

# H M I S N E W S

Highway Management Information System (HMIS) Unit

## A Newsletter of Department of Roads

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No. 18

### Transport for poor

**WB** highlights on its paper about managing transport for poor people living in rural and urban areas. Here are some of strategies, policy and key areas.

#### Four strategic principals of a pro-poor policy framework:

1. Transport needs of poor people and poor areas should be recognized explicitly.
2. All transport interventions should address both efficiency and equity concerns. Projects that are primarily oriented to efficiency should address equity issues, and projects that are targeted at poor people should be implemented efficiently (be guided by "least-cost").
3. Poor people should be fully compensated for any adverse effects of transport programs.
4. Transport interventions require full participation of all stakeholders, including representatives of poor people with particular emphasis on the needs of poor women and other vulnerable groups such as the disabled poor.

#### Three key areas on policy and strategy options:

1. Transport agency efficiency and effectiveness and institutional reform.
2. Formulation and implementation of a rural transport policy and strategy.
3. Formulation and implementation of an urban transport policy and strategy.

#### Mitigating Tradeoffs in Road Construction and Environmental Outcomes in Nepal

The cumulative impact of road construction due to steep topography, often unstable geology, high rainfall, and intensive land use, leads to the destabilization of terrain and production land. To mitigate such outcomes Nepal has pursued environmental assessments and bioengineering with local varieties to control slope erosion and geotechnical solutions to resolve difficult terrain issues.

Much of the success in establishing bioengineering technology has depended on identifying the relevance of vegetation types to roadside households and on facilitating the development of local small-scale enterprises to supply and plant the appropriate vegetation.

Extensive geotechnical engineering measures and certain forms of bioengineering complement the more traditional

civil engineering structures and practices and help to resolve most of the difficulties faced on the road lines. With the promulgation of environmental law, all development projects, since 1993, are subject to environmental screening in accordance with His Majesty's Government of Nepal's Environmental Impact Assessment Guidelines. These guidelines address the need for implementing environmental mitigation measures in the surveying, design, construction, maintenance, and operation of road projects, and include environmental mitigation measures, socioeconomic considerations, public participation, and coordination with other institutions. The department of roads is now implementing bioengineering works on a routine basis throughout the strategic road network. A complete set of interim standard specifications for bioengineering works were produced in July 1996 by the Geo-Environment Unit of the department of roads.

(Source: Transport: Infrastructure and services, May 2001, World Bank Publication)

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# Strengthened Maintenance Divisions (SMD)

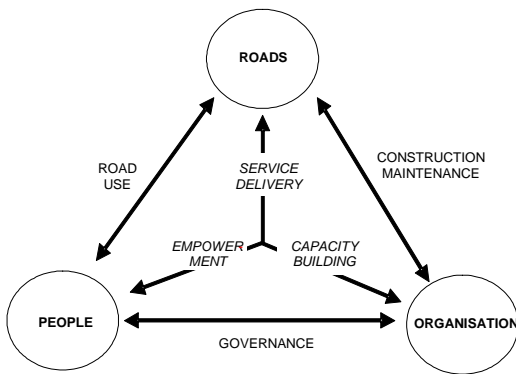
## Program: SMD Phase - III

In July 2002, the present Phase II of the collaboration between His Majesty's Government of Nepal (HMG) and SDC in the SMDP will come to an end. In order to review the progress of Phase I and II, as well as to define the framework of cooperation for a next phase, an External Evaluation (EE), followed by a participatory Planning Process, including a Planning Workshop, took place at the end 2001 and the beginning 2002 respectively.

**EE approves the SMD Phase - III.** In view of the institutional achievements and the obvious improvements on the roads, the EE confirms the validity and success of the SMD approach in which road maintenance is planned and carried out in a systematic and decentralized way through transparent decision-making. Thus the EE recommends the continuation of SMDP over a next Phase of four years duration.

**Program document:** The results of the EE combined with the findings of the Planning Workshop form the main elements of the Program Document for the next Program Phase III.

### 3 Strategic Thrusts



FLOW DIAGRAM:

SMD concept of Intervention Strategies/ Strategic Thrusts

The interventions of SMDP Phase III will be executed in line with the DOR's overall goal and will be guided by the **three strategic thrusts** (Refer to the flow diagram):

- i. **Capacity Building**, focusing on DOR (enhancing the institution in charge of road maintenance);
- ii. **Service Delivery**, focusing on roads (ensuring roads are in reasonable condition, reliable, safe and cost-effective); and

- iii. **Empowerment**, focusing on people (helping them to get what they are willing and able to pay).

**Extended Partnership:** SMDP Phase III will be realized in the framework of the concept of Extended Partnership. This concept combines ongoing activities and successes with new challenges in a dynamic and holistic process leading to planned maintenance being undertaken on all the Strategic Road Network. **Vision:**

**The system of carrying out planned maintenance is 25 Division Road Offices in a sustainable way, strengthened capacities, extended partnerships and of all stakeholders, the Strategic Road Network**

**Overall Goal:**  
The overall goal of the SMD programme is to achievement of the DoR goal of reducing road user keeping total transport cost at a minimum by improving tenance operations on the strategic road network, thereby ~~facilitating the mobility of people and the exchange~~

#### Strategic Thrusts

Service	Capacity	Empowerm
Roads stay in condition effective <b>Do the right things!</b>	Efficiently carry road Do the things right!	Integrate all in the processes enable them share the responsibility

#### SMD Phase - III

### Capacity Building

**Capacity Building** remains the main area of intervention of the Program. In this regard SMDP will assist DOR in establishing a *National Road Maintenance Policy* and in implementing the related strategies, norms and standards.

**Skill Enhancement:** *Strengthening of capacities* is a key element of support provided to DOR through SMDP. During Phase III, SMDP will continue to further enhance maintenance capacities and skills of DOR and the private sector through training measures - in-house as well as external training. In doing this, SMDP will seek full coordination with RSSDU and other human resources development (HRD) efforts in the Department. In order to firmly establish and sustain the SMD process within the Divisions, as well as to maximize benefits from capacity building measures, continuity within DOR line management should be ensured as far as possible.

**YPO at all levels:** The *Yearly Plan of Operations (YPO)* of the DOR Divisions has substantially improved efficiency and effectiveness of planning, executing and reporting of maintenance activities. In order to improve transparency of regional operations SMDP will persuade introducing an annual regional work plan, which will help eventually synthesize into a national DOR YPO. To ensure sustainability of this important planning tool within the overall monitoring system of the DOR, the needs and

requirements of DOR should increasingly be considered and the MEU should be involved and strengthened.

With the introduction of the Road Fund, Divisions and Regions will be further supported in the introduction and preparation of the Annual Road Maintenance Plan (today YPO). In addition, Performance Based Road Maintenance Contracts will be introduced by DOR as pilot trials in some Divisions as a possible option for the future.

Regional Directorates will progressively be strengthened to actively assume their responsibilities regarding coordination, planning, monitoring and procurement. They will also be given regional financial authority and provided with the required budget.

At the central level the required capacity within the Maintenance Branch will be further pursued to supervise and support Divisions to implement planned maintenance in a systematic way.

DOR, with the active support of SDC as one of the leading bilateral agencies in the road sub-sector, will promote and facilitate donor and sub-sector coordination.

**Service Delivery**

The SMD approach to planned maintenance focusing on **Service Delivery** has been shown to work and the results are evident. Routine maintenance through the Length-worker system is effective. However, in urban areas routine maintenance needs to be addressed with different approaches to be investigated. Recently developed recurrent maintenance norms will be tested to provide Divisions with a common basis for reliable budget proposals and contract management.

In Phase III, it is planned to introduce the last two Divisions into the SMD process. The pragmatic staged and process-oriented expansion considers capacity building measures at all levels of the organization and focuses on coaching Divisions and Regions based on actual requirements. This is done by SMDP along with improving the working environment and by providing facilities and equipment.

In order to improve routine inspection and maintenance of road bridges, planned bridge maintenance will be incorporated into the SMD process. Routine bridge inspection and maintenance will be included in the YPO.

Similarly, roadside support maintenance will be included into the SMD process, as well. However, in collaboration with the Geo Environmental Unit (GEU) appropriate technologies and methods will be developed and tested in pilot DROs.

