligibility refers to the date prior to which the occupation or use of the project area makes residents/users of the same eligible to be categorized as PAPs and be eligible to Project entitlements. In the Project, (e.g.: Cut-off dates for titleholders will be the date of notification under the Land Acquisition Act and for non-titled holders will be the beginning date of the population census; 04 October, 2010). This date has been disclosed to each affected village by the relevant local governments and the villages have disclosed to their populations. The establishment of the eligibility cut-off date is intended to prevent the influx of ineligible non-residents who might take advantage of Project entitlements

Principle of Replacement Cost

All compensation for land and non-land assets owned by households/shop owners who meet the cut-off-date will be based on the principle of replacement cost. Replacement cost is the amount calculated before displacement which is needed to replace an affected asset without depreciation and without deduction for taxes and/or costs of transaction as follows:

For example:

- a. Productive Land (agricultural, aquaculture, garden and forest) based on actual current market prices that reflect recent land sales in the area, and in the absence of such recent sales, based on recent sales in comparable locations with comparable attributes, fees and taxes or in the absence of such sales, based on productive value;
- b. Residential land based on actual current market prices that reflect recent land sales, and in the absence of such recent land sales, based on prices of recent sales in comparable locations with comparable attributes; fees and taxes.
- c. Existing local government regulations* for compensation calculations for building, crops and trees will be used where ever available.
- d. Houses and other related structures based on actual current market prices of affected materials;
- e. Annual crops equivalent to current market value of crops at the time of compensation;
- f. For perennial crops, cash compensation at replacement cost that should be in line with local government regulations, if available, is equivalent to current market value given the type and age at the time of compensation.
- g. For timber trees, cash compensation at replacement cost that should be in line with local government regulations, if available, will be equivalent to current market value for each type, age and relevant productive value at the time of compensation based on the diameter at breast height of each tree.

6.3 Policy Gap Analysis

Policy gaps related to land acquisition and resettlement were analyzed by comparing the JICA's Environmental Guidelines and the Nepali legal system. The Project shall consider both Nepali country system and JICA's requirements as follows;

- (1) Compliance to Nepali country system, such as Land Acquisition Act, Public Road Act, Road Standard, and etc.
- (2) Application of Environmental and Social Management Framework (ESMF) with a standard of World Bank's Safeguard Policy (Operational Policy, OP)
- (3) Following to JICA Guidelines for Environmental and Social Considerations as well as relevant World Bank's Safeguard Policy, Resettlement Sourcebook, and etc.

Stopgap measures will be discussed in the RAP among above mentioned three pillars of resettlement policies (Figure 6.3-1).

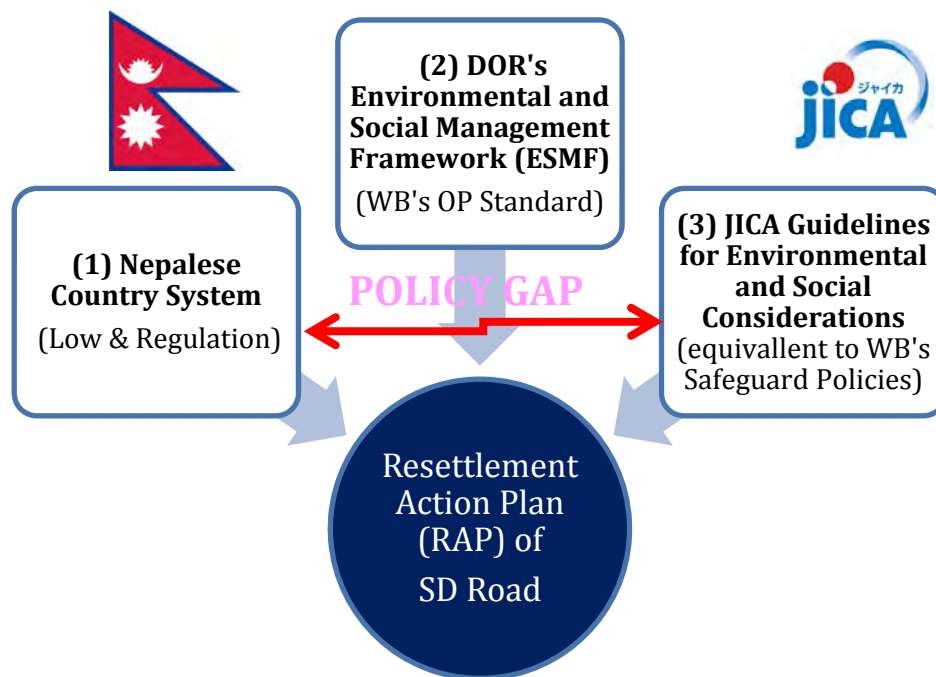


Figure 6.3-1 Image of Policy Gap and RAP

Table 5.3-1 shows the result of the gap analysis concerning land acquisition and resettlement.

Table 5.3-1 Policy Gap Analysis between JICA Guidelines and Nepali Country System

No.	(A) JICA Guidelines for Environmental and Social Considerations with World Bank Safeguard Policy	(B) Nepali Law & Regulations	Gaps between (A) and (B)	Countermeasures for filling gaps
1.	Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives.	The adverse impacts can be minimized or avoided or dealt with positive and constructive ways (1.1.1, ESMF)	No significant gaps are observed. This item is not clearly mentioned in domestic laws, however, ESMF covered it.	Based on ESMF, Land Acquisition Act, and the JICA's Environmental Guidelines, land acquisition and resettlement shall be avoided and/or minimized during alignment decision process, structure planning, and any other discussion related to resettlement impact in the Project.
2.	When population displacement is unavoidable, effective measures to minimize impact and to compensate for losses should be taken.	- The adverse impacts can be minimized or avoided or dealt with positive and constructive ways (1.1.1, ESMF) - Government of Nepal may, if it so deems necessary, acquire any land at any place for any public purpose, subject to compensation under this Act (Article 3, Land Acquisition Act)	No significant gaps are observed.	
3.	People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported, so that they can improve or at least restore their standard of living, income opportunities and production levels to pre-project levels.	Thus, the affected persons in the project will be entitled to various types of compensation and resettlement assistance that will help in the restoration of their livelihoods, at least, to the pre-project standards (7.3.1, ESMF)	No significant gaps are observed. This item is not clearly mentioned in domestic laws, however, ESMF covered it.	Based on ESMF and the JICA's Environmental Guidelines, RAP secures "improve or at least restore their standard of living, income opportunities and production levels to pre-project levels" by using appropriate entitlement matrix.

No.	(A) JICA Guidelines for Environmental and Social Considerations with World Bank Safeguard Policy	(B) Nepali Law & Regulations	Gaps between (A) and (B)	Countermeasures for filling gaps
4.	Compensation must be based on the full replacement cost as much as possible.	When GON requires assets, national law does not specify about the provision of mandatory replacement cost. Therefore, ESMF strongly recommended that: Practical provisions must be made for the compensation for all lost assets to be made at replacement cost without depreciation or reductions for salvage materials. Efforts must be made to assess the real replacement costs of land to the extent possible. A procedure should be established for determining compensation rates accurately plus rigorous efforts to assess the replacement costs and market rates for all assets, including labour costs for construction.	There might be a gaps on determination of compensation rate between Nepali side and the JICA Environment Guidelines. In the past cases, deduction and/or using government fixed rate lower than market price are common.	Replacement Cost Survey (RCS) was conducted based on the standard of the JICA's Environmental Guidelines (the World Bank's definition and level of standards). The result is compared with the government's official unit price for determining validity. The result shall be respected for future determination process by CDC. Additional monitoring to support bridging from RAP to CDC's determination is required.
5.	Compensation and other kinds of assistance must be provided prior to displacement.	ESMF referred OP 4.12: The measures (i.e. the RP) include provision of compensation and of other assistance required for relocation, prior to displacement, and preparation and provision of resettlement sites with adequate facilities, where required.	No significant gaps are observed. This item is not clearly mentioned in domestic laws, however, ESMF covered it.	Based on the JICA's Environmental Guidelines, compensation, assistance, and relocation site have to be done and prepared prior to displacement.

