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PIARC International Seminar

March 25-28, 2003
Kathmandu, Nepal



Sustainable Slope Risk Management for Roads

Objective

- Slope Risk / Hazard assessment practices and their mitigating measures with focus in developing countries
- Recent experiences and advances in Assessment Techniques and Management Systems, particularly when they are of value to developing and emerging countries
- Demonstration of successful and sustainable technologies practiced in Slope Engineering (e.g. bio-engineering)
- Recommendations to PIARC on future work programmes in this technical area

HMG/ Nepal, Department of Roads (DOR) and Permanent International Association for Road Congress (PIARC) jointly organized the seminar held on March 25-28, 2003 at Kathmandu, Nepal. Meeting for PIARC C12 Committee Members was held on March 25, 2003.

Challenge to Engineers!



Rt. Honorable Prime Minister Lokendra Bahadur Chand inaugurated the opening ceremony of the International Seminar on Slope Risk management for Roads on March 26, 2003. The chief guest of the Closing ceremony was Honorable Minister of Physical Planning and Works Narayan Singh Pun.

254 delegates participated the seminar. Site visit (full day) of Arniko Highway and Lamosangu-Jiri Road was managed on March 28, 2003 for the delegates. Among them, 50 delegates were from abroad countries.

Sustainable development of any country mostly depends upon the type and quantity of the road transportation infrastructure connecting its various centers of human population, employment, economic growth and major markets.

The seminar aimed at providing a platform to engineers, manufacturers, suppliers, administrators, planners, contractors,

and consultants to exchange views and ideas on the sustainable slope risk management for roads.

The seminar was designed to address the issues like slope risk/hazard assessment practices, sustainable technologies practiced in slope engineering, site assessment techniques and management systems. All these issues were of immense interest to both the developed and developing countries.



The eight technical sessions were conducted during the seminar. Three technical sessions were related to hazard and risk assessment, three sessions were related to sustainable engineering and rest two sessions were related to site assessment and

management systems.

An organization committee comprising of

Chairman Director General M. G. Maleku,

Member secretary SDE B. K. Kari and

other 9 members and Subcommittees namely

- Technical comprising of coordinator DDG S.R. Regmi and 18 members
- Organization and Finance comprising of coordinator DDG K.P. Pokharel and 10 members and
- Advertising and Publishing comprising of coordinator DDG Mr. T.L. Yadav and 13 members

were formed within the DOR to facilitate the management of the seminar. The seminar was successful with the efforts and contribution of all especially of SDC, DfID.

R.M.D.P

After Mid Term Evaluation (MTR)

His Majesty's Government of Nepal (HMG/N) and International Development Association (IDA) reached an agreement on 22 December 1999 on financing the Road Maintenance and Development Project (RMDP). The credit (No. 3293-NEP) became effective on 21 February 2000.

A. Salient Features of the Project:

Features	Description
Project Name	Road Maintenance and Development Project
IDA Credit No	3293-NEP
Project cost	Nrs 4380 mio. (US\$ 64.4 mio.)
IDA Financing	Nrs 4380 mio. (US\$ 54.5 mio.)
HMG Financing	Nrs 674 mio. (US\$ 9.9 mio.)
Credit effective date	21 February 2000
Credit closing date	31 December 2004

B. Major Project Components:

1. Policy Component:

Aiming to establish Nepal Roads Board and Road Fund for sustainable road maintenance funding

2. New Construction:

Aiming to construct about 195 km fair weather earthen road to connect five district headquarters

3. Upgrading:

Aiming to upgrade about 256 km of existing earth standard road to fair weather gravel standards connecting three district headquarters

4. Rehabilitation Component:

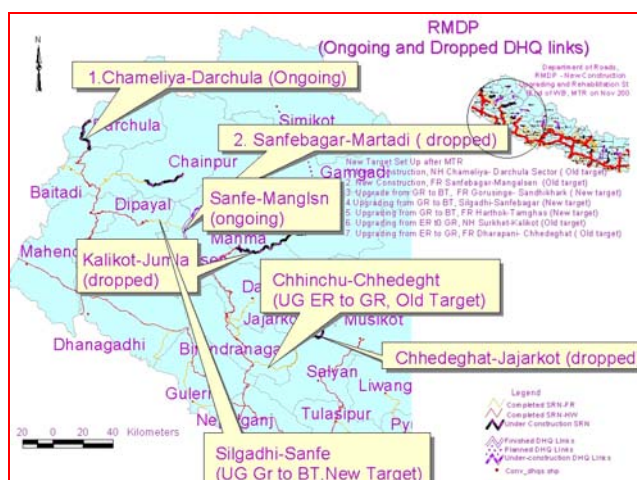
Aiming to rehabilitate about 162 km of existing strategic network in the Western Development Region

5. Periodic Maintenance Component:

Aiming to carry out periodic maintenance of highways and feeder roads (about 470 km)

6. Institutional Strengthening

Aiming to develop technical audit capacity of the Ministry and developing institutional capacity of the DOR in the Social and Environmental aspects



C. Restructuring Project after MTR (11 Nov. – 22 Nov 2002:

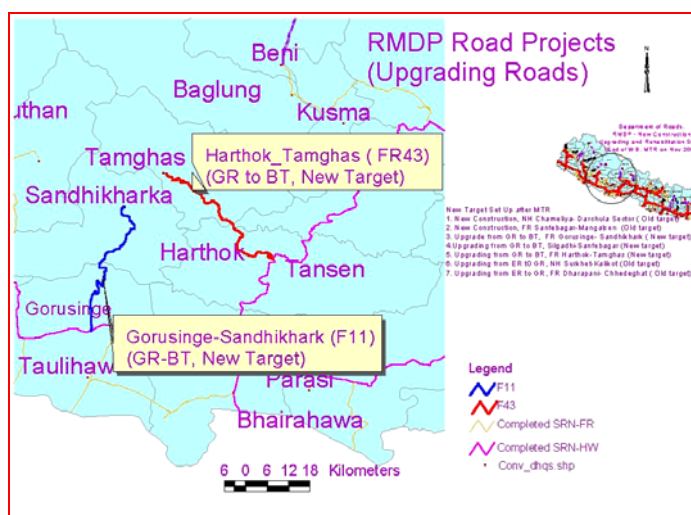
Restructuring of the project was carried out, as the implementation of **new construction** was found to be difficult due to the **deteriorating security conditions**.

1. Following three roads included for new construction were **dropped**:

- Sanfegadgar- Martadi
- Kalikot- Jumla and
- Chhedegadh- Jajarkot roads

2. The savings from the dropping of these roads were allocated to the maintenance of the strategic roads. After restructuring of the project, the following targets have been set in civil works:

- New Construction:** about 50 km fair weather earthen road to connect two DHQs - Darchula and Mangalsen
- Upgrading:** about 200 km of existing earth standard road to fair weather gravel standards connecting three district headquarters. Further upgrading of gravel to bituminous sealing roads of 210 km
- Rehabilitation Component:** about 180 km of existing strategic network in the Western Development Region
- Periodic Maintenance Component:** aiming to carry out periodic maintenance of highways and feeder roads (about 535 km)
- Routine, Recurrent Maintenance:** carrying out regular maintenance of covering about 4770 km of strategic network.



D. Status of each Component:

1. Policy Component:

Nepal Roads Board Bill was passed by the Parliament in the winter session of 2001/02. The bill has received Royal accent.

2. New Construction Civil Works:

Out of total 36 contracts for new construction awarded in 2000 and 2001, Contractors have completed works in 17 contracts in Sanfegadgar- Martadi, Sanfegadgar- Mangalsen and Chhedegadh- Jajarkot roads and completion certificates issued. Contractors in first year contracts in Chameliya- Darchula withdrew from site due to security reasons. Four contracts in this road had achieved more than 80% progress. The DoR decided to curtail scope of works and completion certificates issued for contracts (CD 1-1, 1-2, 1-3 and 1-5). Contract CD 1-4 is only 41% complete and has been terminated as per clause 59.4 of the Conditions of Contract. Similarly, all the 14 contractors withdrew from construction site of Kalikot- Jumla Road due to security situation. Because of uncertainty of the security situation, all the 14 contracts have been terminated as per clause 59.4 of the COC.

Overall assessment of physical progress excluding minor works in various roads is as under:

Chameliya- Darchula Road (five contracts)	average 80%
Sanfegagar- Martadi Road (five contracts)	100%
Sanfegagar- Mangalsen Road (four contracts)	100%
Sanfegagar- Mangalsen Road (3 nos. 2nd year contract)	100%
Kalikot- Jumla Road (14 contracts)	average 45%
Chhedegadh- Jajarkot Road (five contracts)	100%

Two more Contracts in Chameliya- Darchula road were awarded in February 2002. Contractors have completed average of about 70% works in these contracts. It is expected that these contracts will be completed by end June 2003. These contracts are close to the Indian border and the contractors were able to continue works. Consultants have been attending the site supervision traveling through the Indian side to the construction site.