Given the age and status of most of the roads of the SRN, resealing is already overdue on many of these roads. In absence of a systematic planning process, DOR requested SDC to include periodic maintenance into the SMD process. SMDP will support Divisions and Regions in the necessary concepts through a consultancy input and with a training component for periodic resealing contracts focussed on regional and divisional capacity building.

**Empowerment**

**Empowerment** of all stakeholders including DOR officials, private sector representatives and road neighbors will be addressed in Phase III through initiatives in the field of governance, poverty orientation, gender equity and public-private partnerships.

The SMD process has already in many fields contributed to the concern of governance in the Department. Through its efforts and participatory approaches, transparency and accountability regarding road maintenance management and administration have been improved. However, SMDP will further promote good practices within the SMD process through internal evaluation procedures, transparent planning and monitoring procedures and awareness campaigns.

**Poverty and Gender Issues:** It is anticipated that the Program through socio-economic benefits will contribute to the improvement of the framework conditions to the advantage of poor people, marginalized groups and women. However, so far, the interventions of the SMD process were limited to income generating opportunities along the roads, involvement of women in these activities and the creation of employment opportunities through the promotion of small-scale enterprises. In order to maximize the potential benefits of the Program a clear understanding regarding poverty and gender issues needs to be established based on which an intervention strategy or code of practice will be developed. However, the principal aim of SMD remains sustainable road maintenance.

**Private Sector Involvement:** Private sector involvement, particularly small-scale enterprises in recurrent and routine maintenance operations will be actively promoted through the development of a DOR policy including the necessary norms and standards.

NGO and CBO involvement in maintenance operations related to roadside support maintenance and awareness creation in municipal areas will be encouraged and promoted. During Phase III SMDP will initiate investigations and pilot interventions as a basis for possible future involvement of communities, NGOs and CBOs.

**Financial Contribution:** The following financial contributions are proposed to SDC and HMG Nepal pending approval through signing the bilateral agreement:

Contribution	CHF <sup>1</sup>	NC
HMG/N		2,700,000,000 <sup>2</sup>
Road maintenance:		
Periodic Resealing	900,000	20,000,000
SDC Financial contribution	2,273,000	
Technical Assistance	96 man months	
Total Financial Contribution	3,173,000	2,720,000,000

1 - Annual DOR Budget for all maintenance operation according to HMG/N Regular and Development Budget with an anticipated increase of 10% per year.

2 - Exchange Rate: CHF 1.00 = NC 45.00.

\* \* \*

Institutional Strengthening

**Process Consultancy at DOR**

[G.B.N. Pradhan]

A little more than a year ago, a new process has been initiated for Institutional Strengthening Component of Road Maintenance and Development Project (RMDP) at the Department of Roads (DOR). The new process which is better termed as Process Consultation (PC) is the outcome of the past experiences gained through the implementation of the Road Maintenance and Rehabilitation Project (RMRP) financed by IDA, DFID and SDC as well as the process oriented focus emphasized in the technical Proposal of the current RMDP Project financed by the World Bank. For more than decade, the DOR has been trying to develop itself as a pioneer department of HMG to reduce road maintenance costs on the one hand and to enhance its effectiveness and efficiency on the other through organizational development and other innovative measures. The donor agencies like the World Bank, SDC, DFID, etc. have been instrumental in toning up DOR efforts through their technical and financial support.

**What is Process Consultancy?** Edgar H. Schien defines Process Consultation as "a set of activities on the part of the consultant that helps the client to perceive, understand and act upon the process events that occur in the client environment". He further says that 'process' refers to how things are done rather than what is done. The Process Consultant helps the client to solve his/her problems, to define diagnostic interventions, to pass on his/her skills, perspectives and broad insights so that the Client learns to do everything by himself/herself on future occasions. In fact, the central premise of Process Consultation (PC) is that the client owns the problem and not the consultant. The consultant's role is to help the client to solve client's problem, develop skills and persuade the client to gradually build up his/her confidence to take independent stance.

**Consultation Models:** There are three kinds of consultation models –  
 i. Expertise model,  
 ii. Doctor - Patient model and  
 iii. Process consultation model.

**Process Consultation Model in DOR:** Each model has its own characteristics. The model which the Consultants are advocating at DOR for Institutional Strengthening Component is the Process Consultation (PC) model which strongly encourages the client (DOR) to learn the art of taking ultimate responsibility for deciding for deciding what to do, how to intervene, how to manage and how to develop one's skills, etc.

The methodology and strategy as described in the technical Proposal, 2000 regarding the Institutional Strengthening Component of RMDP for the transfer of knowledge from the Consultant to the client are: Orientation sessions, Experimental learning approach, Problem-solving sessions, Networking for updated pool of knowledge, Institutional Resources Networking, External training etc.

Finally, however, since the process consultation is comparatively a recent philosophy that has emerged basically to deal with the human system, it may seem initially as a bizarre phenomenon to both clients and consultants who are greatly familiar with the traditional or archaic role of both clients and consultants, which often try to create tendency to learn with or expect much from each other. As a result, this dependency syndrome on both sides may likely to persist and efforts for improvement in the organization get simply neutralized.

The process consultation demands a new frame of mind, a new approach of collaboration and consultation and a strong commitment to reach the goal on the part of both clients and consultants which would be able to generate ultimately a learning climate in the organization and would help appreciate and understand each other's role better in the whole process to the benefit of the organization.

\* \* \*

Status of bridge development in DOR

**Design, Construction and Maintenance**

[K.P. Wagley, SDE, DOR]

The period between 1994 and 2000 is considered to be one of the important periods because DOR has made remarkable achievements in bridge related activities with respect to design, construction and maintenance.

**Bridge Design:**

In 1994 Bridge Unit (BU) was established in DOR. During that time more than 300 bridges were planned and designed. Out of the 300 designed bridges, some 80 numbers have already been built and 70 numbers are under construction. New Design Standards for bridges were prepared. Standard Specification for Roads and Bridges were prepared and applied recently.

Classification of all bridges of the Road network has been presented below in the table.

SN	Bridge Type	Main Span (S)	Length of bridge (L)
1	Special Bridges	> 100m	
2	Major Bridges	=> 50m	=> 100m
3	Medium Bridges	<50m S >25m	< 100m
4	Minor Bridges	>6m	=<25m

Nepalese engineers are now capable to design minor to major RCC simply supported bridges.

**Bridge Construction:**

The rate of numbers of bridge constructions has increased from nearly zero to 15 numbers of bridges per annum, which includes all types of bridges. Like local engineers are capable of designing up to major bridges, in the same way local contractors have now developed their capability to construct all types of RCC bridges with different type of foundations.

**Bridge Maintenance:**

Until now bridge management system has been established and management procedures are being defined by BU/DOR.

**Bridge Inventory and Condition Survey:** For the first time BU completed compilation of bridge inventory and bridge condition survey for all bridges within the Strategic Road Network. This is a great asset, which is required for the bridge management. Local Consultants were commissioned for the work as a demonstration contract. Central database of bridge inventory in card format is stored in BU/DOR and records are maintained in all Divisions and regional offices. Similarly copies of the condition survey reports were issued to all maintenance Divisions and Regional offices.

**Bridge Inspection Training:** After training, all the DOR engineers are now capable for inspecting the bridges for annual routine inspections. Few engineers from the local consultants have also been trained for bridge inspection. Supporting documents for bridge inspection and maintenance have been prepared and distributed to all concerned. This includes the Inspection and Maintenance Manual and Repair Manuals.

**Observation and findings of the condition report-1996:** The Bridge Unit undertook the condition survey, which covers a total of 1100 bridges in the road network. Data on condition survey of all the bridges in the strategic road is analyzed for maintenance purpose. Further, the reports were reviewed to conduct the follow-up maintenance, repair/rehabilitation and replacement program as a part of Bridge Management system. The following are the observations:

**Observation:**

The observed defects were in the form of:

- i. Bridge Surface drainage failure
- ii. Inadequate Bridge openings - in average 1-2 bridge loss per year.
- iii. Scouring and siltation.
- iv. Cracking and spalling of concrete bridge due to corrosion of reinforcements.
- v. Corrosion of steel components for the steel bridges. Lack of periodic maintenance or replacing works.
- vi. Failure of expansion Joints.
- vii. Failure and deterioration of bridge brings etc.
- viii. Excessive surfacing
- ix. Overgrown vegetation
- x. Railings and parapets are generally in good condition but are not adequate for resisting vehicle impact. The composite structure of Prithivi & Arniko Highway have lightly reinforced cantilever portion and cannot retain vehicular impact load.