No.	(A) JICA Guidelines for Environmental and Social Considerations with World Bank Safeguard Policy	(B) Nepali Law & Regulations	Gaps between (A) and (B)	Countermeasures for filling gaps
6.	For projects that entail large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public.	ESMF regulated RAP preparation.	No significant gaps are observed. This item is not clearly mentioned in domestic laws, however, ESMF covered it.	The RAP is developed with sufficient adherence to the JICA's Environmental Guidelines.
7.	In preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance.	- In Chapter 5, the section of 2.2.1: The Procedural Steps in Road IEEs and EIAs of ESMF, and other sections covers all conditions concerning public participation/consultation.	No significant gaps are observed. This item is not clearly mentioned in domestic laws, however, ESMF covered it.	Based on the JICA's Environmental Guidelines, in case of the Category A projects, stakeholder meetings should be organized at least two times, at the time of the draft scoping and at the time of draft reporting, supplemented by focus group meetings. In addition to above mentioned meetings, the RAP proposed promotion of public participation in monitoring stage as well as implementation stage.
8.	When consultations are held, explanations must be given in a form, manner, and language that are understandable to the affected people	- Domestic EIA procedure supported by some conditions in ESMF requires public consultation meeting		
9.	Appropriate participation of affected people must be promoted in planning, implementation, and monitoring of resettlement action plans.			
10.	Appropriate and accessible grievance mechanisms must be established for the affected people and their communities.	5.1 and 7.5 of ESMF stipulated establishment of grievance redress mechanism (GRM)	No significant gaps are observed. This item is not clearly mentioned in domestic laws, however, ESMF covered it.	Based on the JICA's Environmental Guidelines, GRM is planned in the RAP.

No.	(A) JICA Guidelines for Environmental and Social Considerations with World Bank Safeguard Policy	(B) Nepali Law & Regulations	Gaps between (A) and (B)	Countermeasures for filling gaps
11.	Affected people are to be identified and recorded as early as possible in order to establish their eligibility through an initial baseline survey (including population census that serves as an eligibility cut-off date, asset inventory, and socioeconomic survey), preferably at the project identification stage, to prevent a subsequent influx of encroachers of others who wish to take advance of such benefits.	N/A *Cut-off date is recommended to set as the date of Census survey (7.2.3, ESMF)	There is no direct regulation of recommendation regarding the item.	Based on the JICA's Environmental Guidelines, the cut-off date is explained at the 1st time stakeholder meetings. In case that certain time, e.g. two years, will have passed since the cut-off-date declaration before land acquisition is commenced, Census and other relevant field surveys shall be updated and revised with the latest situation.
12.	Eligibility of benefits includes, the PAPs who have formal legal rights to land (including customary and traditional land rights recognized under law), the PAPs who don't have formal legal rights to land at the time of census but have a claim to such land or assets and the PAPs who have no recognizable legal right to the land they are occupying.	In the proposed project, the absence of formal titles will not be a bar to resettlement assistance and rehabilitation. (7.3.1, ESMF)	No significant gaps are observed. This item is not clearly mentioned in domestic laws, however, ESMF covered it.	Based on the JICA's Environmental Guidelines, appropriate entitlements are discussed in the RAP for both formal and informal cases. In principle, both formal and informal settlers are eligible for compensation and other conditions, including assistances, rights to relocate to the resettlement site, etc.
13.	Preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based.	N/A * EMSD just referred OP 4.12	Cash for land is the common way of compensation for both formal and informal land cases in Nepal, and PAPs also prefer to cash	PAPs shall be given compensation options based on the RAP to select "land for land" or "cash for land" as much as possible.

No.	(A) JICA Guidelines for Environmental and Social Considerations with World Bank Safeguard Policy	(B) Nepali Law & Regulations	Gaps between (A) and (B)	Countermeasures for filling gaps
			compensation generally.	
14.	Provide support for the transition period (between displacement and livelihood restoration).	N/A	The item is not clearly mentioned even in ESMF. Some kinds of assistance have a function to support such transition period.	The RAP may cover the non-registered cases and compensation for temporary business disturbance, income restoration at the early stage, or any other allowance are considered.
15.	Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless, elderly, women and children, ethnic minorities etc.	8.3 of ESMF or the part of Entitlement Matrix stipulated the considerations scheme for such vulnerable groups	No significant gaps are observed. This item is not clearly mentioned in domestic laws, however, ESMF covered it.	Based on needs assessment through stakeholder meetings, socio-economic surveys, focus group meetings etc., special considerations for vulnerable groups are discussed and reflected in the RAP.
16.	For projects that entail land acquisition or involuntary resettlement of fewer than 200 people, abbreviated resettlement plan is to be prepared.	7.10 of ESMF stipulated the abbreviated RAP under the condition of fewer than 200 people	No significant gaps are observed. This item is not clearly mentioned in domestic laws, however, ESMF covered it.	Based on the JICA's Environmental Guidelines, the abbreviated RAP shall be prepared under the stipulated conditions

No.	(A) JICA Guidelines for Environmental and Social Considerations with World Bank Safeguard Policy	(B) Nepali Law & Regulations	Gaps between (A) and (B)	Countermeasures for filling gaps
17.	Internal and external monitoring system must be established and implemented properly	8.8 of ESMF covers monitoring and evaluation	No significant gaps are observed. This item is not clearly mentioned in domestic laws, however, ESMF covered it.	Based on the JICA's Environmental Guidelines, a monitoring framework composed by internal monitoring, external monitoring, and evaluation is established in the RAP.

7. Compensation Policy, Eligibility, and Entitlement

7.1 Compensation Policy

In principle, PAPs who have assets within or reside within the project affected areas before the cut-off date are entitled to compensation for their losses. Those who have lost their income and/or subsistence will be eligible for livelihood restoration assistance based on the criteria of eligibility defined by the project in consultation with the PAPs. If, by the end of the project, livelihoods have been shown not to be restored to pre-project levels, additional measures will be provided.

Fundamental compensation policies of the Project based on the JICA's Environmental Guidelines are as follows:

- The compensation rates will be determined based on the results of independent appraisal of the land/crops/assets (associated with the land) in a timely and consultative manner based on the replacement cost survey. All fees and taxes on land and/or house transfers will be waived or otherwise included in a compensation package for land and structures/or houses or businesses. The local authorities will ensure that PAPs choosing relocation on their own, obtain, without additional costs, the necessary property titles and official certificates commensurate with similar packages provided to those who choose to move to the project resettlement sites
- Land will be compensated “land for land”, or in cash, according to PAP’s choice whenever possible.
- PAPs who is compensated by “cash for land” will be compensated in cash at the full replacement cost. These PAPs will be assisted in rehabilitating their livelihoods and making their own arrangements for relocation.
- Compensation for all residential, commercial, or other structures will be offered at the replacement cost, without any depreciation of the structure and without deduction for salvageable materials. Structures shall be evaluated individually.
- The PAPs will be provided with full assistance (including a transportation allowance) for transportation of personal belongings and assets, in addition to the compensation at replacement cost of their houses, lands and other properties.
- Financial services (such as loans or credits) will be provided to PAPs if necessary as a measure of livelihood restoration. The installment amounts and the schedule of payments will be within the repayment capacity of PAPs.
- Additional efforts, such as economic rehabilitation assistance, training and other forms of assistance, should be provided to PAPs losing income sources, especially to vulnerable groups, in order to enhance their future prospects toward livelihood restoration and improvement.
- The previous level of community services and resources, encountered prior to displacement, will

be maintained or improved for resettlement areas

7.2 Eligibility Criteria

7.2.1 Project affected persons (PAPs)

People directly affected by the project through the loss of land, residences, other structures, business, assets, or access to resources, specifically are:

- Persons whose agricultural land will be affected (permanently or temporarily) by the Project;
- Persons whose residential land/houses will be affected (permanently or temporarily) by the Project;
- Persons whose leased-houses will be affected (permanently or temporarily) by the Project;
- Persons whose businesses, occupations, or places of work will be affected (permanently or temporarily) by the Project;
- Persons whose crops (annual and perennial)/ trees will be affected in part or in total by the Project;
- Persons whose other assets or access to those assets, will be affected in part or in total by the Project; and
- Persons whose livelihoods will be impacted (permanently or temporarily) due to restriction of access to protected areas by the Project.
- Community owned assets, collective assets, enterprise, any other governmental and private organizations, whose properties, production measures, and livelihoods will be impacted (permanently or temporarily) due to land acquisition, restriction of access, any other direct/indirect impacts by the Project.