The new construction works received serious setback as a result of the deteriorating security situation due to Maoist insurgency activities. Because of the security situation, the Contractors withdrew from sites from Kalikot- Jumla and Chameliya- Darchula (Contracts 1-1 to 1-5) roads. These contracts have been either finalized on as it is condition or terminated. During the Mid- Term Review in November 2002, the new construction works in Sanfegagar- Martadi, Kalikot- Jumla, and Chhedegadh- Jajarkot roads have been dropped. Works are progressing well in two contracts of Chameliya- Darchula road.

On 29 January 2003, the Government and the rebels announced ceasefire, which has improved security situation on site. No further insurgency activity has been noticed since then.

New Construction envisages use of Community Based Organizations (CBOs) as nominated sub-contractors. Five CBOs worked in Chhedegadh- Jajarkot Road. 13 CBOs have worked in Chameliya- Darchula Road (first year). In Sanfegagar- Martadi Road, 5 nos of CBOs had worked. No CBO could be formed in Sanfegagar- Mangalsen Road for the first year construction. However, 2 nos of CBOs worked for the second year construction programme. Because of terrain, the location, use of CBOs in Kalikot- Jumla Road was not found to be feasible. A two-week training was provided to the CBOs in July/ August 2001. In Chameliya- Darchula Road second year programme, 59 CBOs have worked. Further, CBOs have been formed for Bio-Engineering works in Surkhet- Kalikot, Dharapani- Chhedegadh and Gorusinghe- Sandhikarka roads.

3. Upgrading of Roads:

Surkhet- Kalikot Road:

The Contractor, M/s China Chongqing International Construction Corporation (CICO), was very slow to commence and progress works. After several meetings with the Consultants and the Contractor, progress improved slightly in December/ January. About 17 km of gravel wearing course was completed.

However, due to the deteriorating security situation, the works were stopped by the Contractor. The Contractor withdrew from site on 21 February 2002. Following consultation with local administration, the works were resumed on 18 May 2002. The local administration advised to limit construction initially to Surkhet district. Since the resumption of works, the Contractor achieved good progress in laying gravel wearing course. The Contractor has, however, slowed at recent times, one of the reasons the Contractor has frequently mentioned being the lack of working capital for the project.

The Contractor is currently working between km 56 and km 84. The progress status of gravel wearing course is as under:

• km 0-20	100% complete
• km 20-45	93% complete
• km 45-56	87% complete
• km 56-84	37% complete

The Contractor is required to complete all works upto km 84 by June 2003.

The section beyond km 112 is not accessible by vehicles. Due to the difficulty in carrying out blasting works, the access opening works beyond km 112 has not started. Discussions with Royal Nepal Army have taken place so as to provide security for blasting operations, for which an understanding has been reached that they would provide assistance in this matter.

Dharapani- Chhedegadh Road:

The Contract for the upgrading of 62 km long Dharapani- Chhedegadh Road was awarded to Lama- Tundi- PS- Sunaula joint venture on 18 April 2001, with start date of 16 May 2001. The Contractor was very slow to mobilize and carry out permanent works. The Contractor mobilized large number of labour and adequate number of plant and equipment in December 2001 and some progress was achieved. However, the Contractor decided to withdraw from site on 12 March 2002 due to the deteriorating security situation in the area. The discussions with local administration and assessment by the consultants indicated that Works could be resumed on this road. Accordingly, the Contractor was instructed to resume works. The Contractor did not mobilize the labour and equipment except a few labourers for maintenance works until recently. Recently the Contractor has mobilized fully and has shown satisfactory progress. However, he has lost about 4 months of good working season.

For the achievement of progress, the blasting operations between km 67 and 80 are very critical. This has been discussed with the Army and they have agreed to provide support for the blasting operations. However, it is not certain when this will actually happen on site.

Gorusinghe- Sandhikarka Road:

The Contract for the upgrading of 60 km long Gorusinghe- Sandhikarka road was awarded to Kalika/ Swachhanda/ Kanchanjunga joint venture on 18 April 2001, with start date of 16 May 2001. The Contractor was progressing satisfactorily until December 2001. However, since then the Contractor slowed the progress of works especially the activities to be carried out through the equipment. The Contractor is now working between km 20 and km 29 and between km 42 and km 55 on pavement works.

The Contractor also carried out trial bituminous pavement on top of completed gravel surface in July 2002. The performance of the trial bituminous section (DBST and Penmac directly over Gravel surface) is being monitored. The performance of the trial tests after five months including monsoons, so far has been found to be good.

4. Rehabilitation Component:

Tansen- Syanja Road: The Contractor, M/s CCECC/ Sharma & Co. JV for Tansen- Syanja Road rehabilitation works (85 km completed on 3rd June 2002 within the contract completion date. At present the contractor is carrying out routine maintenance

works and minor repair works as part of contractor's Defects Liability Period activity.

Harthok- Tamghas:

The Contractor SIETCO for Harthok- Tamghas Road completed the works on 30th June 2002 ahead of the contract completion date. The Contractor at present is carrying out his maintenance as repair obligation during the Defects Liability Period.

During the mid term review, it was agreed to include this section of road for bituminous sealing. Bidding Documents are under preparation.

Lumbini- Taulihawa:

The Contactor Lama/ Tundi jv for Lumbini- Taulihawa completed the whole of Works on 21 May 200, 14 days ahead of the scheduled completion date. The Contract is now nearing the end of Defects Liability Period. The Defects Liability Period is also completed. Contractor's claim are in arbitration process.

Silgadhi- Sanfebagar:

Bids for rehabilitation/ spot upgrading of the road through the bituminous sealing have been received. These are being evaluated.

5. Periodic Maintenance Component:

First Year Periodic Maintenance Program:

106 km of strategic roads planned for first year periodic maintenance is complete.

Second Year Periodic Maintenance Program:

All the five contract packages of Second Year Periodic Maintenance Program is complete.

Third Year Periodic Maintenance Program:

Work in seven (7) contract packages is ongoing. Six contract packages are scheduled to complete by 3rd March 2003. The consultant is confident that all contractors will complete the work within the contract period.

Fourth Year Periodic Maintenance Program:

Bids received for the fourth year periodic maintenance program are being evaluated. Consultants for the supervision of periodic maintenance have been selected.

Pilot Performance Based Maintenance Contract:

Bids for the Pilot Performance Based Maintenance Contract have been received and are under evaluation.

6. Institutional Strengthening Component:

The works of Consultants M/s DHV Consultants BV in association with Consolidated Management Services and ITECO Nepal (P) Ltd are progressing satisfactorily. Bids have been received for office improvement and refurbishment and are under evaluation.

Why did the World Trade Center collapse?

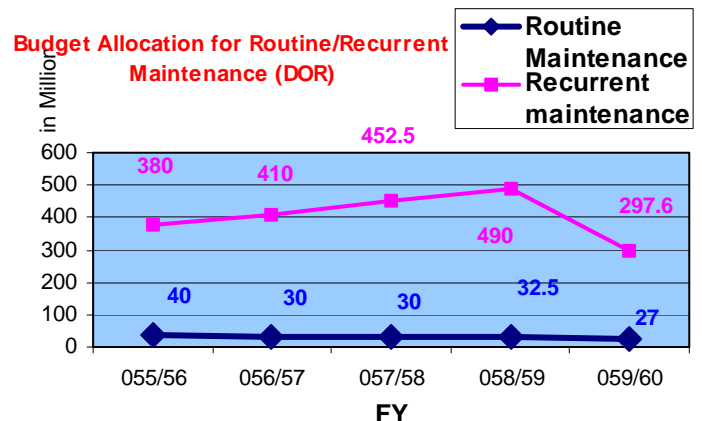
The paper by Zdenek P. Bazant, F. ASCE, and Yong Zhou presents a simplified approximate analysis of the overall collapse of the towers of World Trade Center in New York on September 11, 2001. The analysis shows that if prolonged heating caused the majority of columns of a single floor to lose their load carrying capacity, the whole tower was doomed.

Fiber-Reinforced Plastics for Reinforced Concrete Structures

Abstract Proceedings of the Fifth International Conference on Fibre-Reinforced Plastics for Reinforced Concrete Structures held in Cambridge, United Kingdom, July 16-18, 2001

Chris Burgoyne, Editor

Fiber-reinforced plastics are increasingly being used as replacements for steel reinforcement in concrete structures. The reinforcement can be untensioned, or it can be in the form of prestressing tendons. It is also suitable for gluing onto the outside of a structure to improve flexural or shear performance. This book provides up-to-date research results to give engineers confidence in their design methods. Originally, it was thought that steel bars could be replaced by equivalent FRP rods, but their properties are significantly different and optimum use is made when the properties of FRP are considered from the outset. This collection of papers explores a variety of topics, including: durability; externally bonded flexural reinforcement; externally bonded shear reinforcement; untensioned or prestressed reinforcement; bond; shear; confinement of concrete in columns or compression zones; seismic behavior and economics. Written by the leading international researchers in this field, the book compares current practice in the UK, Europe, the USA and Japan, and considers how the topic can be codified to assist widespread use of this exciting new technology. Contents include: externally bonded reinforcement for flexure; externally bonded reinforcement for shear; externally bonded prestressed reinforcement; FRPs in seismic conditions; creep and long-term behavior; thermal and external effects; internal and external prestressing; rotation capacity; column behavior; confinement of concrete in compression; reinforced concrete beams; shear in beams with internal reinforcement; shear behavior in slabs; and textile reinforcement and masonry.