**Findings:**

Currently there are more than 1200 nos. of bridges in the Road network of Nepal. Among them about 81% of the bridges are of structural concrete, 7.5% are composite structures, 4%, steel bridges, 3.5% arch bridges, 2.5%

causeways and 1.5% timber bridges. Eighty percent of the bridges are 30 to 35 years old.

**Oldest bridge** recorded in the inventory record in 92 year old – which is Bagmati Bridge at Gujewori, Kathmandu.

**Some findings from the survey are:**

- i. More than 100 bridges need to be inventoried.
- ii. About 20% of the inspected bridges need urgent repair and rehabilitation works.
- iii. About 5% of the total bridge construction is generally allocated for the bridge maintenance.
- iv. Currently rate of new construction seems to be 13 nos. of bridges, which were inspected during the first principal inspection.
- v. About 1100 of bridges were inspected during the first principal inspection.
- vi. There is a need of one bridge to be constructed for every 5km lengths of roads.
- vii. Rate of bridge loss is 1-2 no. per year.

**Demonstration Contracts:**

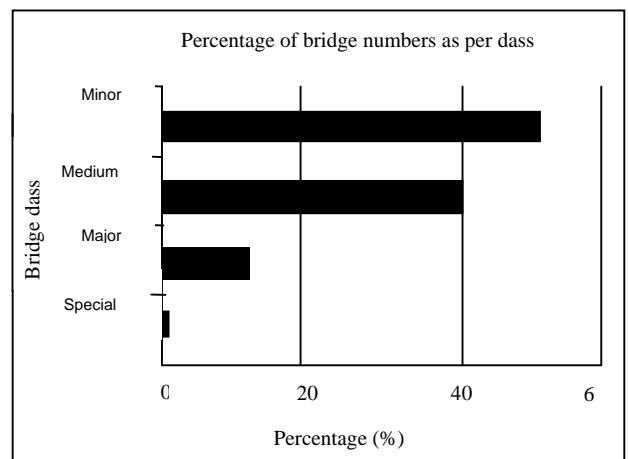
The demonstration Contracts for maintenance of several bridges completed.

**Contents:** The work comprises structural steel and concrete repairs, resetting of bridge bearings and bridge repainting. Beside this, demonstration contracts on the replacement of expansion joints, bridge parapet and footpath repairs and other safety improvements were also carried out successively. Much of the work has a high technical content.

**Local consultants' participation:** Local consultants were appointed to undertake the demonstration contract to investigate and design the remedial works on several bridges.

**Why demonstration contracts?**

- To train DOR engineer in design and managing works.
- To train local consultant in design and supervision of works.
  - To train local contractors in planning, construction and implementing such works and some of the techniques involved.





## General Procedure of Bridge Management

The general procedure for undertaking the various maintenance, repair and rehabilitation activities is as follows:

1. Bridges are **inspected** on planned and **regular basis**.
2. The results of the inspections are examined to determine the extent of maintenance or repair work needed. This may fall into one of **three categories**:
  - 2.1 **Routine Maintenance** includes
    - Clearing of blocked drains
    - Removal of flood debris
    - Removal of vegetation
    - Cleaning of bearings and expansion joints etc.
  - 2.2 **Minor Repair** includes Remedial works e.g. foundation scour
  - 2.3 **Major Repair/Rehabilitation** are required, where the inspection indicates
    - Major structural defects
    - Problem such as ASR or other matters requiring more extensive repair or rehabilitation of the structures. It is likely that further, more detailed investigation will be necessary. This will also include any situation where load carrying capacity of the bridge is in doubt.
3. In all the cases the **remedial works** need to be **identified** and **cost estimates** prepared.
4. The remedial works need to be **prioritized**. Decision has to be taken on economic and other considerations.
5. Finally the remedial work has to be programmed and **implemented**.

## Planning and Implementation of Maintenance

In the past, maintenance work on the bridges has been undertaken on an ad-hoc basis. At present, the procedure for inspection and maintenance of bridges introduced a more rational approach to planning and implementation of bridge maintenance.

A list of maintenance work would be drawn up in each division from the routine bridge inspection. The listed work would then be prioritized within the Division.

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### News at Press:

**China** has agreed to support for the construction of **Rasuwa - Syaprubesi Road (18km)**, which will be a second highway to be linked with Nepal – China border.

## Easing traffic congestion in Kathmandu Roads

### Improvement of Intersections

To reduce the number of road accidents and to make smoother traffic flow, 10 of the most important intersections in Kathmandu are being improved under ODA program of the Japanese Government.

**Progress:** Improvement works at Maitighar, Kalimati and Padmodaya Mod intersections are almost complete. Works are in progress also at Koteshwar, Tinkune, Naya Baneshwar, Singha Durbar and Kalanki intersections.

**Synchronization with traffic pattern:** The traffic signals there are being synchronized with the present traffic pattern. Due to the heavy traffic flow during daytime, most of the construction works are being done in the night.

**Traffic education:** For effective traffic management and flawless operation of the signals, familiarization program for DOR engineers, traffic police personnel, technicians, motorists and pedestrians are being conducted under the same ODA grant assistance.

**Completion:** This project has a large number of stakeholders and their cooperation has been very positive so far. With this type of support, it is expected that the project will be successfully completed within BS 2059.

#### **Some highlights on improved intersections:**

- Solar power for traffic lights
- New LED light systems
- Appropriate drainage provision

#### Intersections for all users

For Motorists:

- Storage lane and provision for all turning

For Public Transport users:

- Bus lay-byes

For Cyclists:

- Space for cycle stopping

For Pedestrians:

- Safety railings for pedestrians
- Traffic lights for pedestrians
- Space for cycle stopping

## KANTI RAJPATH

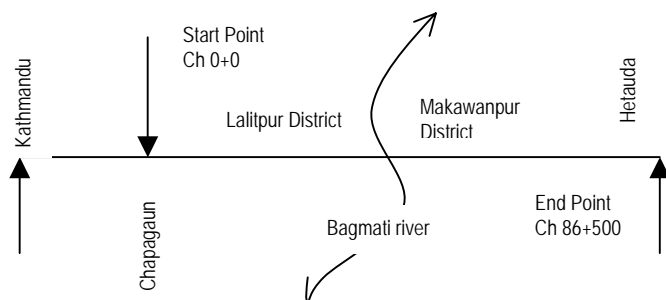
### South Korea to support Kanti Rajpath

The 86.5km (Chapagaon – Hetauda) long Kanti Rajpath will be financed by South Korea for the detailed design in near future.

The proposed highway will provide a faster alternative to Terai. In 1950s Late King Mahendra envisaged the highway with mobilization of the army for the construction of it.

South Korea is providing \$1.1 million in grant assistance for the detailed survey and design work. Before this, South Korea provided \$800,000 in grant aid for preliminary studies of the highway.

The cost of the highway construction is estimated to be \$27 million at the current price.



**Schematic Diagram of Kanti Rajpath**

The Korea International Agency (KOICA) represents the Republic of Korea for the execution of the detailed design project.

The objective of the project is not only to conduct the detailed design but also transfer of technology to the local engineers.