7.2.2 Vulnerable groups

Based on the census/socio-economic survey and ESMF, the vulnerable groups will generally include the following:

- Poor and poorest households as identified by pertinent national survey results;
- Poor landholders that have limited productive land (this will be determined by the minimum amount of farm land needed to be a viable farmer in the project area)
- Women headed poor households
- All Dalit and ethnic minorities/ indigenous groups as categorized by GoN being vulnerable
- Community members who are less able to care themselves without family or other support

- Landless, squatters and encroachers.
- Any additional groups identified by the socio-economic surveys and by meaningful public consultation.

7.2.3 Gender

Considerations on gender issues should be paid much attention during the project implementation process as follows:

- During the resettlement implementation stages, income restoration program, resettlement site preparation and any other opportunities of public hearing, women's voices should be carefully listened to know their rights and choices
- The female headed households will be encouraged and supported to fully participate in planning and implementation of income restoration programs as well as assistance.
- Job creation by the project implementation and operation should consider priorities on women.

7.2.4 Government Property

Government infrastructure and facilities affected by the Project will be repaired or replaced in consultation with the relevant department and ministry. There is no provision of compensation of the government land. DOR acquires government land and forest in coordination with other relevant authorities such as Ministry of Forest (MOF). Clearance of trees requires the permission of Department of Forestry (DOF). The legal provision is that the DOR is responsible to plant 25 seedlings in the government land against one tree cutting. The cut logs are the properties of DOF. DOR is responsible to establish nursery in an accessible areas of new plantation, supply seedlings, and bear the cost for five years to take care of new plantation to get the plant mature.

7.2.5 Allowances / Assistances

(1) Displacement Allowance

The households who lose their residential houses will be qualified for the displacement allowances. The displacement allowance will be as equal to 180 days minimum wage rate as established at the national or local level. The provision of displacement allowance is that the house owners are free to demolish the affected house and can carry away to reuse the materials for new housing. The displacement allowance is a provisional compensation for financial difficulties of the transitional period.

(2) Business / Cultivation Disruption Allowance

The household who loses own business due to the Project will be qualified for business disruption allowance equal to 180 days, as minimum wage rate as established at national or local level. Similarly, cultivation disruption allowance will be prepared to farmers who lost their productive land.

In addition, vulnerable people will receive special assistance and other income restoration measures, such as livelihood enhancement training and employment opportunities during the project implementation.

7.2.6 Public Health

Health awareness programs for the local people as well construction labors shall be organized by the Project and contractor on a regular basis (prior to construction commencement and in an yearly interval) to provide knowledge to construction workers and local population on health including the dangers and consequences of sexually transmitted disease (STD) and HIV/AIDS. Additional training for awareness rising will be given by the professional health workers in association with social supervision consultant on health aspects of STD and HIV/AIDS and human trafficking.

The awareness program related to public health, HIV/AIDS and human trafficking will be organized inviting public health expert (especially a medical practitioner of the concerned districts and concern district police officer). The role of social mobilizer and resettlement expert will be to neutralize the conflicting relationship between contractors and local stakeholders, outside labors and local labors, in relation to competition over natural and economic resources.

7.3 Entitlement

Based on JICA's principle policy, PAPs who are eligible for compensation/assistance are defined as below;

- PAPs who has legal rights on their land
- PAPs who does not have legal rights on their land, however, their rights will be certified according to legal framework of their country if they claim their rights
- PAPs whose legal rights on their land and their right of claim are not confirmed (e.g. lessee, tenant, worker, employee, illegal occupants, other building owner, etc.)

The entitlement policy of the RAP is based on Land Acquisition Act 1977 and Environment and Social Management Framework (ESMF). The eligibility for entitlement to compensation is determined by asset ownership criteria:

- (i) Those who have formal legal rights to land (including customary and traditional rights

recognized under the laws of the country. In the consideration, it is also useful to document how long they have been using the land or the assets associated with it);

(ii) Those who have no recognizable legal right or claim to the land they are occupying.

Persons covered under (i) are provided compensation for the land they lose, and other assistance. Persons covered under (ii) are provided resettlement assistance in lieu of compensation for the land they occupy, and other assistance, as necessary, to achieve the objectives set out in this policy, if they occupy the project area prior to a cut-off date and acceptable to JICA. Persons who encroach on the area after the cut-off date are not entitled to compensation or any other form of resettlement assistance. All persons included in (i) or (ii) are provided compensation for loss of owned or used assets other than land.

Based on the resettlement policy gap analysis and field surveys, PAPs' eligibility has been discussed as the entitlement matrix in Table 7.3-1.

Table 7.3-1 Entitlement Matrix

Type of Loss	Entitlement Unit	Description of Entitlements	Implementation Measures
1. House and Other Structure			
1.1 Loss of own house and residential plot	Families, households, structure owners	Cash compensation at full replacement cost, according to house type. For houses and structures the market cost of the materials and labour to build a replacement structure of a similar quality or better than the affected structure. Both the landlord & the tenant will be entitled for 50 percent of land compensation amount each (As per 2058 B.S. amendment in Land Reform Act)*	- Valuation for structures undertaken by the project authorities on the basis of standard norms of Department of Urban Development and compensation rates determined by Compensation Determination Committee (CDC) should respect the results of replacement cost survey and the RAP supported by JICA's preparatory survey - Construction material can be salvaged by PAPs - Deduction from the full replacement cost is not allowed - Displaced households will receive a housing displacement allowance. - Notice of relocation will be given at least 35 days prior to the land clearance - Compensation and relevant assistance must be paid in advance at least before the notification of relocation
1.2 Loss of commercial establishment	Families, households, structure owners	* This measure is described in ESMF and other RAPs in Nepal, however, it may be required further gap analysis at the time of environment review by JICA	In addition to above conditions of the case of 1.1: Owners of displaced commercial establishments will receive 180 days business disruption allowance as equal to 180 days minimum wage rate as established at the national or local level.
1.3 Loss of other private structures	Families, households, structure owners		In addition to above conditions of the case of 1.1: - Other structures include: fence, walls etc. - Only the case of loss of structures is not eligible for the displacement allowance.
2. Land			

Type of Loss	Entitlement Unit	Description of Entitlements	Implementation Measures
2.1 Loss of private land	Families, households (Title holder)	• Provide compensation at full replacement cost, or • Provide full title to land of equal area and productivity acceptable to owner in the vicinity. • Resettlement assistance in lieu of compensation for land occupied (land, other assets, employment) at least restore their livelihoods and standards of living to pre-displacement levels. • In the case of farmland, the PAPs will be entitled the cultivation disruption allowance equal to one-year production.	• Valuation for land undertaken by the project authorities and compensation rates determined by Compensation Determination Committee (CDC) should respect the results of replacement cost survey and the RAP supported by JICA's preparatory survey • A list of affected and entitled persons and the area of land loss will be prepared • Notice to vacate will be served at least 35 days prior to acquisition. • Compensation and relevant assistance must be paid in advance at least before the notification of relocation
2.2 Loss of untitled land (including the land within ROW)	Families, households (Non-Title holder)	• Resettlement assistance to those most vulnerable PAPs to restore pre-displacement level livelihoods. • Vulnerable groups may include but not be limited to ethnic minority groups, women headed households, the most poor (based on poverty line and the local wealth ratings), the disabled, the elderly and landless families. • Encroachers will not be entitled to any compensation for their affected unauthorized/illegal extensions over public land. • Vulnerable encroachers with economic losses may be entitled to assistance as a vulnerable group.	• Properties attached to the land are compensated by full replacement cost with the similar condition as the case of 1.1, 1.2 and 1.3 • A list of affected and entitled persons and the area of land loss will be prepared • Notice to vacate will be served at least 35 days prior to acquisition. • Compensation and relevant assistance must be paid in advance at least before the notification of relocation