S.M.D.

Roadside slope failures: cure and prevention options in maintenance

Failure type	Normal cause	Consequences	Solution	Avoidance
Failure of road surface (potholing).	Side drain is blocked by soil from higher up the slope.	Water ponds and seeps into the formation, weakening it.	Clean the side drain and ensure water flow. Mend the potholes.	Ensure that all slopes above drains are stable and well vegetated.
Scour of valley side slope.	Debris tipped from failures and cuts in the mountain side slope cause physical scour as they slide down the slope.	Land below the road is damaged; erosion is triggered on the valley side slope, which may undermine the road.	Clean the remaining loose debris and rehabilitate the land by replanting the damaged area with vegetation; a retaining wall may be needed to support the road.	Do not tip debris on steep valley side slopes, but haul it to a safe tipping area; if there is no option, either build a wall to retain the tipped debris, or rehabilitate the land by replacing damaged vegetation.
Mass failure of valley side slope.	Debris tipped from failures and cuts in the mountain side slope builds up just below the road: this surcharges the valley side slope and causes a mass failure, often taking the lower edge of the road with it.	Land below the road is damaged; erosion is triggered on the valley side slope; the road is undermined; parts of the formation are lost.	Clear away the remaining loose debris; build a retaining wall to support the road; rehabilitate the land below by replanting the damaged vegetation.	Do not tip debris on steep valley side slopes, but haul it to a safe tipping area; if there is no option, either push the main volume of debris right down to the slope toe, or remove it using a back-hoe excavator.
Erosion of valley side slope.	Water from a blocked side drain or poorly maintained road surface is concentrated and channelled over the lower edge of the road.	The road is undermined; parts of the formation are washed out.	Build a retaining wall to support the road; repair the damaged formation; rehabilitate the land below the wall by replacing damaged vegetation.	Keep side drains clear and the surface profile of the road in good condition.
Soil creep from above.	Soil creeps and is washed down the cut slope from steeply sloping cultivated land; a build up of soil on the upper part of the cut slope can cause a mass failure.	The side drain is blocked and water diverted across the road.	Clean out the side drain at frequent intervals, and especially before the rains come.	Since the cause is usually cultivation on a steep slope above the road, avoidance may be difficult; however, a 2-metre band of dense perennial vegetation (e.g. bamboos) between the cultivated area and the cut slope will greatly reduce the problem.
Cut slope failure.	Small failures in the cut slope occur due to localised weaknesses in the material, or an error in the design cut angle (i.e. the cut is too steep for the strength of the material).	The side drain is blocked and water diverted across the road.	Remove the debris; trim the slope back to a smooth profile.	If there is any doubt as to the integrity of the material, reduce the cut slope angle; if this raises the possibility of erosion in a weak material, plant grasses on the cut surface.
Mountain side slope failure.	Seepage in the mountain side slope gives rise to a loss of strength and a mass failure of the slope.	The road is blocked; a large volume of debris has to be disposed of.	Remove the debris; trim the slope back to a smooth profile; install a suitable slope drain and retaining wall.	Inspect roadside slopes carefully; wherever lines of seepage are detected, install suitable slope drains.
Deep-seated slope failure.	A deep slope failure causes a gradual movement of a mass of ground, including an entire road structure passing over it (sometimes several sections of road).	The road subsides down the slope; bitumen surfaces are sheared and a flexible gravel pavement has to be installed and maintained.	There is usually no low cost solution; temporary flexible roads should be maintained across failures of this type; slope drains may be useful; full stabilisation usually requires large, high cost structures.	Beyond maintenance. The only avoidance strategy is to divert the road around unstable areas of this nature, if it is possible to do so; never build hairpin stacks on terrain prone to this problem.

Examples of cause and effect in road maintenance

The sequence of events leading to the undermining of a road.

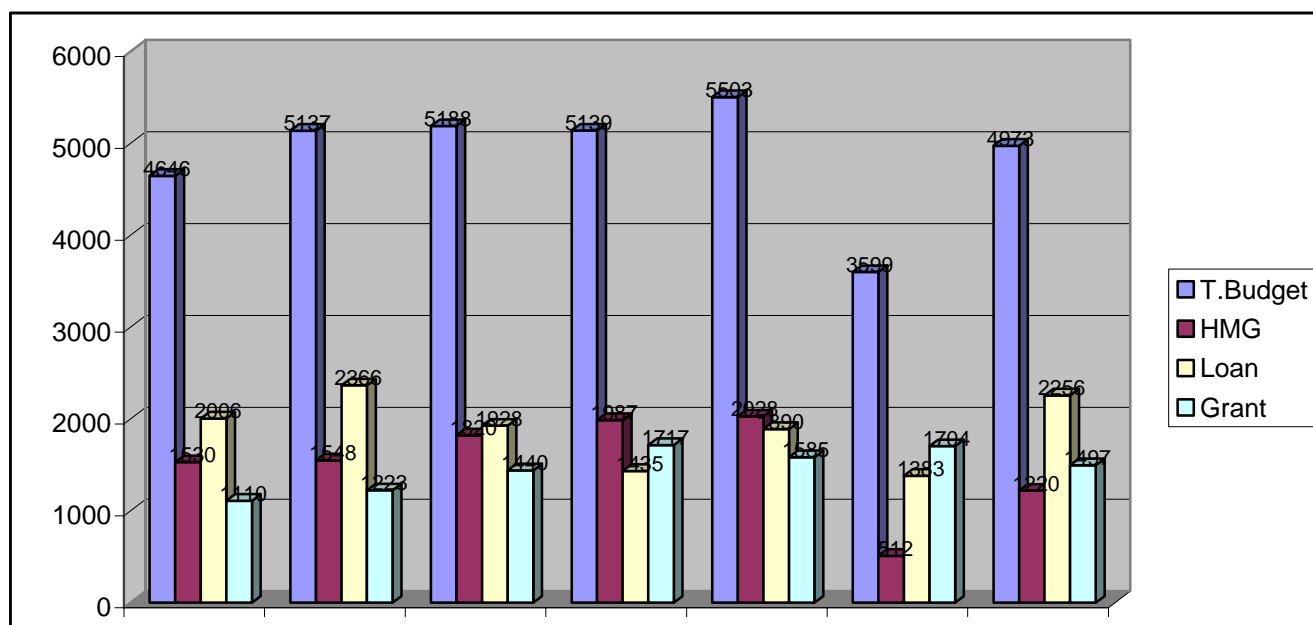
- ◆ No attempt is made to trim the head scar of a mountain side failure; it remains very steep and continues to shed debris.
- ◆ This debris damages the retaining wall (if there is one) and blocks the side drains.
- ◆ Water flows from the blocked drain, across the road and down the valley side slope.
- ◆ Here it erodes the debris and fill material, cutting into it and carrying it away.
- ◆ This causes the road to be undermined, and in most cases part of it is lost.

The consequences of sloping, including un-terraced, cultivation immediately above a road.

- ◆ Soil creeps and washes from the field on to the cut slope.
- ◆ This over-steepens the cut slope and causes small failures, blocking the side drain.
- ◆ Some soil also washes right down into the side drain.
- ◆ The blocked side drain leads to water ponding, seepage into the road and weakening of the formation (leading to potholing).
- ◆ Water also flows across the road and causes erosion on the valley side slope.

Budget Allocation in Road Sector

Budget Comparative



Happy New Year "2060" to ALL DOR Family Members and Readers outside!