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## RSSDU TRAINING ACTIVITIES

### Out-Country Training

The following trainings are organized under RSSDU:

1. Training on HDM-4 course, New Delhi (April 9-21, 2001)  
DDG, Keshav Prasad Pokhrel  
DDG, Madan Gopal Malekhu  
DDG, Shuresh Kumar Regmi
2. Transportation & Road Engineering, Netherland (May –Oct 2001)  
Er. Anutha Lal Patel      Er. Shyam Prasad Kharel

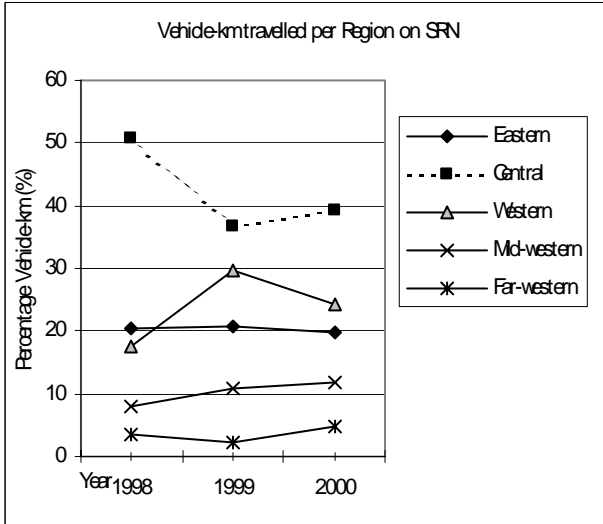
3. International Course on land and drainage, Netherland (May – Oct 2001)  
Er. Rajendra Raj Sharma Er. Dev K. Tamang
4. Study Tour in Thailand (June 4-13, 2001)  
SDE Shankar Thakur      SDE Gopal P Singh  
SDE Kiran Lal Joshi      SDE Yogendra K. Rai  
SDE Dinesh P. Basnet      SDE Jamuna B. Shrestha  
SDE Kritananda Thakur
5. Management of Appropriate Technology in the Road Sector for Developing & Engineering Economics, England (June 25-29, 2001)  
SDE Chiranjibi Karki      SDE Prakash Jung Shah
6. Executive Road Infrastructure Management Seminar, Sweden (Aug. 19-24, 2001)  
DG Anand Prasad Khanal      DDG Keshav Prasad Pokhrel
7. Arch Bridge training in China, (Nov. 3, 2001 - Feb. 4, 2002)  
SDE Ramesh Pd Rijal      SDE Guru Pd. Dhakal  
Er. Asha Man Tuladhar      Er. Chandra N. Yadav  
Er. Purna SL Shrestha      Er. Mrs. Pushpanjali Khanal  
Er. Shyam B. Khand      Er. Hari R. Thapa  
Er. Rajendra R Sharma      Er. Raju K. Aryal
8. Expert group meeting, Thailand ( Oct. 2-4, 2001)  
Er. Sunil K. Poudel
9. Tender Opening and Signing the Contract of Banepa Sindhuli Road (Phase II), Japan (Oct 24 – Nov 5, 2001)  
DG Anand Prasad Khanal      SDE Bindu S. Rana
10. Grant aid counterpart training, Japan (from Nov 2, 2001)  
Er. Sunil Poudel      [to Dec 2, 2001]  
Er. Babu R. Ranabhat      [to Nov 26, 2001]
11. Sustainable Development in Road Transport, New Delhi (Nov 8-9, 2001)  
DDG SK Regmi  
SDE PM Shrestha      SDE KB Thapa  
SDE C Karki      SDE DR Dhungana  
SDE LN Tripathy      SDE AK Batajoo
12. Construction Operation & Maintenance of Highway Tunnel, Japan (Nov 28 – Dec 8, 2001)  
Er Saroj K Pradhan
13. Project for Improvement of intersections in Kathmandu City, Japan (27 Sept – Oct 5, 2001)  
DDG DP Rimal DDG Keshav PD Pokhrel
14. MSc on Transport Planning and Highway, USA (From Aug 9, 2001)  
Er. Pramen Pd. Shrestha
15. Training on bridge engineering, Thailand (Aug 8-28, 2001)  
DDG Keshav Pd Pokhrel      Er Laxman Sunuwar

16. EGM on multi stage ESIA meeting, Thailand (Nov 26-27, 2001)  
 SDE Dipak N. Chalise Er. Shiva Raj Adhikari

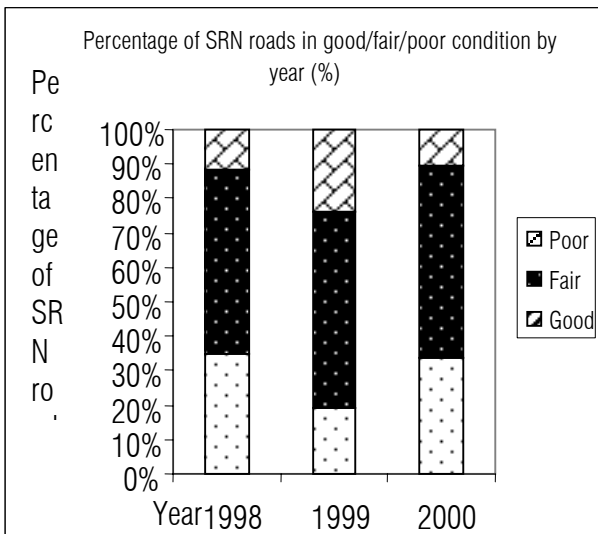
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HMIS data in Charts

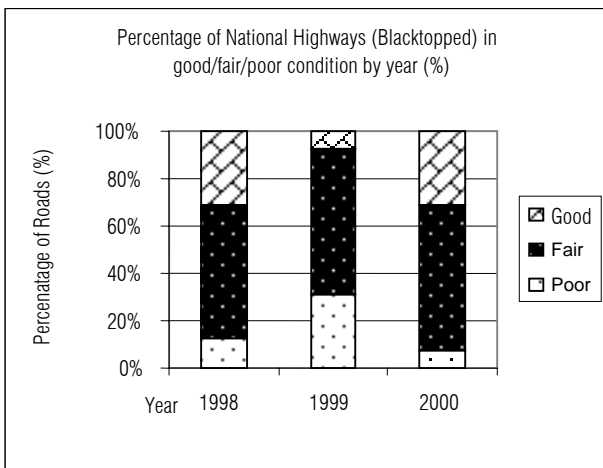
Regional Comparison of Vehicle - Km on SRN roads



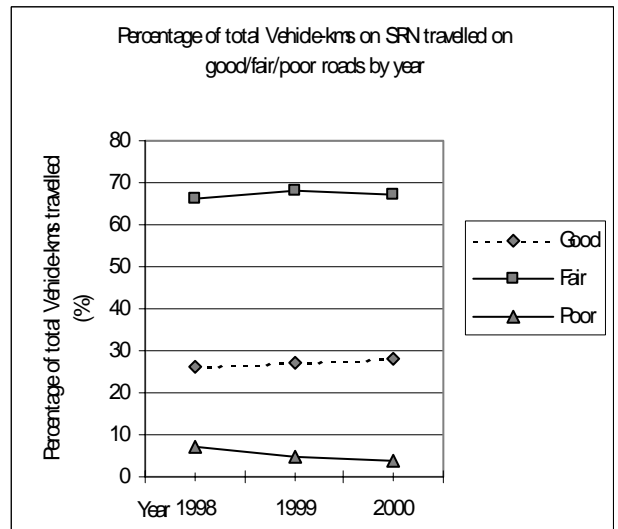
Comparison of SRN road conditions



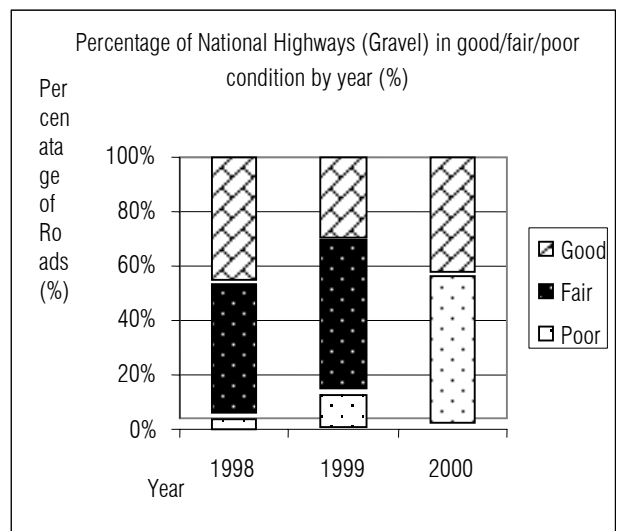
Road conditions of Blacktopped National Highways



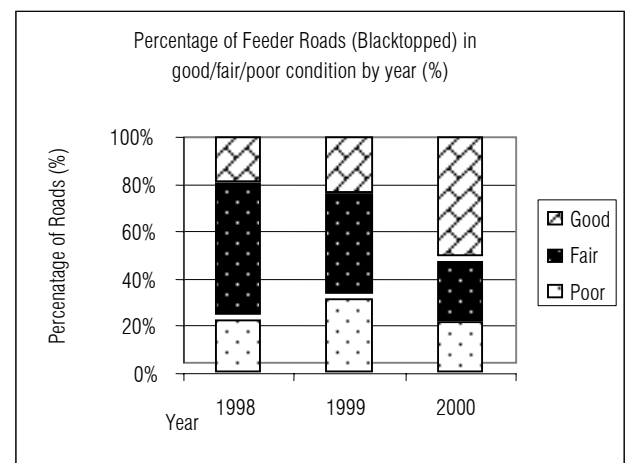
Vehicle - Km on various conditions of SRN Roads



Road conditions of Gravel National Highways



Road conditions of Blacktopped Feeder Roads





## RMDP

### Progress status

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.