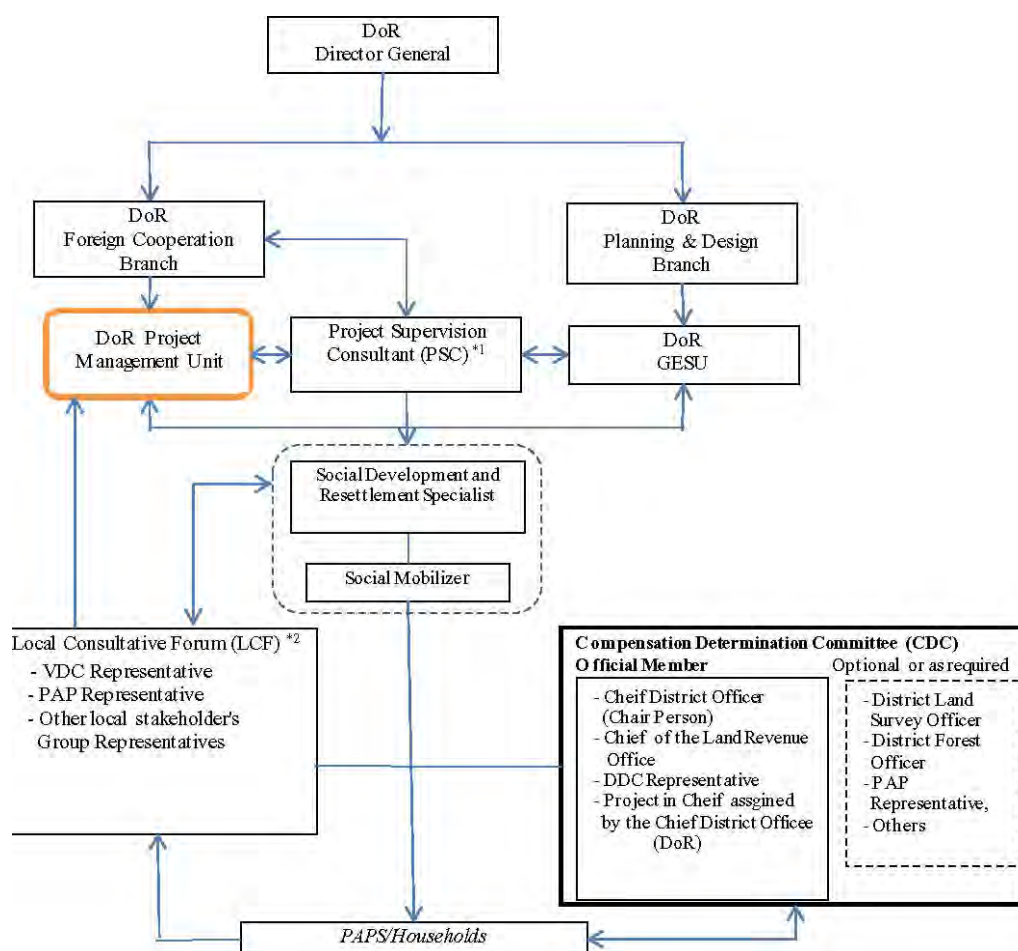
Type of Loss	Entitlement Unit	Description of Entitlements	Implementation Measures
2.3 Temporary loss of private land	Families, households	• Compensation for crop, land productivity and other property losses for the duration of temporary occupation. • Compensation for other disturbances and damages caused to property. • Land should be returned to the owner at the end of temporary acquisition period, restored to its original condition, or improved as agreed with owner.	A temporary occupation contract will be signed with the affected landowner, specifying; • Period of occupancy; • Formula for the calculation of production losses (the market value of crops normally produced on the land) and annual inflation adjustments; • Frequency of compensation payment; and • Land protection and rehabilitation measures. • The land will be returned to the owner at the end of temporary acquisition, restored to its original condition.
3. Other Privately Owned Resources			
3.1 Loss of non-perennial crops	Owners	Advance notice to harvest crops is required. If there is not enough time to harvest, the crops will be compensated based on the replacement cost.	• Crop market values will be determined by the CDCs coordinating with District Agriculture Office
3.2 Loss of privately-owned trees and perennial crops	Owners	Fruit trees belonging to private property are compensated by replacement cost. Advance notice to harvest crops (or fruits) is required. If there is not enough time to harvest, the crops will be compensated based on the replacement cost.	• Crop market values and production losses will be determined by the CDCs with assistance from a local resource specialist. • The Departments of Agriculture and Forestry will be requested to assist affected owners and communities with the reestablishment of new trees and other perennial crops.
4. Community Structures and Resources			
4.1 Community buildings and Structures	Local Community	Restoration of affected community's structures to at least previous condition, or replacement in areas identified in consultation with affected communities.	• Affected community buildings/ structures include: schools, temples, water points, stone spouts, irrigation canals, trails etc. will be rehabilitated by the Project.
5. Rehabilitation Assistance			

Type of Loss	Entitlement Unit	Description of Entitlements	Implementation Measures
5.1 Displacement of household	Households	Housing displacement allowance for loss of own residential accommodation.	- Displaced households will receive a displacement allowance equal to 180 days minimum wage rate as established at the national or local level. - Allowances will be paid at the time of serving the notice to vacate.
5.2 Displacement of commercial enterprise	Company / Households	Business disruption allowance for loss of commercial establishment.	The current business which require to be relocated from their residential houses or rented houses, will receive a business disruption allowance equal to 180 days minimum wage rate as established at the national or local level.
5.3 Cultivation disruption to cultivation	Titleholder Tenant	Cultivation disruption allowance for severe disruption to household cultivation levels.	The cultivation disruption allowances will apply to; - Households with total landholdings of 0.25 ha and smaller who lose more than 10 percent of their landholdings; - Households with total landholdings more than 0.25 ha who lose more than 25 percent of their landholdings; - Households whose production levels are to be severely affected. - The cultivation disruption allowance will be equal to one season's production on the area of land lost, based on the norms of District Agriculture Office for the year of acquisition.
5.4 Vulnerable social categories	Vulnerable Groups	Women headed households, Dalit households and below poverty level.	- A lump sum amount of NRs 50,000 will be provided as a special assistance - Assistance in re-establishment and improvement of livelihood. - Preferential employment on road construction and maintenance to the extent possible.
6. Government Property			
6.1 Loss of Infrastructure	Relevant agency	Facilities will be repaired or replaced.	To be undertaken in consultation with the relevant department or ministry.

Type of Loss	Entitlement Unit	Description of Entitlements	Implementation Measures
6.2 Loss of forest areas	Community Forest/Department of Forest	Mitigation by means of afforestation elaborated in EIA.	- Cash compensation by DOR payable to the Community Forest/District Forest Offices equivalent to 25 sampling plantation to clearance of 1 tree with 15 cm diameter or larger. - To be undertaken in consultation with Community Forest Users/Department of Forestry.
7. Income Restoration Program			
7.1 Preference in employment in wage labour in the project activities	All PAPs	PMU and other relevant authorities cooperate with contractor will consider job creation and/or job arrangement regarding construction of the project.	- Construction contracts include provision that PAPs will have priority in wage labor on project construction during implementation. - PAPs shall be given priority after construction for work as maintenance worker, mandated in local body agreement
7.2 Income Restoration Program	One member of each displaced household	Displaced PAPs who want to take income restoration program (IRP) and any cases who will be affected their means of life can apply to IRP.	IRP is designed and financed by the Project elaborated in the RAP
8. Damage caused During Construction			
8.1 Public and private building and structures, infrastructure, land crops and trees	Owners of properties	Appropriate counter measures should be taken by contractors cooperation with PMU to avoid damage and compensate based on negotiations	Where damages do occur to public or private property as a result of construction works, the affected families, groups, communities, or government agency shall be compensated for damages to crops and trees; damage land, structure, and infrastructure shall be restored to their former conditions.

8. Institutional Framework

An organizational setup for RAP implementation is necessary for effective coordination to ensure compliance with policies and procedures, land acquisition and resettlement activities and implementation of mitigation measures. To ensure the achievement of these activities, organization for RAP implementation and management will be established in both central and project level. DOR is the project owner who is also responsible for the environmental and social considerations. DOR will establish the project management unit (PMU) for the project as described in Figure 8.1-1.