Road Sector Budget FY 2002/03 (2059/'60)

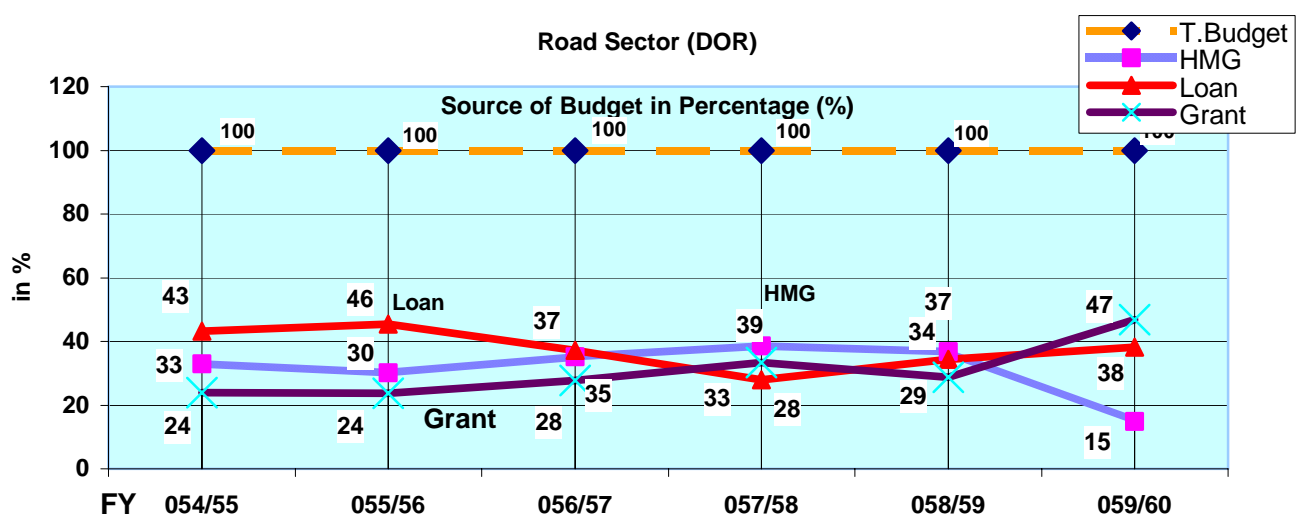
Budget Head	Title/Sub-title	Budget allocated in 2002/03	Source				MTEF-Priority	Source
			HMG	Foreign				
				Grant	Loan	Total		
	Regular Budget	211849	211849					
	Development Budget							
	Priority-1 Projects							
48-4-200	Mechi Highway (Phidim -Taplejung Sector)	12747	4747		8000	8000		ADB/ PSM
48-4-201	Sagarmatha Highway (Gaighat-Diktel Sector)	12087	3887		8200	8200	MTEF -P2	ADB/ PSM
48-4-202	Bisheswor Prasad Koirala Marg (Banepa - Sindhuli - Bardibas)	542729	34729	508000		508000	MTEF -P2	Japan
48-4-203	Rapti Highway	12750	2750		10000	10000		ADB/ PSM
48-4-204	Karnali Highway (Surkhet - Jumla Sector)	13782	6282		7500	7500		ADB/ PSM
48-4-205	Mahakali Highway (Baitadi - Darchula Sector)	10972	4972		6000	6000		ADB/ PSM
48-4-254	Basantapur - Chainpur - Khandbari	15728	3728		12000	12000		ADB/ PSM
48-4-255	Naradmani Thulung Marg (Hile - Leguaghat - Bhojpur)	134879	14879	120000		120000		DFID/ UK
48-4-258	Katari - Okhaldhunga (Including Bridge)	31750	4250	27500		27500		Japan/ DRF
48-4-261	Pushpalal Marg (Nayapul -Khimti - Manthali - Ramechhap Road)	8500	2000		6500	6500		ADB/ PSM
48-4-270	Baglung - Beni - Jomsom	16500	3500	13000		13000		Japan/ DRF
48-4-272	Chhinchu - Jajarkot	7509	5009		2500	2500		ADB/ PSM
48-4-273	Surkhet Ranimatta - Dailekh (Including Bridge)	16000	4000	12000		12000		Japan/ DRF
48-4-275	Jaya Prithvi Bahadur Singh Marg (Khodpe - Bajhang)	20056	7556	12500		12500		Japan/ DRF
48-4-277	Sanphebagar - Martadi	11708	3708	8000		8000		Japan/ DRF
48-4-379	Karnali Highway - Manma, Kalikot	14250	4250	10000		10000		Japan /DRF
48-4-557	Road Maintenance and Development Project (RMDP)-PCU	1043050	230000		813050	813050		IDA/ WB
48-4-579	Beshi Sahar - Chame	17750	12750	5000		5000		Japan/ DRF
	Sub-Total (P1)	1942747	352997	716000	873750	1589750		
	P1 as a percentage of total dev. Budget	52.55	9.55	19.37	23.63	43.00		

Budget Head	Title/Sub-title	Budget allocated in 2002/03	Source		MTEF-Priority	Source
			HMG	Foreign		

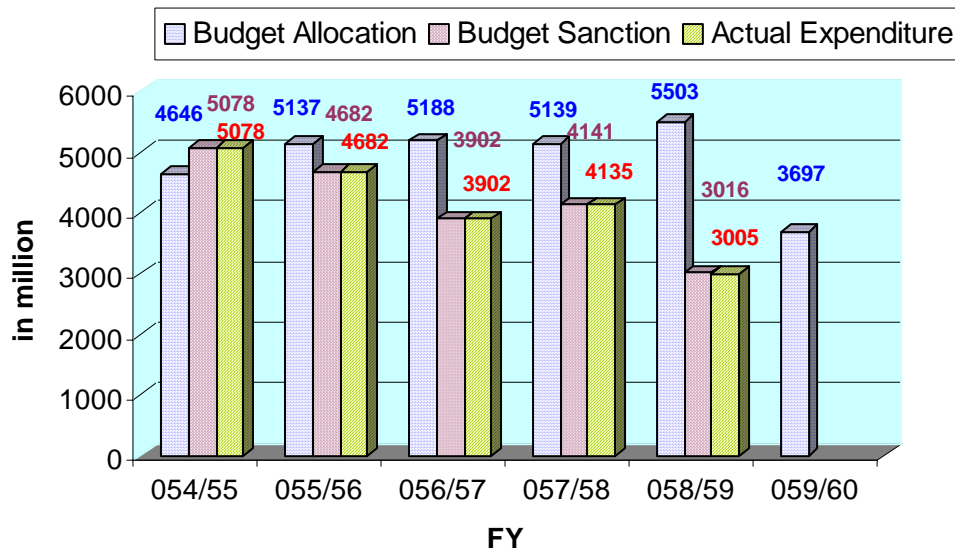
				Grant	Loan	Total		
	Priority-2 Projects							
48-4-375	Trishuli - Syaprubesi - Rasuwagadhi	12125	2125	10000		10000	MTEF-P1	China
48-4-376	Tanakpur Link Road	65500	15500	50000		50000	MTEF-P1	India
48-4-386	Musikot - Burtibang	11475	6475		5000	5000		ADB/ PSM
48-4-500	Kathmandu Valley Urban Road	74000	4000		70000	70000	MTEF-P1	ADB/ PSM
48-4-502	Others Urban Roads	28500	3250		25250	25250		ADB/ PSM
48-4-555	Different Road Maintenance and Improvement	297600	18600	279000		279000	MTEF-P1	Japan/ DRF
48-4-574	Mirchiya - Katari Road	3350	2350	1000		1000		Japan/ DRF
48-4-575	Araniko Highway Maintenance and Improvement Project	5807	2207	3600		3600	MTEF-P1	SDC
48-4-578	Kalu Pandey Marg (Malekhu - Dhading Blacktop)	14550	2550	12000		12000		Germany/KFW
48-4-581	Gorusinghe - Sandhikharka Road	2500	1000		1500	1500	MTEF-P1	ADB/ PSM
48-4-582	Chachake Liwang (Including Bridges and Other Road)	10250	7750		2500	2500	MTEF-P1	ADB/ PSM
48-4-584	Road Network Development Project/ FRIP	350000	20000		330000	330000	MTEF-P1	ADB
48-4-719	Sunkoshi Bridge (Kavre)	9250	3750		5500	5500	MTEF-P3	ADB/ PSM
48-4-722	Rapti Bridge Dang	33500	8500	25000		25000	MTEF-P3	Japan/ DRF
48-4-750	Bridge Construction Programme	247304	13611	233693		233693	MTEF-P1	Japan/ DRF
48-4-760	Bridges and Culvert Protection and Maintenance Rehabilitation	27000	7000	20000		20000	MTEF-P1	Japan/ DRF
48-4-800	Detail Feasibility Study of Road and Bridges (Survey and Design of Road and Bridges (Including Arch Bridge)	6750	1750	5000		5000	MTEF-P1	Japan/ DRF

Budget Head	Title/Sub-title	Budget allocated in 2002/03	Source		MTEF-Priority	Source
			HMG	Foreign		