The Project is about half way through the credit period. The project has achieved satisfactory progress in the **Rehabilitation** of three strategic roads viz.

- i. Lumbini- Taulihawa,
- ii. Tansen- Syanja and
- iii. Harthok- Tamghas.

Among them Lumbini- Taulihawa was completed last year, **Rehabilitation** of Tansen- Syanja and Harthok- Tamghas roads are nearing completion as per the schedule.

Good progress has been achieved in the periodic maintenance of strategic roads. The **Periodic Maintenance** works have been completed in the following sections of strategic roads:

Narayanghat- Arung Khola	50 km
Pokhara- Fedi	15 km
Butwal- Maha Khola	15 km
Butwal- Bamaha- Kothi	27 km
Belhiya- Milan Chowk	24 km
Kothi- Jitpur- Gorusinghe	16 km
Gorusinghe- Chanauta	20 km
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Total	167 km

The **Contracts Of The Periodic Maintenance** works for the following sections have been awarded:

Abu Khaireni- Satrasayaphant	11 km
Fedi- Baglung	57 km
Chanauta- Bhaluwang- Lamahi	61 km
-----	
Total	129 km

The major component of the RMD Project is **New Construction** of roads connecting district headquarters (HQ). Mangalsen, the district headquarter of Achhama, has been connected by road in March this year.

The construction works is severely affected by Maoist insurgency activities resulting in the cancellation of 14 contracts of Kalikot- Jumla section. No further works have been taken up in Sanfebagar- Martadi and Chhedegadh- Jajarkot roads.

International Contractor, China Chongqing Construction Corp. (CICO), who withdrew from site (**Upgrading** of

Surkhet- Kalikot road) in February due to the security reasons, resumed works in May and is working only in limited areas.

Another Contractor, Lama- Tundi-PS- Sunaula jv for the **Upgrading** of Dharapani- Chhedegadh road, withdrew from site and works have completely stopped. The only road in this component, which is progressing satisfactorily without security problems, is Gorusinghe- Sandhikarka Road. Graveling works in about 32 km section is in progress.

Both houses of parliament passed Roads Board bill. The bill now requires royal assent for this to be effective and operational.

The Mid-term Review of the project is scheduled for November 2002, which will take decisions if the project development objectives have to be revised and other roads that could be completed on the current security situation could be taken up.

\* \* \*

## 10<sup>th</sup> Five-year Road Sub-sector Plan

### Towards Final Stage

Planning Branch, DOR is actively involved in the preparation of 10<sup>th</sup> Five-year Road Plan. A special committee has been formed under the DDG, Design and Planning Branch for the preparation of 10<sup>th</sup> plan. The plan preparation is about to complete amid difficulties in acquiring information.

The objectives of the road sub-sector are to provide employment, cost effective, safe and supportive to other sector's development and finally contributing to **Poverty Alleviation**.

The road and bridge projects are divided into various categories such as: core projects, rolling projects, projects of district level importance, community and village level priorities.

Several **prioritization criteria** are applied for the selection of projects based on recommendations of NPC, MOPPW, DOR and PERC.

In the draft report of road sub-sector plan, which is prepared for five consecutive years from fiscal year 059/060 to 063/064 corresponding budget requirements are estimated based on the true estimates and prevailing unit costs.

Types of projects included in the plan are:

- new,
- reconstruction,
- upgrading,
- periodic maintenance,
- rehabilitation and
- maintenance including study projects.

Policy matrix is being prepared to foresee the total phenomena of the planning and program.

\* \* \*

## First Regional Workshop

### At Central Regional Road Directorate

SDE Dipak N Chalise, CRRD, DOR

Monthly, bi-monthly and quarterly meetings are regularly conducted in the Central Regional Road Directorate (CRRD). In addition with the efforts of current CRRD staff, **First Regional Meeting of CRRD** was being held at Hotel Orchid, in Kathmandu on 27<sup>th</sup> February 2002.

The meeting, which was organized as a workshop, has **objectives** of carrying out the discussions on

- programs,
- progress review (bi-monthly and quarterly),
- problems and
- finding their possible solutions.

In this workshop **three new DROs** viz., Janakpur, Pathalaiya and Bharatpur were introduced into its organizational framework.

Credit goes to Mr Chalise, who designed this workshop, sought resources for it, conducted and facilitated the workshop just in two days of its conception.

**Facilitator** SDE DN Chalise - initiated the proceedings by introducing the workshop and its program schedule.

**RD, CRRD** Mr. DB Thapa delivered his welcome address.

**DDG, Maintenance** Mr. SK Regmi delivered his address with his opinions and remarks.

**CTA, SMD** Mr. Thomas Fisler spoke about SMD, acceptance of its process by the pro-public institutions and made some comments and provided with some suggestions.

**SMD Coordinator** Mr. PM Shrestha also made available the forum with his observations.

**DG** Mr. MG Maleku later joined the workshop and delivered encouraging words to the participants and the forum.

**Remarks in general** focused towards the need of effective use of limited resources, enhanced attitude towards minor maintenance activities in DROs and timely effort by all concerned to timely solution of multiple encountered problems.

Representatives of Kathmandu, Bharatpur, Lalitpur, Bhaktapur, Ranipouwa, Charikot, Janakpur, Pathlaiya DROs, HED and the CRRD itself delivered presentations.

**Subject matter** dealt with in presentations by most of the DROs was network description (both SMD and non-SMD), budget, and problems.

The workshop adopted a tool of **objective oriented planning process** (OOPP) to identify the problems put forth by individual participants and then task

was to identify to suggest appropriate solutions. The methodology worked perfectly and desired effect was very eminent. Interactive participation was lively and quite interesting.

Clear picture started to emerge as the consolidation and **short-listing of problems** appeared in white board. This increased the enthusiasm for the participation and led to a very plausible outcome in the form findings, which has 46 questions short-listed in **17 broad topics**.

Management level, whose input is required to solve these problems, was also identified. Evaluation of the workshop by participants was very encouraging. A 100 % willingness to provide continuation and even to **support financially** for future workshops was expressed by the participants.

**Few suggestions** to improve the quality of this type of program in the future were also expressed, which are valuable and shall be incorporated during future workshops.

A report on workshop prepared by Mr Chalise was circulated to all DROs under CRRD and senior managers of DOR during the SMD YPO Workshop held in Kathmandu a few days later.

The **Report** concludes that

- a. This type of workshop meeting is important to monitor activities at each management level in order to consolidate both positive and negative aspects of planning and implementation of works within its sphere of work;
- b. Methodology utilized for the first time by in-house facilitator proved to be very effective to define issues and problems, hence should be replicated;
- c. Such in-house expertise should be encouraged also with financial incentives and
- d. The outcome of such forum derived by group consensus should be given adequate attention to and something should be done regarding recommendations by management level involved in the decision making process.

\* \* \*

#### INTERESTING NEWS !!!

- ♠ Road accidents are main cause of poly-trauma – WHO report.
- ♠ NRs. 18 Crore loss without pollution tax implemented.
- ♠ 300 % expensive lentil in Dolpa than in Bardiya because of difference in road head facility.
- ♠ Gongabu Bus park will be improved onto a model bus station with necessary modern facilities.