Note 1): PSC is the actual implementation body for Social Impact Monitoring.
 2): LCF is also locally established as a "Grievance Redress" committee, communication link between the PAPs, and the Project as well as the PSC.

Figure 8.1-1 Proposed Organization Framework for RAP Implementation

8.1 Central Level Arrangement

Organizational arrangement in the central government level for land acquisition and resettlement starts from the financial management for land acquisition and compensation from the Ministry of Physical Infrastructure and transport (MOPIT). The required money for compensation will send to the Project

Management Unit (PMU) through the Department of Road (DOR). PMU takes responsible for overall project coordination including management of RAP implementation. The Geo-Environment and Social Unit (GESU) will lead the overall management of social environment issues including review, and approval of RAP and monitoring of timely and successful implementation of RAP.

8.2 Project Level Arrangement

While central level arrangements are necessary for coordination of RAP activities, project level arrangements are required for effective RAP implementation. There will have a PMU headed by a Project In-Charge (PIC). The PIC is responsible to form CDC in association with Chief District Officer (CDO) of concern districts. CDC is chaired by CDO.

The compensation amount for those affected by the Project will be fixed by a five-member compensation committee formed under chief district officer called CDC. The CDC will formed under CDO of concern district, the other members are: Representative of District Development Committee (DDC), Chief of District Land Revenue Office, Mayor/VDC chairperson from respective Municipality/VDC and project Chief.

The committee can form a technical team to determine the compensation amount. This team should derive the compensation amount by working closely with members of families that are likely to be displaced. Those not satisfied with land acquisition, resettlement and rehabilitation processes can lodge complaints at a body formed at the project office and complaint hearing offices at district and regional levels.

CDC determines the rate of compensation in consultation with PAPs and local stakeholders, categorizing land, and structures. The PIC will have a road section support team. Other relevant district officials will be deputed during the land and assets acquisition process when required. As the project authority, Project Management Unit (PMU) will resume overall responsibility for RAP implementation. This will require:

- Implementation of procedures to minimize adverse social impacts throughout the planning, design and implementation phases
- Implementation of procedures for the recording of all project affected persons by means of census and asset verification and quantification exercises;
- Establishment of procedures for the coordination of resettlement and compensation activities;
- Implementation of information dissemination campaigns
- Capacity building initiatives to create a supportive environment for the implementation of RAP activities;
- Coordination with other government line agencies, local stakeholders, NGOs to ensure effective delivery of mitigation and rehabilitation support measures.

9. Resettlement and Rehabilitation

9.1 Resettlement Site

The most significant impacts on affected households are land and structures loss. The census / socio-economic survey's data, and opinion from PAPs at the time of stakeholder meeting provide that all the respondents have preferred cash compensation for all types of losses and PAPs didn't request the group relocation to a resettlement site. Most of the affected land is evaluated comparatively high because such lands are usually adjacent to the exiting SD Road.

In Nepal, "cash for land" compensation is common in the past projects, and it is also expected that compensation for landless PAPs who once encroached ROW will be assisted by cash to find another place to live. PMU and CDC cooperating with local authorities have to be careful with the cash payment to avoid any improper cases that PAPs cannot find the appropriate land nearby by the amount of assistance money. For the public land in the bypass section and some curve improvement points are also compensated by cash in principle. If there is observed strong needs to prepare resettlement site by considerable numbers of PAPs in the following detailed design phases, PMU should consider the feasibility of the resettlement site preparation.

9.2 Income Restoration Program (IRP)

The income restoration program (IRP) plays an important role in implementation of the RAP. When PAPs lose business bases, jobs and other income sources, regardless of whether or not they lose their houses; those who lose both houses and income sources are the Project's highest risks. Providing measures to restore livelihood and quality of the life are the core target of the RAP. The objective of IRP is to restore the livelihoods of PAPs to the same level or higher than before the Project implementation.

9.3 Target of IRP and Assistances

At least one member of each affected households will be provided income restoration measures under IRP according to the ESMF. Target of IRP should be widely open to all project affected households who want to participate in.

9.4 Needs Analysis and Options

In the early stage of resettlement implementation, PMU / District and VDC shall organize stakeholder meeting to obtain needs on livelihood restoration from targeted PAPs and analyze the needs to form effective package of income restoration program. Expected measures for livelihood restoration program are shown as below;

(1) Vocational Training and Guidance

This measure is job training for the people affected by land acquisition by using vocational training facilities nearby if there is appropriate demands in the target group of PAPs. Vocational training may provide; leather shoe manufacturing; sewing equipment repair;

domestic and industrial electricity; electric and welding; cooking; construction; cutting processing; cooling, milling; motorcycle repair, office informatics, etc. Training fees for each course will be paid by the project budget. The Project is required to coordinate with such possible facilities in different districts to organize vocational training for affected households and/or recruit their children for work in factories.

(2) Job Arrangement

After the job training, according to the list of trainees and demands of each trainee, PMU will coordinate with practical job opportunities. Or, activities of agricultural and forestry promotions will be discussed to provide knowledge of crops, livestock, fertilizers, technology, productivity growth.

(3) Loan Program

During implementation phase, PAPs will be interviewed about their demands for credit loan. If do, they will be assist to access some sources of credit loan such as revolving fund organized by rural banks.

9.5 Institutional Arrangement for IRP

PMU / District and VDC will deliver the above mentioned skills training and other opportunities with cooperation between local resources, such as training institutions/professional.

9.6 Job Creation for the Project Implementation

Furthermore, employment priority will be given to PAPs during the road construction period. As far as possible, the Project will provide job opportunities through contractor for the affected people during the project implementation, in order to enable families to earn supplemental income to restore their livelihood.

10. Grievance Redress Mechanism (GRM)

Agencies in charge of implementing the procedure for handling grievance during compensation and land acquisition in the project affected areas should be established as Grievance Redress Committee (GRC). Detailed procedures on handling grievances will be established for the Project to ensure that PAPs have the opportunity to present their complaints about compensation and resettlement. PAPs have formal option to appeal CDO and Ministry of Home Affairs in case of grievance under regulations specified in Land Acquisition Act 2034 (1997).

This mechanism will be designed to be simple, understandable, quick and fair. Handling complaints at each Project level will facilitate the smooth implantation of the Project. PAPs who do not agree with the decision on compensation, assistance and resettlement are entitled to raise complaints based on the legal regulations. Handling grievances against compensation,

assistance, land acquisition and resettlement decisions and with the responsibility for resolving complaints, and validation and settlement procedures shall be implemented based on relevant laws, such as Land Acquisition Act, Road Law, etc.

Since grievances are commonly found in any projects related to land acquisition and resettlement, to ensure the grievances are timely and effectively addressed, following general measures could be used;

- (1) Grievances/Complaints should be recorded and maintained by both local authority/PMU and internal/external monitoring agency with regular update, to timely and satisfactory solve the grievances.
- (2) In case of verbal complaints, Grievance Redress Committee (GRC) should record in written format to follow up the complaints.

There is the potentiality for two main types of grievances: grievances related to land acquisition and resettlement requirements, and grievances related to compensation or entitlement. The PAPs will have access to both locally constructed grievances redress committees specified under ESMF, i.e. Local Consultative Forum (LCF) and formal courts of appeal system. Under the latter system every PAP can appeal to the court if they feel that they are not compensated appropriately. They may appeal to appellate court within 35 days of the public notice given to them.

Proposed mechanism for grievance resolution is given below:

Stage 1:

Complaints of PAPs on any aspect of compensation, relocation, or unaddressed losses shall in first instance be settled verbally or in written form in field based project office. The complaint can be discussed in an informal meeting with the PAP by the concerned personnel to settle the issues at the local level. The community consultation, involvement of social/ resettlement experts will be helpful in this regard. It will be the responsibility of Project In-charge to resolve the issue within 15 days from the date of the complaint received.