				Grant	Loan	Total		
	Priority-2 Projects							
48-4-820	Compensation	15000	5000		10000	10000		ADB/ GRP
48-4-830	Kathmandu Valley Junctions Improvement	108500	8500	100000		100000	MTEF-P1	Japan
48-4-854	Mechinery Maintenance and Rehabilitation	15900	3900		12000	12000	MTEF-P1	ADB/ PSM
48-4-855	Machinery Equipment Purchase	20250	2750		17500	17500	MTEF-P1	ADB/ PSM
48-4-857	Road Transportation Security, Control of Road Encroachment and Boarder Security	2750	1250	1500		1500	MTEF-P1	Japan/ DRF
48-4-872	Planning, Programme, Monitoring, Evaluation, Geo-Environment Study and other Programme (NRs. 8000)	8000	1700	6300		6300	MTEF-P1	Japan/ DRF
48-4-451	Gorkha - Manakamana	4250	3250		1000	1000		ADB/ PSM
48-4-452	Drabya Shah Marg (Aabuwa Satdobato)	5250	250		5000	5000		ADB/ PSM
	Sub-Total (P2)	1540411	194368	807093	538950	1346043		
	P2 as a percentage of total dev. Budget	41.67	5.26	21.83	14.58	36.41		
	Priority-3 Projects							
48-4-249	Central Level Different Cumulative Road Projects (213700)	213700	2200	211500	0	211500		Japan/ DRF
	Sub-Total (P3)	213700	2200	211500	0	211500		
	P3 as a percentage of total dev. Budget	5.78	0.06	5.72	0.00	5.72		
	Total Development Budget	3696858	549565	1734593	1412700	3147293		
	Percentage of total dev. Budget	100.00	14.87	46.92	38.21	85.13		



Budget Allocation/Sanction/Expenditure in Road Sector (DOR)



Network IRI and SDI Data

International Roughness Index (IRI) and Surface Distress Index (SDI) Based on 2003 Survey, HMIS

Road Link	IRI_03	SDI_03	Road Link	IRI_03	SDI_03	Road Link	IRI_03	SDI_03	Road Link	IRI_03	SDI_03
F2701	6.180	1.880	H0109	3.940	3.500	H0165	5.180	2.040	H0604	7.690	3.840
F2801	7.890	2.800	H0110	2.930	2.750	H0166	5.660	2.430	H0605	14.960	2.450
F2802	8.210	2.740	H0111	3.550	2.750	H0167	4.950	2.500	H0606	16.200	3.000
F2901	7.080	2.000	H0112	7.840	4.000	H0201	8.030	2.000	H0607	15.580	3.000
F2902	8.040	2.500	H0113	3.150	2.840	H0202	4.670	1.750	H0702	15.480	3.230
F2903	18.580	3.750	H0114	3.410	2.900	H0203	3.760	2.770	H0703	10.310	3.500
F3001	22.780	4.000	H0115	3.320	3.000	H0204	4.000	2.860	H0704	5.920	3.550
F3002	25.500	3.600	H0116	3.310	3.200	H0205	3.690	2.000	H0705	5.430	1.290
F3003	24.460	3.300	H0117	3.300	1.650	H0206	6.490	2.380	H0706	7.120	2.870
F3101	7.180	3.000	H0118	5.860	3.170	H0207	9.520	3.790	H0707	7.520	2.560
F3201	7.960	3.520	H0119	3.840	2.640	H0208	15.330	4.090	H0708	6.040	2.430
F3202	9.720	3.690	H0120	5.200	2.330	H0209	8.250	3.000	H0709	6.200	2.160
F3203	7.720	3.670	H0121	4.650	1.630	H0210	10.070	2.800	H0710	20.760	2.000
F3204	22.590	3.000	H0122	5.740	3.000	H0211	11.090	3.170	H0801	5.940	2.540
F3301	7.530	2.920	H0123	5.300	2.060	H0212	10.400	3.280	H0802	5.550	2.330
F3401	5.140	2.000	H0124	5.850	1.940	H0213	4.400	4.000	H0803	5.480	1.750
F3501	4.840	4.000	H0125	5.790	1.790	H0214	4.840	4.000	H0804	5.200	2.270
F3502	4.190	2.160	H0126	5.910	1.930	H0215	4.560	3.300	H0805	5.270	1.910
F3601	5.580	2.210	H0127	5.270	1.770	H0216	3.870	1.500	H0806	8.130	3.150
F3602	6.810	2.790	H0128	5.280	2.030	H0301	3.550	2.670	H0807	7.490	2.470
F3701	10.260	3.800	H0129	4.600	3.420	H0302	4.750	3.000	H0808	7.130	2.420
F3801	7.070	2.910	H0130	5.100	1.750	H0303	4.640	3.000	H0809	7.590	1.950
F3901	5.690	3.000	H0131	4.530	2.500	H0304	4.490	3.500	H0901	6.040	2.920
F3902	8.500	3.320	H0132	5.390	3.170	H0305	4.700	2.750	H0902	6.730	2.890
F4001	23.690	4.000	H0133	6.150	2.190	H0306	3.720	2.000	H0903	7.000	2.750
F4002	25.820	4.000	H0134	4.500	2.170	H0307	3.600	0.200	H1001	6.900	3.140
F4003	30.270	3.000	H0135	4.320	2.000	H0308	3.650	0.000	H1002	6.490	3.000

Road Link	IRI_03	SDI_03	Road Link	IRI_03	SDI_03	Road Link	IRI_03	SDI_03	Road Link	IRI_03	SDI_03
F4101	7.800	1.600	H0136	5.710	2.250	H0309	3.370	0.000	H1003	6.680	3.000
F4201	6.940	2.250	H0137	7.880	4.000	H0310	4.490	2.700	H1004	5.790	2.330
F4202	5.520	3.000	H0138	5.430	1.230	H0311	4.940	2.800	H1005	7.220	2.560
F4203	5.990	0.900	H0139	5.280	1.000	H0312	5.200	2.900	H1006	5.850	2.000
F4301	13.790	2.750	H0140	5.790	2.000	H0313	4.900	1.100	H1007	5.230	1.330
F4302	20.280	3.000	H0141	4.620	1.940	H0314	5.290	1.100	H1008	5.330	1.670
F4303	12.880	2.920	H0142	4.180	1.830	H0315	12.710	1.300	H1009	4.970	1.390
F4304		2.000	H0143	4.610	1.670	H0401	3.540	2.430	H1010	5.840	1.610
F4401	5.750	2.600	H0144	4.880	2.000	H0402	3.520	2.290	H1011	8.440	3.200
F4402	5.820	2.570	H0145	5.650	2.000	H0403	3.840	2.330	H1012	5.820	3.170
F4403	5.800	3.000	H0146	6.150	2.300	H0404	3.930	2.650	H1013	5.230	2.800
F4501	6.050	2.170	H0147	5.860	2.120	H0405	5.610	4.000	H1201	6.800	2.000
F4502	7.390	1.710	H0148	6.950	1.800	H0406	4.240	2.250	H1202	5.960	2.250
F4503	8.360	3.500	H0149	6.390	2.270	H0407	4.670	0.940	H1203	5.960	3.500
F4601	8.070	3.000	H0150	6.000	2.000	H0408	5.430	2.000	H1204	6.700	3.000
F4602	6.140	3.140	H0151	6.730	2.000	H0409	5.810	2.330	H1205	5.500	2.460
F4603	5.500	2.300	H0152	7.000	2.000	H0410	5.890	2.500	H1206	5.600	2.170
H0101	5.070	2.000	H0153	6.260	2.220	H0411	8.180	3.860	H1207	7.100	2.170
H0102	4.580	1.710	H0158	4.270	1.920	H0412	8.990	3.400	H1208	8.100	2.280
H0103	5.180	1.500	H0159	4.890	1.570	H0501	5.970	1.670	H1209	6.800	3.000
H0104	5.130	2.000	H0160	4.900	1.170	H0502	4.630	2.500	H1403	7.060	2.670
H0105	4.800	2.000	H0161	5.420	2.530	H0503	6.470	3.100	H1404	9.000	2.840
H0106	4.610	1.190	H0162	5.130	2.600	H0601	6.750	3.500	H1405	5.230	1.730
H0107	3.760	1.640	H0163	5.400	3.030	H0602	6.510	3.000	H1406	5.560	1.860
H0108	4.470	2.500	H0164	6.400	3.000	H0603	7.010	3.170	H1407	5.290	1.930
									H1408	5.320	1.640

DOR Human Resource Development

DOR HRD Policy

The HRD Policy of DOR is to systematically and continuously improve the capacity of the DOR's human resource.

DOR HRD Strategy

The following HRD Strategies will be followed to implement the HRD Policy effectively.

Strategy 1: Improving the DoR's HRM Environment

Strategy 2: Incorporating a Training Management System

Strategy 3: Increasing RSSDU's capacity in Training Management.

Strategy 4: Implementing a Comprehensive Training Plan

Strategy 5: Improving the Physical Working Environment for DoR Staff

Strategy 6: Creating Regular Budget for HRD Purposes

RSSDU

RSSDU is implementing the DOR HRD planning. The following training activities are being conducted under RSSDU .