## Results Report of FREE-FLOW VEHICLE OPERATING COSTS (VOC) MODEL

### Roadway Characteristics

Surface type	Code: 1-Paved    0-Unpaved	1
Average roughness (IRI)	m/km	15.00
Average positive gradient	%	4.00
Average negative gradient	%	5.00
Proportion of uphill travel	%	50.00
Average horizontal curvature	deg/km	2.00
Average superelevation	fraction	0.00
Altitude of terrain	m	1000.00
Effective number of lanes	Code:1-One    0-More than one	1

### Vehicle Characteristics: Bus

#### Unit Costs

New vehicle price	\$	300000.00
Fuel cost	\$/liter	40.00
Lubricants cost	\$/liter	200.00
New Tire cost	\$/tire	6000.00
Crew time cost	\$/hour	400.00
Passenger delay cost	\$/hour	5.00
Maintenance labor cost	\$/hour	20.00
Cargo delay cost	\$/hour	5.00
Annual interest rate	%	18.00
Overhead per vehicle-km	\$	5.00

Vehicle Speed	km/hr	45.00
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### Physical Quantities per 1000 vehicle-km

Fuel consumption	liters	492.32
Lubricants consumption	liters	5.33
Tire wear	# of equivalent new tires	0.45
Crew time	hours	22.22
Passenger time	hours	44.44
Cargo holding	hours	22.22
Maintenance labor	hours	19.44
Maintenance parts	% of new vehicle price	0.07
Depreciation	% of new vehicle price	0.25
Interest	% of new vehicle price	0.23

<b>Total VOC per 1000 vehicle-km</b>	<b>\$</b>	<b>39730.82</b>	<b>100.0 %</b>
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### Components of VOC

Fuel	\$	19692.90	49.6 %
Lubricants	\$	1066.59	2.7 %
Tires	\$	2713.77	6.8 %
Crew time	\$	8888.89	22.4 %
Passenger time	\$	222.22	0.6 %
Cargo holding	\$	111.11	0.3 %
Maintenance labor	\$	388.82	1.0 %
Maintenance parts	\$	197.75	0.5 %
Depreciation	\$	762.50	1.9 %
Interest	\$	686.25	1.7 %
Overhead	\$	5000.00	12.6 %

Note: Above is the example of OUTPUT of VOC calculation. For VOC calculation please visit us with necessary INPUT data.

\* \* \*

## ROAD CONDITION OF BLACK TOP FEEDER ROADS (2000/2001)

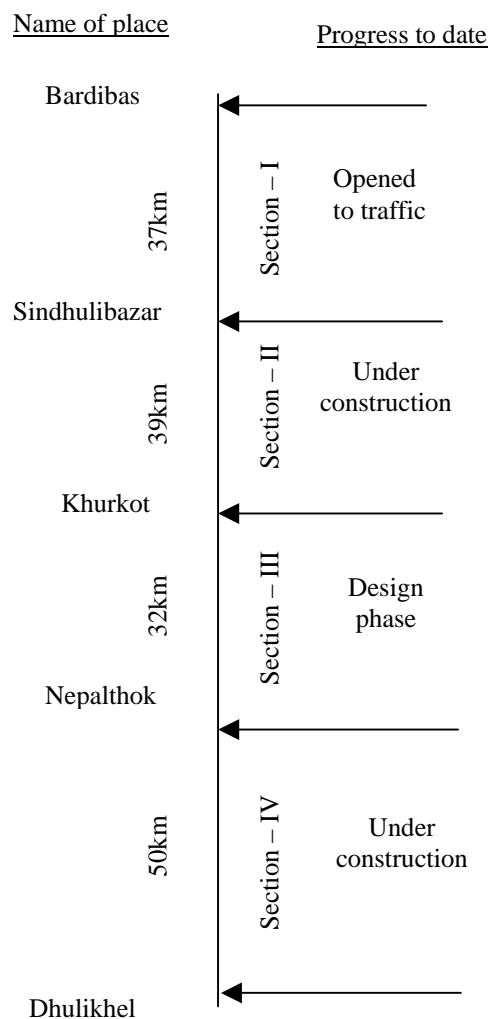
Ref. Code	Link Name	IRI (m/km)	Total Length (km)	G F P	Ref. Code	Link Name	IRI (m/km)	Total Length (km)	G F P
F0101	Birtamod - Chandragadi	4.65	12.53	F	F2202	Chovar - Dakchhinkali	5.10	12.11	P
F0201	Damak(Padajogi) - Gauradaha	4.83	6.00	G	F2301U	Satdobato - Sunakothe	4.68	2.42	G
F0301	Bharadaha - Inaruwa	4.66	7.00	G	F2302	Sunakothe - Road Jn. To Lele	5.79	8.68	F
F0302	Inaruwa - Rajbiraj Munc. Border	4.61	9.13	F	F2401U	Satdobato - Karmana Brodge	4.07	1.70	F
F0303U	Rajbiraj Munc. Border - Rajbiraj	4.72	1.62	G	F2402	Karmana Bridge - Godavari	5.41	7.68	F
F0401	Rupni - Rajbiraj Munc. Border	5.05	9.53	G	F2403	Godavari - Phulchoki	7.71	8.00	F
F0402U	Rajbiraj Munc. Border - Rajbiraj	5.82	1.74	G	F2501U	Mharajgunj - Bansbari	6.25	0.84	F
F0403U	Rajbiraj - Rajbiraj Munc. Border	5.85	0.58	G	F2502	Bansbari - Budhanilkantha	5.25	4.05	F
F0404	Rajbiraj Munc. Border - Malhaniya Chowk	6.42	11.25	P	F2601U	Chabhil (Ring Road) - Pipalbot	5.25	1.91	G
F0501	Chauraha - Siraha	4.66	18.21	G	F2602	Pipalbot - Sankhu	4.92	10.87	G
F0502	Siraha - Madar	6.42	8.61	P	F2701	Jorpati - Sundarijal	5.30	7.13	P
F0601	Nawalpur - Malangawa Munc. Border	4.58	22.02	F	F2801U	Bhaktapur - Army Camp	5.24	4.40	P
F0602	Malangawa Munc. Border - Malangawa	4.68	4.61	P	F2802	Army Camp - Nagarkot	5.27	18.60	F
F0701	Chandranigahapur - Gaur Munc. Border	4.38	38.27	F	F2901U	Banepa - Punyamati Bridge	5.56	0.59	F
F0702	Gaur Munc. Border - Gaur	4.62	5.87	G	F2902	Punyamati Bridge - Panauti	6.06	5.41	F
F0801	Bardaghat - Pratapur	4.65	8.00	G	F3101A	Dolalghat - Chautara	5.52	9.00	P
F0802	Pratappur - Surajpura	6.86	4.58	P	F3201	Lamosangu - Nigale Danda	5.34	28.27	P
F0803	Surajpura - Harpur Border	6.31	4.67	P	F3202	Niugale Danda - Charikot	5.50	25.45	P
F0901	Snuwal - Parasi	5.06	8.95	G	F3203	Charikot - Tamakosi Jn. Road to Jiri	5.17	18.20	F
F1001	Jitpur - Taulihawa Munc. Border	6.24	3.00	G	F3301	Tamakoshi - Jiri	5.28	38.03	F
F1001	Jitpur - Taulihawa Munc. Border	6.24	2.00	G	F3401	Malekhu - Dhading	4.58	17.05	G
F1002	Taulihawa Munc. Border - Bank Chauraha	5.11	4.53	F	F3501	Anbukhaireni - Marsyandi River	4.54	0.85	G
F1003	Bank Chauraha - Taulihawa Munc. Border	6.73	3.02	P	F3502	Marsyangdi River - Gorkha	4.41	23.84	G
F1004	Taulihawa Munc. Border - Khunuwa	6.73	7.84	P	F3601	Dumre - District Border	4.71	24.26	G
F1201	Chanauta - Bahadurgunj	5.01	12.02	G	F3602	District Border - Besisahar	4.93	19.17	G
F1202	Bahadurgunj - Krishnanagar	5.10	8.04	G	F3701	Bharatpur Bypass Road	4.97	4.49	F
F1501	Lamahi - Tribhuvan Munc. Border	4.43	18.87	G	F3801	Fikkal - Pashupatinagar	4.62	10.75	G
F1502	Tribhuvan Munc. Border - Tribhuvannagar	4.39	4.04	G	F3901U	Biratnagar - Singhiya Bridge	5.31	2.35	G
F1503	Tribhuvannagar -Tr Nagar Munc. Border	4.38	6.10	G	F3902	Singhiya Bridge - Rangeli	5.16	21.53	F
F1504	Tr Nagar Munc. Border- Tulsipur Munc. Bdr.	4.55	15.01	G	F4101	Pokhara - Sarangkot	5.05	4.80	G
F1505	Tulsipur Munc. Border - Tulsipur	4.35	2.60	G	F4201U	Pokhara - Bindhebasini	4.96	3.96	G
F1801	Birgunj - Bara Distc. Border	4.81	2.78	G	F4202U	Bindebasini - Yamdi Bridge	4.77	2.76	G
F1802	Bara Distc. Border-Kalaiya Munc. Border	5.04	6.86		F4203	Yamdi Bridge - Sandh Bridge	5.01	37.04	F
F1803U	Kalaiya Munc. Border - Kalaiya	5.19	2.02	P	F4204	Sandh Bridge - Kaligandaki Bridge	5.23	24.11	F
F1901	Bhainse - Bhimpheidi	5.08	11.99	G	F4205	Kaligandaki Bridge - Baglung	5.33	4.71	F
F2101U	Tripureswor - Balaju (Ring Road)	4.31	4.38	F	F4301U	Bartung - Batase Danda	6.60	4.00	G
F2102U	Balaju - Balaju Bypass	6.54	1.04	P	F4401U	Bhairahawa - Bhairahawa Munc. Border	4.75	4.40	G
F2103U	Balaju Bypass - Nagarjun	4.79	1.59	P	F4402	Bhairahawa Munc. Border - Lumbini	4.82	13.65	G
F2104	Nagarjun - Thulo Khola	5.47	10.12	P	F4403	Lumbini Junction - Padariya Chouraha	4.87	4.30	G
F2105	Thulo Khola - Kakani	5.79	7.68	G	F4501	Lumbini Juntion - Kothi Bridge	5.02	5.71	G
F2106	Kakani - Tadi Khola	5.00	34.60	G	F4502	Kothi Bridge - Taulihawa Munc. Border	4.71	17.14	G
F2107	Tadi Khola - Batar	5.23	7.52	G	F4503	Taulihawa Munc. Border - Taulihawa	5.66	1.70	G
F2108	Batar - GerkhaKhola	5.63	4.71	G	F4601U	Nepalgunj - Nepalgunj Munc. Border	4.99	1.89	F
F2109	Gerkha Khola - Phalanka Khola		6.20	F	F4602	Nepalgunj Munc. Border - Man Bridge	4.77	13.51	F
F2201	Balkhu - Chovar	4.04	4.28	G	F4603	Man Bridge - Gulariya	4.68	19.82	F