Stage 2:

If no understanding or amicable solution reached or no response from the project office, the PAP can appeal to CDC. While lodging the complaint, the PAP must produce documents to support his/her claim. CDC will provide the decision within 15 days of registering the appeal.

Stage 3:

If the PAP is not satisfied with the decision of CDC or in absence of any response of its representatives, within 35 days of the complaint, the PAP, in his/her last resort, may submit its case to the court.

11. Organizational Responsibilities

For the RAP implementation, reasonable organization framework must be considered. It also discusses

monitoring requirements, before concluding an overview of the major planning, administrative and logistical requirements for the successful implementation of the RAP.

As the project authority, DOR, especially its PMU should be retained overall responsibility for the management procedures of the RAP as well. Key activities to be undertaken to ensure effective implementation of resettlement, compensation and rehabilitation activities are:

- Implementation of procedures to (i) minimize adverse social impacts including acquisition of land and assets throughout the planning, design and implementation phases and (ii) accurate recording of all PAPs, by means of census and asset verification and quantification exercises, and the issuing of identification,
- Establishment of systems and procedure for the coordination of resettlement and compensation activities,
- Establishment of GRC to address the social issues with participation of affected people,
- Capacity-building initiatives to create a supportive environment for the implementation of RAP activities, including training on accepted resettlement and rehabilitation practices, training in the establishment of compensation plans for affected household,
- Coordination with other government line agencies like Department of Forestry and Ministry of Local Development to ensure effective delivery of mitigation and rehabilitation support measures; and
- Disclosure of RAP in both JICA and Nepal side

12. Implementation Schedule and Activities

12.1 Implementation Schedule

The RAP implementation activities mainly consist the task of compensation distribution and associated rehabilitation and resettlement activities. The project authority will ensure that funds are delivered on time to CDC and the Construction Supervision Consultant (CSC) for timely preparation and implementation of RAP, as applicable. Generally, civil works contracts will not be awarded unless required compensation payment has been completed. In the context of the project compensation process as well as income rehabilitation measures may continue and be completed even after civil works has begun. Tentative implementation schedule for RAP is given in Table 12.1-1.

Table 12.1-1 Tentative Implementation Schedule for RAP

S.N.	Tasks	Year I												Year II				Year III			
		1	2	3	4	5	6	7	8	9	10	11	12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12
1	Obtained Detail Engineering Design from Technical team	♦																			
2	Cadastral Survey	♦	♦																		
3	Census/ Socioeconomic survey for RAP updating			♦	♦																
4	Submission of Final RAP to DOR and JICA for approval					♦															
5	Submit final report to CDO for compensation determination						♦														
6	Notice publication of affected land							♦													
7	Public Consultation and establishment of GRC								♦												
8.	CDC meeting and Compensation Determination									♦											
9	Inform APs for the compensation claim										♦										
10	Collect application from the PAPs for compensation											♦									
11	Verify the application and prepare final list of PAPs												♦	♦	♦						
12.	Pay compensation for eligible PAPs															♦					
13	Contract agreement with Contractors															♦					
14	Transferring the land ownership																♦				
15	Internal Monitoring of RAP implementation progress												♦	♦	♦	♦	♦	♦	♦	♦	♦
16	External monitoring of RAP implementation														♦		♦		♦		♦

12.2 Key Implementation Activities in Implementation Phase

12.2.1 Advance Actions

Upon grant processing, DOR will initiate advance action such as; (i) Establishment of the Project Office ii) recruitment of the Project Manager(PM) and information dissemination to affected people and local community (iii) Formation of CDC (iv) Mobilization of Construction Supervision Consultant (v) Establishment of GRC as required.

12.2.2 Mobilization of Construction Supervision Consultant (CSC)

The CSC will be mobilized to monitor the project construction activities and to implement the resettlement action plan (RAP). The Social/ Resettlement Expert to be mobilized by CSC will be responsible for implementing the resettlement activities in close coordination with the Project Implementation Unit, Project Manager, and CDC including local communities and affected persons.

12.2.3 Cadastral Survey and Updating Draft RAP

The cadastral survey will be implemented again with updated design and other information related to the project affected areas. The cadastral survey is one of the very important works which is conducted during detail design phase after getting approval of detail design. The cadastral survey is the method of determining resettlement impact on land, structures, and other assets aligning with the reference of cadastral maps. It has to be carried out by land surveyor with the help of assistant surveyor and other resettlement team such as enumerator, social mobilizer, resettlement expert etc. It is the main part of the RAP implementation.

Table 12.2-1 Key steps and process of Cadastral Survey

1	CSC hired a Surveyor team (Surveyor, assistant Surveyor, helper etc.) for Cadastral Survey
2	Surveyor with the help of District Survey Office will conduct field survey based on reference of topographical map and final engineering design drawing
3	Survey Team identifies/delineate the reference points in different section of the road alignment and determine the final sheets of relevant cadastral maps applicable for land acquisition.
4	Relevant cadastral sheets will be collected from Survey Office.
5	Survey Team will conduct total station survey to fix the land acquisition line in the cadastral sheets with the help of affected persons, local communities and other stakeholders. Resettlement Team with social Mobilizer will fully support the Survey team.
6	Based on total Station Survey across the road alignment the Survey Team draw lines in the cadastral map delineating the affected portion of land, parcel number and calculate the area to be acquired.
7	The Resettlement Team with the support of Cadastral Survey Team will conduct final inventory survey if left during feasibility study and collect relevant document of affected land parcels such as Type of land parcels Private or government, owners of affected land and other information as applicable.

8	Type of affected land status will be collected from Survey Office and Landowner list from Land Revenue Office then final list of affected persons and their assets will be prepared and finalized the RAP.
9	DOR will send the list of land parcels, area to be acquired and owners name to CDC then compensation determination process will start.

13. Cost Estimation

The land Acquisition Act 1977 indicates need of initial estimation of compensation amount and determination of compensation rate at two different stages by two different agencies. As per clause 7(2) 8 (2) of Land acquisition Act, preliminary estimation should be made by agencies / project owner (DOR) seeking land acquisition, and the compensation rate is finally determined by CDC accordance to clause 13 of the Act. As the act stipulates, the agency concerned after initial investigation on likely acquisition have to submit formal report to CDO requesting for land acquisition. Then the CDO with the support of CDC will determine the final compensation rate.

The RAP has been prepared based on the enumeration of PAPs and their affected assets along the road alignment. The valuation of affected assets and compensation cost estimated for the loss of assets is based on replacement cost survey (RCS) attached as Annex 6. RCS principally based on market cost survey subject to be finalized by CDC in accordance with the provision of Land Acquisition Act.

13.1 Cost for Land Acquisition

There are two major different types of property valuation systems in Nepal, namely unit price based on government rate and based on current market rate. As being practiced, the Government rate usually use to be fixed by District Land Revenue Offices in accordance with the location of land, type of land, the rate of land quoted on current land transaction documents, and land levy paid by the public.

It is assumed that the current market price denotes the replacement cost by which the PAPs can purchase similar types of land nearby the project area with the compensation amount. The current market prices are estimated based on a RCS of the JICA Preparatory Survey. Each estimate replacement cost is derived from relevant information from the local peoples such as real estate planner, indirect affected persons, and direct affected persons in the Area.

All of the affected lands by the Project are located within the urban/semi urban areas and adjacent to highway. Therefore, cost of affected land is relatively high comparing to other infrastructure project of Nepal. The estimated compensation for private land is shown in Table 13.1-1.

Table 13.1-1 Estimated Compensation for Private Land

1 USD= 100.09 NRs

S.N.	VDC/ Municipality	Area (sqm)	Government Rate		Replacement Cost	
			NRs	USD	NRs	USD
1	Bhaktapur	670	29,501,494	294,750	42,144,991	421,071
2	Chitpol	79,114	976,743,592	879,850	1,367,913,194	1,256,928
3	Nangkhel	15,583	403,504,089	4,031,413	504,022,645	5,035,694
4	Sipadol	2,000	88,064,161	9,758,653	125,805,944	13,666,832
5	Banepa	4,222	89,632,018	2,580,331	132,788,174	4,278,269
6	Dhulikhel	24,300	624,709,860	225,720	1,111,850,920	374,250
7	Nasikasthan Sanga	13,615	258,265,352	895,514	428,211,983	1,326,688
8	Ugratara Janagal	1,191	22,592,290	6,241,481	37,458,720	11,108,512
Total		140,695	2,493,012,856	24,907,712	3,750,196,571	37,468,244

13.2 Cost Estimation for Private Structures

Around 461 various types of house/structure likely to be demolished due to the Project implementation. The cost estimation for the house/structure is based on the RCS, however, final compensation would be determined by CDC. During the detail design, the engineer of Department of Urban Development and Building Construction (DUDBC), the authentic organization of government for house evaluation, will be requested to involve the house/structures evaluation process. Estimated costs for the houses/structures are presented below.