In-Country HRD Activities

SN	Participants	Date	Duration	HRD Prog	S N	Participants	Date	Duration	HRD Prog
	International Seminar on Computer Aided Structural Analysis and Design of Concrete Structures in IOE					Power Point Training in TITI			
1	SDE Mr C Karki	6-Jan-02	5 Days		1	DDG Mr T L Yadav	9-Jun-02	3 Days	
2	SDE Mr R C Amatya				2	DDG Mr K P Pokharel			
3	Er Mr U L Pradhan				3	DDG Mr K B Khadgi			
	Social & Environmental Aspects of road Management				4	SDE Mr B K Karki			
1	31 Participants,DG,DDG,SDEs	11-Feb-02		AD 1:	5	SDE Mr K Wagle			
	Social & Environmental Aspects of Road Management				6	SDE Mr D R Regmi			
1	36 Participants,Engineers	15-Feb-02		AD 2:	7	SDE Mr I S Dhakal			
	Social & Environmental Aspects of Road Management				8	Er Mr N Mandol			
1	28 Participants,Roads Contractors	31-Mar-02		AD 5:	Course Revision for Maintenance Skills Training Programme at TITI				
	Social & Environmental Aspects of Road Management				Trainers				
1	32 Participants,Roads Consultants	1-Apr-02		AD 4:	Er Mr Bimal Subedi 8-Jul-02 12 days				
	Seminar on Use of Consulting Services in Kathmandu Organized by ADB				Er Mr Tulsi Sitaula				
1	SDE Mr P M Shrestha	23-Apr-02	4 days		Er Mr Buddhi Gurung				
2	SDE Mr P J Shah				Er Mr Shiva Adhikari				
3	SDE Mr Dinkar Sharma				Overseers Trainers				
	Social & Environmental Aspects of Road Management				Mr Krishna B Thapa 8-Jul-02 12 days				
1	24 Participants,Media Personnel	27-May-02		AD 6:	Mr Bhupendra K Shrestha				
	Drafting of Scoping, Guidelines & ToR for ESIA (SKD 9) & Reviewing & Commenting on EISA Report (SKD 10)				Mr Lakhan B Shahi				
1	SDE Mr B.K.Upadhaya	28-May-02	2 days	SKD 9	Mr Yam N Yogi				
2	SDE Mr Ramesh Raj Bista	10-Jun-02	3 days	SKD 10	Mr Bijaya K Adhikari				
3	SDE Mr Prakash Jung Shah				Mrs Geetanjali Koirala				
4	SDE Mr Deepak Nath Chalise				International Course on Analysis & Design of Bridge Structures at IOE				
5	SDE Mr B.Shrestha				1 SDE Mr R C Amatya 16-Jul-02 5 days				ISC/RM DP
6	Er Mr Naresh Shakya				2 Er Mr Deepak Shrestha				
7	Er Mr Shiva Adhikari				3 Er Mr Saroj Man Shrestha				
8	Er Mr Jeevan KC				4 Er Mr R P Pathak				
9	Er Mr Shiva P Upreti				Human Resource Management Training in TITI				
10	Er Mr Basanta Lal Shrestha				1 DDG Mr S K Regmi 7-Aug-02 2 days				
11	Er Mr Bed Kantha Yugal				2 SDE Mr Chiranjivi Karki				
12	Er Mr G. Shrestha				3 CAO Mr Vishonath Khanal				
13	Er Mr Narendra Shrestha				4 CAO Mr Narayan P Regmi				
14	Er Mr Bishnu Om Bade				5 SDE Mr R.Shyam Shrestha				
15	Er Mr Ram P Pathak				6 SDE Mr Lal B Shah				
16	Er Mr Ananta Acharya				7 SDE Mr Durga P KC				
17	Er Mr Deepak Man Singh				8 SDE Mr Bihari Lal Balla				
	Power Point Training in TITI				9 SDE Mr Yoganand Yadav				
1	DDG Mr S K Regmi	5-Jun-02	3 Days		10 Er Mr Udaya Hada				
2	RD Mr D B Thapa				Application of GIS in Planning & Management of Transport and Roads Infrastructure at National Information Technology Institute, Lalitpur				
3	SDE Mr K Thapa				1 SDE Mr P M Shrestha 18-Aug-02 4 weeks				ISC-RMDP
4	SDE Mr C Karki				2 SDE Mr Kamal Pandey				
5	SDE Mr B M S Dangol				3 SDE Mr B L Balla				
6	SDE Mr P M Shrestha				4 SDE Mr P J Shah				
7	SDE Mr P J Shah				5 Er Mr G. Shrestha				

In country HRD Activities

SN	Participants	Date	Duration	HRD Prog	SN	Participants	Date	Duration	HRD Prog
Road Maintenance Skill Training for Overseers in Kurintar					Intensive EIA Training at SchEMS, KTM				
	Trainers :	25-5-05	810 days						SKD: 55
1	Er Mr Shiva Adhikari				1	Mr Jeevan K C	12-Sep-02	1 month	
2	Er Mr Bimal Prasad Subedi				Seminar on Geo-Synthetics & Geogrid				
3	Er Mr Dol Raj Adhikari				1	Er. Mr N R Adhikari	25-Oct-02	1 day	
4	Er Mr Babu Ram Sapkota				2	Er.Mr N Shakya			
Trainees :					3	Er.Mr S R Adhikari			
1	Mr Satya Narayan Yadav				4	Er.Mr J K.C			
2	Mr Prakash Dahal				5	Er.Mr V Chapaigai			
3	Mr Hira Lal Sutihar				6	Er.Mr R P Pathak			
4	Mr Deepak Gupta				7	Er.Mr P R Pant			
5	Mr Bhogendra Thakur				8	Er.Mr B O D Shrestha			
6	Mr Ram Shanker Keshari				9	Er.Mr C K Lal			
7	Mr Parmeshwor Shah				10	Er.Mr S P Uprety			
8	Mr Jaya Nath Yadav				11	Er.Mr K K Shrestha			
9	Mr Pradeep Shrestha				12	Er.Mr U P Hada			
10	Mr Gopi Nath Silwal				13	Er.Mr S Sigdel			
11	Mr Jagabir Shah				14	Er.Mr B K Yagal			
	Mr Murari Parajuli				15	Er.Mr A Acharya			
1	Mr Krishana Panthi				Work Shop in TITI, Course Design Develop in Road Maintenance				
2	Mr Dasharath Yadav				1	SDE Mr I S Dhakal	27-Feb-03	2 Days	
3	Mr Shyam Narayan Mishra				2	SDE Mr V P Shrestha			
4	Mr Ganesh Jha				3	SDE Mr L N Tripathi			
5	Mr Uddhav Bahadur Chand				4	SDE Mr G P Dhakal			
6	Mr Ratna Lal Masal				MSc in Mechanical Engineering, KU Nepal				
Water Induced Disaster Prevention Course at DWIDP					1	Mr Sher Bd Buda		1 year	SKD 27:
1	OS Mr Krishna B Thapa	1-10-05	82 weeks		Auto CAD Training in IOE				
2	OS Mr Mohan Kayastha				1	SDE Mr S Poudel	11-1-05	83 weeks	
Laboratory Testing Training at Central Road Laboratory for Overseers					2	Er Mr S M Shrestha			
1	Mr Suka Dev Shah	18-1-05	93 weeks		3	Er Mr Deepak Shrestha			
2	Mr Kedhar Dutta Lekhak				4	Er Mr P K Rai			
3	Mr Krishna B Thapa				5	Er Mr B P Deo			
4	Mr Pradeep Kumar Shah				6	Er Mr B L Deuju			
5	Mr Ramesh Dungal				7	Er Mr G S Gautam			
6	Mrs Geetanjali Koirala				8	Er Mr G. Shrestha			
7	Mr Yam Narayan Yogi				9	Er Mr K D P Shah			
8	Mr R.K.Rupakheti				10	Er Mr S P Uprety			
9	Mr Rajendra Rai Yadav				11	Er Mr Ashok Shrestha			
10	Mr Avaya Chandra Jha				12	Er Mr P. Kumar Karna			
Training Course Design in TITI					13	OS Mr Bimal Basnet			
1	Er Mr Tusli P Sitaula	6-2-05	92 weeks		14	OS Mr Deepak Kafle			
2	Er Mr Bimal Subedi				Diploma in Computer Training at Institute of Technical Skills				
Overseer Maintenance Skill Training Program in Nagarkot					1	Mr Murari Khanal		6 Months	
1	Mr N K Gupta	17-5-05	912 days		Road Maintenance Skill Training for Overseers in Kurintar				
2	Mr Sadhu Purbe				Trainers :				
3	Mr Dambar Thakali						11-5-05	812 days	
4	Mr Bhola Yadav				1	Er Mr Udaya Prakash Hada			
5	Mr Dilanand Giri				2	Er Mr Madhav Karki			
					3	Er Mr Tulsi Prasad Sitaula			
					4	Er Mr Arjun Jung Thapa			