Please, wait for  
\*New norms\* & \*New DOR organization\*

## Status of BP Rajmarg Public Works Directives

### Banepa Sindhuli Bardibas Road Project

The construction progress of four sections of Banepa Sindhuli Bardibas Road has been illustrated in the figure below.



Schematic Diagram of Banepa Sindhuli Bardibas Road

**Section I:** The construction of section-I started in November 1996 and has already been completed and opened to the public traffic since March 1998.

**Section II:** In this section, the pilot road in 16km of and the earthwork in 12.5km have been completed. This section is expected to complete by March next year.

**Section III:** The detail design of this section is expected to start in near future.

**Section IV:** On 41km of this section, traffic is already running, while the remaining 9km is expected to complete by October 2002.

### HMG's new rule for construction and consulting works

The public works Directives (PWD) have been prepared under Rule 62 of **financial Administration Regulation, 2056 (FAR)** and other rules and regulations of the Kingdom of Nepal on technical, social and environmental matters to provide a single source of procedures and reference documents for implementing public construction works.

The PWD have been prepared by MPPW with the assistance of MOWR, MOLD, MCTTA, the Ministry of Law, Justice and Parliamentary Affairs, the Financial Controller General's Office (FCGO) and the National Planning Commission under the Asian Development Bank Technical Assistance.

The PWD are based upon a combination of:

- Existing procedures and rules contained in FAR and other HMG/N laws and regulations,
- Actual practices in Nepal,
- Selected procedures from donor guidelines and
- International best practices.

The objective is to provide a set of understandable, effective, efficient and practical directives to the Kingdom of Nepal.

The PWD are intended for use of HMG/N's agencies in the implementation of central-level projects and district-level projects carried out by the regional/divisional/district offices of HMG/N.

The PWD also incorporate procedures and procurement documents for implementing small projects and thus local bodies may benefit from adopting many of the contents of the PWD.

The PWD are also available in CD-ROM form, and may be viewed and downloaded from PWD website; [www.publicworksdirectives.gov.np](http://www.publicworksdirectives.gov.np).

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## ARNIKO HIGHWAY – FOURTH PHASE

### Swiss fund for Banepa road widening

The government of Switzerland will provide a grant assistance of Rs. 7.37 Crore to the Nepal government for the implementation of the fourth phase of the Arniko Highway Project.

\* \* \*

**DOR - HMIS News No. 18**

**Total Road Length, Influenced Population & Area in Districts/Zones/Regions**

District	Total Population in 1991 (No.)	Total Area	Total Length of Roads Km.	Population Influenced per Km. Of Road No./Km.	Area Influenced per Km. of Road Km./100 sq. Km.	District	Total Population in 1991 (No.)	Total Area	Total Length of Roads Km.	Population Influenced per Km. Of Road No./Km.	Area Influenced per Km. of Road Km./100 sq. Km.
<b>Nepal</b>	18491097	147181	15905	1163	11	<b>Western (Contd)</b>	3770678	29398	2709	1392	9
<b>Eastern</b>	4446749	28456	3410	1304	12	<b>Gandaki</b>	1266128	12275	555	2282	5
<b>Mechi</b>	1118210	8196	1157	967	14	Syangja	293526	1164	185	1584	16
Taplejung	120053	3646	37	3288	1	Kaski	292945	2017	410	715	20
Panchthar	175206	1241	158	1108	13	Manang	5363	2246	0		
Ilam	229214	1703	361	635	21	<b>Dhaulagiri</b>	490877	8148	89	5515	1
Jhapa	593737	1606	601	988	37	Mustang	14292	3573	0		
<b>Koshi</b>	1728247	9669	1442	1199	15	Myagdi	100552	2297	14	7182	1
Morang	674823	1855	690	978	37	Parbat	143547	494	42	3418	9
Sunsari	463481	1257	471	984	37	Baglung	232486	1784	33	7045	2
Dhankuta	146386	819	193	760	24	<b>Lumbini</b>	2013673	8975	1526	1319	17
Terhathum	102870	679	45	2286	7	Gulmi	266331	1149	171	1557	15
Sankhuwasabha	141903	3480	40	3592	1	Palpa	236313	1373	290	814	21
Bhojpur	198784	1507	3	66261	0	Nawalparasi	436217	2162	248	1759	11
<b>Sagarmatha</b>	1600292	10591	811	1973	8	Rupandehi	522150	1360	267	1956	20
Solukhumbu	97200	3312	0		0	Kapilbastu	371778	1738	336	1106	19
Okhaldungha	139457	1074	17	8203	2	Arghakhanchi	180884	1193	214	845	18
Khotang	215965	1591	0		0	<b>Mid Western</b>	2410414	42378	2106	1145	5
Udayapur	221256	2063	199	1112	10	<b>Rapti</b>	1046842	10482	962	1088	9
Saptari	465668	1363	295	1579	22	Pyuthan	175469	1309	164	1070	13
Siraha	460746	1188	300	1536	25	Rolpa	179621	1879	63	2851	3
<b>Central</b>	6183955	27410	6343	975	25	Rukum	155554	2877	0		
<b>Janakpur</b>	2061816	9669	1818	1134	19	Salyan	181785	1462	205	887	14
Dhanusa	543672	1180	597	911	51	Dang	354413	2955	530	669	18
Mohattari	440146	1002	403	1092	40	<b>Bheri</b>	1103043	10545	1144	965	11
Sarlahi	492798	1259	512	963	41	Banke	285604	2337	339	842	15
Sindhuli	223900	2491	94	2391	4	Bardiya	290313	2025	305	952	15
Ramechhap	188064	1546	34	5531	2	Surkhet	225768	2451	330	685	13
Dolkha	173236	2191	178	973	8	Dailekh	187400	1502	143	1311	10
<b>Bagmati</b>	220805	9428	2503	88	27	Jajarkot	113958	2230	27	4221	1
Sindhupalchowk	261025	2542	207	1261	8	<b>Karnali</b>	260529	21351	0		
Kabhrepalanchowk	324329	1396	385	842	28	Dolpa	25013	7889	0		
Lalitpur	257086	385	338	761	88	Jumla	75964	2531	0		
Bhaktapur	172952	119	177	977	149	Kalikot	88805	1741	0		
Kathmandu	675341	395	804	840	204	Mugu	36364	3535	0		
Nuwakot	245260	1121	238	1031	21	Humla	34383	5655	0		
Rasuwa	36744	1544	102	360	7	<b>Far Western</b>	1679301	19539	1337	1256	7
Dhading	278068	1926	252	1106	13	<b>Seti</b>	1014349	12550	702	1445	6
<b>Narayani</b>	1871334	8313	2022	925	24	Bajura	92010	2188	7		
Makwanpur	314599	2426	326	965	13	Bajhang	139092	3422	85	1633	2
Rautahat	414005	1126	226	1832	20	Achham	198188	1680	75	2660	4
Bara	415718	1190	335	1241	28	Doti	167168	2025	149	1122	7
Parsa	372524	1353	337	1105	25	Kailali	417891	3235	386	1084	12
Chitwan	354488	2218	798	444	36	<b>Mahakali</b>	664952	6989	635	1048	9
<b>Western</b>	3770678	29398	2709	1392	9	Kanchanpur	257906	1610	185	1395	11
<b>Gandaki</b>	1266128	12275	499	2537	4	Dadeldhura	104647	1538	168	622	11
Gorkha	252524	3610	133	1899	4	Baitadi	200716	1519	242	829	16
Lamjung	153697	1692	81	1897	5	Darchula	101683	2322	40	2574	2
Tanahu	268073	1546	285	941	18						