Table 13.2-1 Estimated Compensation for Affected Structures

1 USD= 100.09 NRs

S.N.	Type of Structure	No. of Structures	Plinth Area in sqm.	Rate/sqm in NRs	Total Amount NRs	Total Amount in USD
1	Simple hut/Shed	17	442	5,382	2,378,844	23,767
2	Thatched roof, walls constructed with bamboo and mud/stone	29	501	5,920	2,966,020	29,634
3	Tile/iron roof, walls constructed with brick/ mud/stone	148	4,465	10,764	48,061,260	480,180
4	Iron sheet/roofing with stone/ brick wall/cemented plaster	166	5,321	16,146	85,912,866	858,356
5	RCC building	76	9,931	26,910	267,243,210	2,670,029
6	Movable kiosk/ fence/wall etc	25	871	5,382	4,687,722	46,835
	Total	461	21531		411,249,922	4,108,801

13.3 Displacement Allowances

The displacement allowance basically covers that residential house which needs to be displaced from their current location physically. Displacement allowances are based on 6 months minimum wage rates as established at the national or local level. The minimum wage rate in the project area is NRs 500/day. The Socio-economic/Census survey shows that 336 residential houses are qualified to get the housing displacement allowance. Estimated cost for the displacement/ rehabilitation allowances is shown in Table 13.3-1.

Table 13.3-1 Housing Displacement Allowances

1 USD= 100.09 NRs

Allowances	No. of residential houses	Unit Cost NRs	Total Amount (NRs)	Total Amount (USD)
Housing displacement allowances	336	90,000	30,240,000	302,128
Total	336	-	30,240,000	302,128

13.4 Business Disruption Allowances

The Business disruption allowance will be provided to those business owners who are required to relocate from their own business, even in the case of temporal impact. This allowance is based on 6 months minimum wage rates as established at the national or local level. The minimum wage rate in the project area is NRs 500/day. It is estimated that 150 business owners will be displaced from their current location. Estimated cost for the Business disruption allowance is given the table below.

Table 13.4-1 Business Disruption Allowances

1 USD= 100.09 NRs

Allowances	No. of residential houses	Unit Cost NRs	Total Amount (NRs)	Total Amount (USD)
Business Disruption Allowances	150	90,000	13,500,000	134,878
Total	150	-	13,500,000	134,878

ESMF mentioned that "displaced household with business affected will be entitled to receive one time lump sum grant; minimum one month's income based on the nature of business and type of losses assessed on a case to case basis. Daily minimum wage rate may be used as compensation for business loss as basis for calculation when and as applicable. In this project, average minimum wage was estimated 500NRs and set the period of allowance as 180 days. (500NRs x 180 Days = 90,000NRs). This assumption may cause policy gaps between JICA's Environmental Guidelines, therefore, the method of assumption shall be discussed again in the next stage, such as Environmental Review.

13.5 Support allowances for Vulnerable Households

Support allowance will be provided to the affected vulnerable households such as women headed, Dalit and below poverty level households. According to Census/socio-economic survey 56 household will receive this allowance at the rate of NRs 50,000 (USD 499.6) per households. Propose a support allowance is given in table below:

Table 13.5-1 Support Allowances for Vulnerable Households

1 USD= 100.09 NRs

Allowances	No. of residential houses	Unit Cost NRs	Total Amount (NRs)	Total Amount (USD)
Support Allowances	56	50,000	2,800,000	27,975
Total	56	-	2,800,000	27,975

13.6 Income Restoration Program (IRP)

The training cost for each participants of IRP is estimated NRs 45,000 (including lodging, food, transportation, trainer cost etc., so total training cost = 181 person (target number) x NRs. 45,000 = 8,145,000 (\$ 81,377)

13.7 RAP implementation cost

There are several RAP implementation activities need to be carried out during the project implementation period such as public consultation and information dissemination, CDC meeting, RAP updating, external monitoring of RAP etc. Estimated cost for RAP implementation is presented in table below:

Table 13.7-1 Estimated Cost for RAP implementation

1 USD= 100.09 NRs

S.N	Description	Quantity	Rate NRs	Cost NRs	Total Cost in USD
1	Information dissemination/ meeting with APs and other stakeholders with tea and snacks	10	15,000	150,000	1,499
2	CDC meeting and follow-up activities	10	25,000	250,000	2,498
3	GRC meeting	20	20,000	400,000	3,996
4	Public notification/ resettlement leaflet		Lamp Sum	250,000	2,498

5	RAP updating if required		Lamp Sum	800,000	7,993
6	External Resettlement Monitoring	6 month	200,000	1,200,000	11,989
	Total			3,050,000	30,473

13.8 Other Rehabilitation Cost

The census/socio-economic survey shows that 1,078 electric poles and telecommunication poles are required to be relocated. The estimated cost for these poles is 5,390,000 (at the rate of NRs 5,000/pole).

In addition, lump sum amount of NRs 600,000 is estimated for rehabilitation of three stone spouts in Nasikasthan Sanga VDC. The above mentioned public utilities rehabilitation cost and other remaining compensation cost of trees and crops if required will be included in contingencies heading in the budget.

13.9 Summary of Cost Estimation

The summary of total estimated cost for the RAP implementation is shown in Table 13.9-1.

Table 13.9-1 Summary of Cost for RAP implementation

	Cost Item	Unit	Quantity	Amount (NRs)	Amount USD
1.	Land*	Sqm	140,695	3,750,196,571	37,468,244
2.	Structure	Number	461	411,249,922	4,108,801
3.	Displacement	Household	336	30,240,000	302,128
4.	Business Disruption Allowance	Household	150	13,500,000	134,878
5.	Support Allowance for Vulnerable people	Household	56	2,800,000	27,975
6.	Livelihood Enhancement Skill Training	Person	181	8,145,000	81,377
7.	RAP implementation	LS		3,050,000	30,473
Sub-total				4,219,181,493	42,153,876
Contingencies(5 % of total cost)**				210,959,075	2,107,694
Grand Total				4,430,140,568	44,261,570

Note: * The cost of land calculated as per market price

**The contingencies amount will be used for community infrastructure, compensation payment for trees and crops if required during the project implementation period and other unidentified item during the project design phase.

14. Monitoring and Evaluation

Monitoring and Evaluation is the tools for ensuring effective RAP implementation. The RAP implementation activities need to be monitored in different stages of the project cycle. The frequency and nature of monitoring and evaluation may vary in different phases.

Regular monitoring is essential and only an instrument to understand the socio-economic condition of the affected household. Two types of monitoring, internal, and external will be administered in three levels: (i) process level (ii) output level and (iii) impact level of: (a) record and assess the project inputs and the number of persons affected and compensated and (b) confirm that former subsistence levels and living standards are being reestablished.

14.1 Internal Monitoring (IM)

The internal monitoring (IM) of the project implementation is done by DOR, PCU, and PMU in regular basis with the help of Social Officer in GESU and resettlement specialists from the Project consultant. A quarterly report of IM will be prepared by Social Officer of GESU in consultation with consultants and submitted to PMU and JICA. The PMU will maintain a record of all transaction in their resettlement database, followed by entitlement records signed by PAPs, and survey based monitoring of resettlement and land acquisition progress.