In- Country HRD Activities

SN	Participants	Date	Duration	HRD Prog	SN	Participants	Date	Duration	HRD Prog
Overseer Maintenance STP					Trainees :				
6	Mr Niranjan Sharma				1	Mr Hari Narayan Mahato			
7	Mr Mohan Chandra Hamal				2	Mr Mahendra Shah			
8	Mr Prem B Chunar				3	Mr Jayendra Shrestha			
9	Mr Gajendra P Singh				4	Mr Kalikant Jha			
10	Mr Kailash Dev				5	Mr Kamare Alam			
11	Mr Ram Bahadur VK				6	Mr Arun Kumar Jha]			
12	Mr Chandreshwor Shah				7	Mr Kul Bahadur Gurung			
13	Mr Hira Lal Sabihar				8	Mrs Geetanjali Koirala			
14	Mr Amar Krishna KC				9	Mr Raj Dev Shah			
Seismic Resistant Design of Masonry Structures Seminar IOE,TU RMDP/IS					10	Mrs Ram Devi Shrestha			
1	Er Mr Nanda Kishor Amatya	20-Dec-02	4 days	C	11	Mr Uttam Kharel			
2	Er Mr Saroj Man Shrestha				12	Mr Gaurish Jha			
3	Er Mr Ram Prasad Pathak				13	Mr Shekhar Yogi			
4	Er Mr Bishnu Om Bade				14	Mr Prabhu Narayan Malakar			
5	Er Mr Dilip Pokharel				15	Mr Yogendra Pd. Chaudhari			
Office Work Procedures & Management in Staff College, Nepal					16	Mr Mohan Chandra Hamal			
1	Subba Mr Bishnu P Poudel	25-4-05	81 month		17	Mr Raj Karar Raya			
2	Subba Mr N. C.Shrestha				18	Mr Prasu Ram Malakar			

Oversees HRD Activities

Participants	Date	Duration	HRD Prog	SN	Participants	Date	Duration	HRD Prog	
Training in Ajou University of Korea				Knowledge Sharing Initiative Programme in Dhaka					
1 DDG Mr T L Yadav	14-Feb-02	14 Days	ISC- RMDP	1	Jt Sec. Mr Bhagabati K Kafle (NPC)	29-Sep-02	6 days		
HDM-4 Training in Central Road Research Institute in India				2	DG Mr M G Malekhu				
1 S. Transport Eco. Mrs S Dali	8-Apr-02	12 Days		3	DDG Mr K P Pokharel				
2 Er Mr G.Shrestha				4	SDE Mr Chijanjivi Karki				
3 Er Mr A D Shrestha				5	SDE Mr S R Dali				
4 Er Mr B K Yogal				6	SDE Mr B K Karki				
5 Er Mr P R Pant				7	SDE Mr P M Shrestha				
6 Transport Eco.Mr Bhatta (MoPPE)				8	Jt Sec. Mr Uddhav P Baskota (MoPPW)				
REAAA Seminar on Challenges & Opportunities on Road Development in Asia and Australia in Malaysia, Kuala Lumpur				Working Group Meeting on Asian Highway Network in Bangkok					
1 DG Mr M G Malekhu	18-Apr-02	3 days	ISC- RMDP	1	DDG Mr S K Regmi	11-Nov-02	2 days		
2 DDG Mr K P Pokharel				2	SDE Mr H B Shrestha				
Expert Group Meeting on Development of Asian Highway Network, Bangkok				3	DG Mr M G Malekhu	2-Mar-03	10 Days		
1 Jt.Sec. Mr Anand P Khanal	24-Apr-02	3 days		4	SDE Mr D R Regmi		10 Days		
2 RD Mr Deepak B Thapa				Executives Development Program: International Developments in Road Sector in South Africa & Tanzania					
Traffic Safety Management in Sweden				1	Jt.Sec.,Mr D.Pd.Rimal (MoPPW)	5-Apr-03	days	17	
1 Er Mr S Poudel	12-Aug-02	1 Month		2	DDG,Mr Keshav Prasad Pokharel				
Road & Tunnel Technology Int'l Seminar in China				3	DDG,Mr Suresh Kumar Regmi				
1 DDG Mr T L Yadav	4-Nov-02	5 Days		4	DDG,Mr Tanuk Lal Yadav				
International Seminar in Road & Tunnel Technology in China				5	RD,Mr Deepak Bahadur Thapa				
1 SDE Mr R A Prasad	4-Nov-02	5 Days		6	RD,Mr Shanker Thakur				
Financial Management & Disbursement Procedures Training in India, Hyderabad									
1 Acts.Officer Mr Indra R Poudel	6-Jan-03	6 days	SKD 39,						

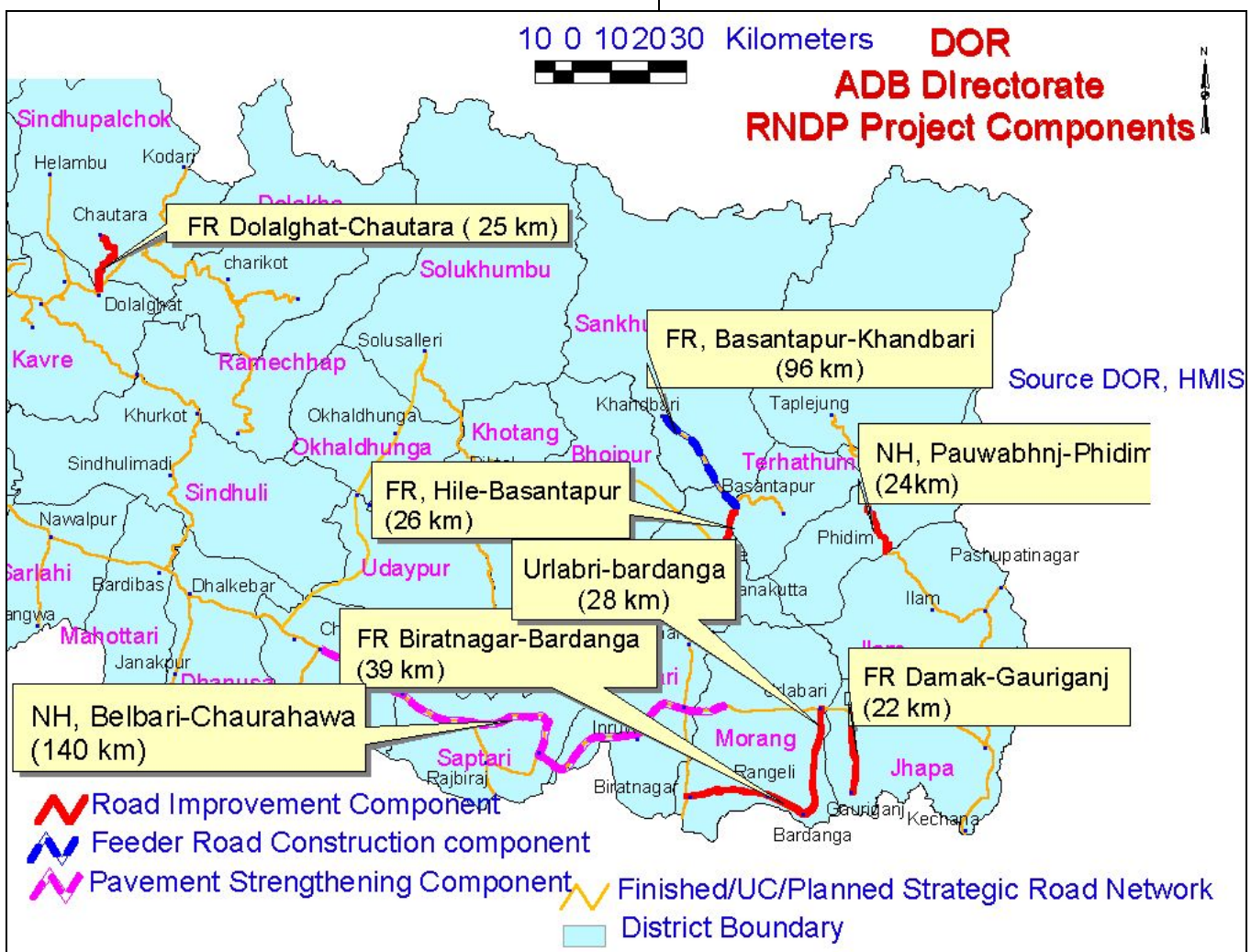
Road Network Development Project

A. Salient Features of the Project:

Project	RNDP
ADB Financing	US \$ 46 mio.
DfiD Financing	US \$ 9.6 mio.
HMG Financing	US \$ 13.9 mio.
Total Project Cost	US \$ 69.5 mio.