\* \* \*



## RMDP – Social Awareness Program

### An Institutional strengthening part

[By B. Timseena]

Since the road construction has adverse impact not only on environmental and economic aspects but on social aspect also, hence, utmost attention has to be given to the impact of road construction on social aspect. All stakeholders should be aware regarding social impact of the road construction projects.

To avoid or minimize the negative social impacts of road construction DOR has attempted to build up its institutional capabilities within itself establishing a social unit in the GEU employing consulting services for the Institutional Strengthening and Training Component with the World Bank Assistantship.

The **Institutional Strengthening Component of the RMDP** envisaged assessing the existing social problems, which are commonly seen during the road survey, design, construction, and even during rehabilitation and maintenance.

The awareness activities therefore needed to be developed to maintain sustainable road construction and to maximize the benefits of the road to the stakeholders.

#### Issues to be raised to address the social awareness:

##### 1. Identification of social issues

- Man made structures (material and non-material)
- Settlement, people, and their means of survival.
- Biological factors, which influence the human life in any manner.
- Social Development Potentials (Human Resource Development. Economic Stimulation, Changes in population and quality of life)

##### 2. The Social Problem

- Involuntary resettlement.
- Population displacement
- Loss of Community structure.
- Loss of cultural identity.
- Long-term impoverishment, hardship and environmental damages.

##### 3. Awareness Plan

- Impact Identification
- Mitigation Measures
- Review of good and bad practices of EMAP/RAP.
- Basic Information on EIA/SIA procedures.
- Preparation of Land acquisition, compensation, rehabilitation.
- Benefit monitoring and Evaluation.

##### 4. Procedures of Social Awareness Development:

- Review of initial social assessment report.
- Critically review the socioeconomic profile.
- Knowledge about the client population
- Identification of various sub-groups within the road corridor,
- Need assessment of the population
- Gender issues
- Adverse impact on the vulnerable groups.

##### 5. Incorporate Social Dimensions in Road Project

- Identification of target beneficiaries and targeting mechanisms
- Participatory road development process
- Project delivery mechanism
- Resettlement plan

##### 6. Target Population for Awareness Development

- DOR personnel and Engineers
- Consultants
- Contractors
- District Development Committee representatives
- Chief District Officers
- Media peoples, reporters and journalists,
- NGO peoples
- Local Stakeholders.

##### 7. Methods of Social Awareness Development

- Data collection Operations on various Social aspects
- Discussion on identified impacts of road construction
- Review of SIA/EIA Guidelines.
- Review of legal framework
- Review of Social Impact Assessment Framework,
- Review and Discussion on the EMAP compliance monitoring reports
- Discussion on RAP and impact monitoring reports.
- Field visit and walkover survey of the PAPs, RAP, and EMAP implementation.
- Analysis of collected data and preparing consolidated report and publication.

##### 8. Responsibility to develop awareness:

- The proponent i.e. Ministry of Physical Planning and Works or Department of Roads (employing consultants).

The awareness development program enhances the skill to identify the crucial social problems in road construction by which the unwanted problems can be avoided prior to starting road construction. It helps to enhance the planners and executor to increase the social inclusion.

There are different agencies that are concerned more in awareness development. The target population must be familiar with interrelationship and interdependence of the various government agencies in development construction activities like roads.

**Coordination with other Government Agencies during Awareness Development**

Government Agencies (Sometimes called proponent)	Activities
1. National Planning Commission	Formulation of policies, and Preparation of Plan,
2. Ministry of Physical Planning and Works	Urban Development, Development Infrastructure Policies and implementation (settlement development, Drinking water supply, sewerage management, local transportation management; such as mule track, road ways, water ways, suspension bridge, rope ways etc).
3. Ministry of Land Reform and Management	Land Acquisition, compensation, Land registration, Land measurement and mapping, Revenue settlement And Resolution of Land less people and squatting.
4. Ministry of Home	Conflict Resolution and Social Securities
5. Ministry of Law Justice and Parliamentary Affairs	Legal consultation and conflict resolution in necessity.
6. Ministry of Population and Environment	Policy on IEE and EIA, Pollution control, Migration policy, and review of the task carried out by different NGOs & INGOs regarding any development activities.
7. Ministry of Women, Children and Social Welfare.	Social Welfare Activities (related to women, children and disables). The vulnerable groups.
8. Ministry of Finance	Budget approval, Account control and Financial Administration
9. Ministries of Water Resources	Hydropower policy, Irrigation Management, Flood control and River training. Meteorological Studies; etc.
10. Ministry of forest and Soil Conservation	Watershed Management, Forest and Wildlife conservation, Natural Environment Conservation Policies such as National Parks and Royal herbarium etc.
11. Ministry of Labor and Transport Management	Information on Labor force, Labor market, Labor policy, Employment and Trade Union. Social Security of the labor and Foreign Employment.
12. Ministry of Local Development	Rural and remote area development and local level drinking water sewerage and sanitation policy and program. Local roads (including agriculture roads) Mule track and suspension bridge. Indigenous People (ethnic groups, minorities, vulnerable groups, aboriginal, and depressed groups).
13. Ministry of Industry	Geological information and issues related to mines.

The coordination between different agencies helps to neutralize the misunderstanding and resolve conflict if arises in different times, steps and processes of planning and implementation of the road projects. \* \* \*

**Editorial**

New issues on road management such as Road Fund Board and Performance Based Contracts are coming up, which will completely change the role of the government into facilitator/regulator of road management work.

Successful implementation of SMD road maintenance system has encouraged all of us, which will cover all SRN roads in the next phase.

With the involvement of engineers from private sector in road projects, the present DOR organization has to be revised, as there are new road management issues and maintenance policy on the way.

Lastly, we hope the present bulletin will highlight on current situation of DOR activities and issues.

kk Shrestha

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See you again with **HMIS Newsletter 19**