The local civil society / group will play an important role in monitoring providing feedback on community concerns, grievances, and requests. Internal monitoring focuses and ensures the followings:

- Verification that there are not outstanding or unresolved land acquisition issues with respect to the project and that property valuation and economic rehabilitation in accordance with the provision of plan
- Information campaign, discrimination and consultation with affected persons
- Status of land acquisition and timely payments on land compensation
- Value of entitlement received equal to that of actual land and structure acquired
- Use of entitlement and check its misuse
- Compensation for affected structures and other assets
- Payments for loss of income
- Relocation of affected persons and supports provided
- Implementation of economic rehabilitation and income restoration measures
- Effective operation of the Grievance Redress Committees
- Funds for implementing land acquisition and economic rehabilitation activities as timely manner and sufficient for the purposes and spent in accordance with the plan

Project field offices will be responsible for monitoring the day-to-day resettlement activities. The local social mobilizers under resettlement experts will play an important role to assist the project field office in course of regular monitoring. The field-level monitoring will be carried out through:

- Review of census information for PAPs
- Consultation and informal interview with PAPs
- Informal sample survey of PAPs

- Key informants interview
- Public consultation meeting

A performance data sheet / monitoring sheet will be developed to monitor the project at the field level. Monitoring framework including monitoring elements is presented in table 14.1-1

Table 14.1-1 Proposed Monitoring Items for the Internal Monitoring

Indicators	Issue	Procedure	Timing	Responsibility
Process level monitoring				
RAP implementation in the project works	Employment of local labor including women and children	Site observation, attendance record, interaction with laborers and contractors	Monthly	Project/ social mobilizer / SDRS
	Campsite management including lodging arrangement and campsite facilities	Site observation, interaction with laborers, contractors	Monthly	Project/ social mobilizer/ SDRS
	Use of health and safety measures	Site observation, interaction with laborers, contractors	Quarterly	Project/ SDRS
	Temporary leasing of private land and house	Site observation, contractors, check contract agreement	Monthly	Project/ social mobilizer/ SDRS
	Discrimination of wage rate between male and female workers	Interaction with laborers, labor survey, record of wage payment	Monthly	Project/ social mobilizer/ SDRS
Output level				
Land Acquisition	Encroachment into public land like grazing land, temples etc	Visit the identified public land interact with local people, take photographs	Biannually	Project/ social mobilizer / SDRS
	Development of new settlements/slum along the roadside	Observation, recording of sites, photograph	Quarterly	Project/ social mobilizers/ SDRS
	Migration to the road side/displacement of local people	Review of land holding records, discussion with local people	Quarterly	Project/ social mobilizer/ SDRS
	Incidence of road accidents	Discuss with local people, health institutions' records	Biannually	Project/ SDRS
	Incidence of communicable diseases like respiratory, STD, HIV/AIDS etc.	Discuss with local people, health workers/ health post/ center such as National Referral Center of Nepal, records	Annually	Project/ social mobilizer/ SDRS
Input level				

Indicators	Issue	Procedure	Timing	Responsibility
Change in household level income and economic	Changes in the land price, land use and agricultural practices, productivity and crop export	Discuss with farmers and extension workers, agricultural statistics of District Agriculture Office	Annually	Project/ social mobilizer/ SDRS
Social safety	State of social harmony and social security like alcoholism, narcotism, etc.	Police records, discussion with local residents	Annually	Project/ SDRS
	Changes in the living standard of people	Interview with families, VDC records, discussion with local leaders, CBOs	Annually	Project/ SDRS
Cultural impact	Condition of cultural and historical areas and aesthetic qualities	Visit the area, discuss with people, observation and photographs	Annually	Project/ SDRS

Social mobilizer: Field Level staff hired by the Project Supervision Consultant.

SDRS: Social Development and Resettlement Specialist hired by the Project Supervision Consultant.

14.2 External Monitoring

The external monitoring (EM) will be carried out by independent agencies contracted by the DOR. The external monitoring agency (EMA) will conduct activities as below:

- Review of internal monitoring Reports
- Review of compensation status
- Monitor Rehabilitation support program
- Information disclosure system
- Process and mechanism of compliance redress
- Employment status of the PAPs
- Effectiveness of Livelihood restoration program
- Effectiveness of Awareness in HIV/AIDS and human trafficking

Based on the above mentioned activities the external monitor will focus on:

- Evaluation of social and economic impact of land acquisition and economic rehabilitation of the PAPs.
- Verify the objectives of enhancement of economic condition PAPs, or at least restoration of income levels and standard of living of the affected persons.
- Furnishing creative suggestions and modifications in land acquisition and economic rehabilitation, if necessary.
- Making to ensure all resettlement and land acquisition activities are properly conducted.

External monitoring agency will require the following activities to be performed:

- Verification of internal monitoring to ensure the appropriateness of activities carried out by program implementation unit in the field.

- Conduct household survey of PAPs to monitor progress comparing with pre project, pre-resettlement standard.
- Evaluation of delivery system to the PAPs and assess impacts of entitlements to determine the approved RAP.
- Evaluation of consultation and grievance redress procedures to identify the levels of public awareness of grievance-redressed procedures, accessed by PAPs and households for information and rapid conflict resolution.
- Evaluation of actual operations of grievance committee to assist PAPs as required and to act as observers.
- Declaration of successful implementation for summing up of activities related to entitlements, distribution, and resettlement.
- Recommend follow up action relating to outstanding actions required to complete achievement of objectives of the RAP and resettlement policies, additional mitigation measures for PAPs.

Table 10.2 Proposed Monitoring Form for the External Monitoring

Indicators	Procedure	Timing
Employment of local labor including women and children	Site observation, attendance record, interaction with laborers and contractors	Annually
Campsite management including lodging arrangement and campsite facilities	Site observation, interaction with laborers, contractors	Annually
Use of health and safety measures	Site observation, interaction with laborers, contractors	Annually
Temporary leasing of private land and house	Site observation, contractors, check contract agreement	Annually
Discrimination of wage rate between male and female workers	Interaction with laborers, labor survey, record of wage payment	Annually
Encroachment into public land like grazing land, temples etc	Visit the identified public land interact with local people, take photographs	Annually
Development of new settlements/slum along the roadside	Observation, recording of sites, photograph	Annually
Migration to the road side/displacement of local people	Review of land holding records, discussion with local people	Annually

14.3 Associated Social Issues and Action during Construction

Following items are proposed for any related organizations, companies, and local people.

- The child below 16 years of age have to be strictly prohibited to use as child labor
- Wage should be same amount for men and female workers for same types of work

- The contractor(s) have to be safety fast in any situations and works to avoid accidents
- Trainings will be provided to all construction workers about health and safety measures
- Fencing will be done to restrict public movement around the construction sites;
- Protective gear such as helmets, boots, gloves and masks will be provided to construction workers, supervisors and visitors
- Warning signs/posts will be installed for informing the local people about the potentially dangerous areas
- Only authorized persons will be given responsibility to operate machinery and other heavy equipment
- Temporary support structures will be constructed to avoid rock falls, erosion and landslides during construction. Soil excavation during monsoon in unstable areas will be minimized, if not totally avoided
- Adequate lighting and ventilation facilities will be maintained at all construction sites
- Emergency equipment like first-aid kits, flashlights, fire extinguishers, siren, emergency vehicles and phones will be made available at construction sites
- Qualified medical personnel will be appointed at the construction sites to oversee emergencies related to occupational health and safety
- An Emergency Response Contingency Plan will be prepared to appropriately deal with emergencies. The workers will be trained to follow the plan in case of accidents
- The contractor(s) or the client will obtain insurance against any possible injury to all project staff/workers including client's personnel. Furthermore, the responsible party will also obtain third party insurance against any possible injury to visitors and possible victims
- A health center will be established in the project area for attending health matters of workers and local population during construction phase
- The construction contractor is responsible for all preparatory works and ensuring drinking water and sanitation facilities required for construction workers before the commencement of work
- A solid waste collection and storage system will be established in all the construction related camps and construction sites. The collected waste will be segregated as to the property of the waste such as degradable, glass, metals, plastics, cloths and leather etc. and will be stored in separate bonded areas. These materials will be disposed as to the recommendations and approval of the project environmental officer. The contractor will be made responsible for the measure
- Garbage containers of adequate size will be placed at critical places in the construction related camps and construction sites. The garbage will be collected daily and segregated while storing. The contractor will be made responsible for the measure