B. Project Components:

Pavement Strengthening	140 km	
Road Improvement	164 km	
FR New Construction	96 km	
Performance Based Maintenance	200-300 km	
Cross-Border Access Improvement	5-10 km	
Road Safety and Axle Load Control	Road safety civil works	
Poverty Intervention	Tracks, trails, bus stops, etc	

**DOR Claim and Arbitration****Causes of Claims:**

Claim arises when the contractor believes he has been impeded in some way from executing the works according to the contract. Common causes of claims, whether justified or not are listed below:

Causes	Potential responsibility
Delay in obtaining possession and access to the site	Employer
Delay in obtaining work permits, customs clearance	Employer

Delay in obtaining drawings and instructions	Consultant
Delay of commencement or completion of works by others	Employer
Delay in payments	Employer
Disputes over quantities	Consultant
Errors in setting out with data provided by the consultant	Consultant
Interpretation of specifications	Consultant
Unusual weather conditions	None

Strikes and civil disturbances	None
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A workshop named "project without Disputes: fact or Fantasy?" was held in Kathmandu on 23-24 and 26-27 September 2002, which was organized by DOR, RSSDU in association with BUMP. The co-organizers were SCAEF, NEPCA, FCAN, The workshop was sponsored by DfID and attended by 120 participants from DOR, Consultants, Contractors and IOE.

Besides mentioned in the table above, the main disputes are variation of works and poor understanding of contract documents. Delay in decision making and unforeseen ground conditions are also major issues from the contractor sides

Settlement for Disputes:

On-going claim settlements activities are listed below:

S.N.	Employer	Contractor	Contract	Settlement Status
1	DOR, Pathalaiya	Prakash Construction	Construction of Pasaha Bridge	Re arbitration
2	Bardibas-Jaleswor FR project	Kalika-Tundi JV	Civil works	Appeal to appellate court for re-arbitration
3	Silgadhi-Sanfebagar Project	Contract No-4 and 6, Golden Gud Sherpa		Appeal to appellate court for re-arbitration
4	RMDP/NRDUC/KJ/NCB 4-1, 4-2	Kalika Construction		Arbitration procedure in NEPCA
5	RMDP/NRDUC/KJ/NCB 4-1, 4-11, 4-13	Waiba Construction		Arbitration procedure in NEPCA
6	RMDP/ICB/CCB/Lt-2	Lama-Tundi JV	Upgrading of Lumbini-Taulihawa (Koth Taulihawa section)	Arbitration procedure in NEPCA
7	DOR	Lama Construction	Biratnagar-Rangeli Road Package "C"	Arbitration procedure in NEPCA
8	Kohalpur-mahakali Road Project	NCCN and KONEKO	Contract No 3 and 4	Arbitration
9	DOR	Lama Construction	Biratnagar-Rangeli Road Package "C" Claim II	Arbitration procedure in NEPCA
10	RMDP/NRDUC/SMN/NCB, 3-1	Swochhanda Nirman Sewa		Arbitration procedure in NEPCA
11	Third Road Improvement Project	NCCN, Lama Construction	C.No IP-01 and IP-05	Procedure about formation of Dispute Resolution Board in NEPCA
12	Third Road Improvement Project	Sharma and Company	SDP-II	Procedure about formation of Dispute Resolution Board
13	DOR	Lama Construction	Biratnagar-Rangeli Road Package "C" Claim III	Arbitration procedure in NEPCA

S.N.	Employer	Contractor	Contract	Settlement Status
14	DOR	Rara Construction	DBRP/04, 05	Arbitration procedure ongoing
15	DOR	Lama Construction	Biratnagar-Rangeli Road Package "D"	Arbitration procedure in NEPCA
16	DOR	Gorkha Engineers	DBRP/04, 05	DOR's Appeal to Supreme Court against the decision of Appellate

17 DOR

Gorkha Engineers,
Rara Construction,
Himal Construction

DBRP/04, 05

court, Patan

DOR's Appeal to Suprime Court
against Gorkha Engineers, Rara
Construction, Himal Construction
and Bank of Kathmandu Gorkha
Engineers, Rara Construction,
Himal Construction

Permanent International Association of Road Congress (PIARC)



Introduction

P IARC (the World Road Association) is a non-political and non-profit making

PIARC deals with road infrastructure planning, design, construction, maintenance and operation. The World Road Association has been founded in 1909. Today PIARC has 97 national or federal government members, 2,000 collective or individual members in 129 countries, and over 750 experts in 20 standing Technical Committees. The official languages of PIARC are French and English. The Central Office of PIARC is located in PARIS, France. During the tenure of DG, Mr. M.G. Maleku, Department of Roads, Nepal has got ational government membership of PIARC.

Vision:

PIARC will be the world leader in providing information on roads and road transport policy. PIARC practices within an integrated sustainable transport context.

Mission:

PIARC exists to serve all its members by:

- Being a leading international forum for analysis and discussion of the full spectrum of transport issues, related to roads and road transport,
- Identifying, developing and disseminating best practice and giving better access to international information,
- Providing within its activities special emphasis for developing countries and countries in transition,
- Developing and promoting efficient tools for decision making on matters related to roads and road transport.

10th Five-Year Plan (2002-2007)

Road Sector

Objective

The prime objective of this sector is to construct and maintain cost effective road network (national, important local roads) through the promotion of private sector investment as well as adequate utilization of local skill, technology and resources in order to unify, develop economically, alleviate poverty, lower social discrimination & regional imbalance and other sectoral development.

Particulars (in K.M)	1 st Year	3 rd Year	5 th Year
New road construction (All category)	138	403	1025
Road improvement (All category)	187	597	1764
Road reform, rehabilitation and reconstruction	42	242	496
Road structure	33	72	229
Bridge construction (Including current construction of 132)	20	80	220
Link road to additional district headquarter	3	5	10
Road maintenance Fund	To be established on First Fiscal Year Continuous		
Institutional strengthening To transfer local and urban roads under local development ministry to municipality and district development committee	Within two years		
Road transport expense	To lower gradually		

Medium Term Expenditure Frame Work (MTEF) Road Sector

MTEF Concept and Adoption

MTEF is a tool for planning scarce resources for effective and efficient utilization as per the priority of the projects and programs. It helps to inter link the development goals and objectives with the outcome and outputs. Moreover, as the program and projects are well tied-up with resources, the element of uncertainty in the resource availability for the future is expected to be considerably minimized by this approach. The MTEF will help to translate the tenth plan into

action program to achieve the target set. There is also a greater possibility of convincing donors directing their funds towards prioritized programs and projects to meet the national and sectoral goals and objectives.

Vision

The vision of the road sub-sector is "Roads for National Integration and Socio-Economic Development".

Goal

The goal of road sub-sector is to contribute achieving sustainable socio-economic development and providing affordable and safe public road transport service through building of cost-effective, efficient and reliable road network system. (Total transport cost minimum)

Mission

The Mission of the road sub-sector is to ensure uninterrupted flow of goods and people within and outside the country by developing sustainable road networks to the fullest possible through efficient mobilization of available resources and use of appropriate technology.

H.M.I.S

NRS survey data:

HMIS is updating the Nepal Road Statistics covering the road data up to end of last year 2002. HMIS is experiencing difficulty to collect data from the Division Road Offices in time. However after long time since six months lapse of request and correspondence, HMIS is able to receive the road data from almost all divisions and projects. The Road Roughness (IRI), and SDI data and Road Inventory data of Central Region (partly) obtained from 2003 Survey is in the inputting phase in HMIS database system. Due to financial constraint, HMIS could not conduct the traffic survey in 2002 and 2003. The importance of IRI, SDI, traffic, Axle load and map updating cannot be ignored for the road network maintenance and planning. World Bank Mid Term Evaluation has agreed to include the regular HMIS program under ISC component and it is from onwards hoped that the work will be continued as in the previous years.

PROJECT INFORMATION MANAGEMENT SYSTEM (PIMS)

Establishment of Project Information Database

In FY 056-57, Program Unit of Design and Planning Branch developed a format to maintain the information on the status of projects being executed under DoR. The main objective of the information format is to get the updated information, mainly of four categories, of the running projects which are: General Information, Financial Information, Present Condition, Target Works

Since the introduction of this system of collecting project information through standard formats in FY 056-57, the formats have undergone many modifications. In FY 058-59, the formats have been finalized and it has been decided that from FY 059-60 on the information is to be collected in electronic form of spreadsheet. And a software has also been developed to manage the database collected in electronic spreadsheet format. There are basically two standard formats separately for Road Project Information and Bridge Project Information and a common format for Budget Information.

When a set of information, given in a formatted spreadsheet, is to be converted into a database, the main requirement is the uniformity in method of data filling. Because of FY 059-60 being the first time of collecting the information in electronic form, there have been many types of non-uniformity in the way of data filling. The reason is the lack of proper information on how to fill up the information sheets. The Program Unit is soon publishing an instruction manual and this will be distributed to all concerned offices so that the method of information sheet filling will be consistent in coming years. The most common example in inconsistent data is in the case of writing fiscal year (2056-57, 056/57, 2056-2057 etc.)

Beside the inconsistent in the way of data filling, the main problem exists in the difference in the information itself between the Information Sheet and the regular Program Sheet. The Target Works Stated in the Information sheet vary from the yearly target stated in NPC Yearly Program Sheet.

After the publication and distribution of **Instruction Manual**, these problems are believed to be solved.

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