

# Environmental Monitoring Report

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Environmental Monitoring Report of Manthali - Pakarbas road sub project in Ramechhap District  
Project Number: 30232  
March 2010

## NEP: Decentralized Rural Infrastructure and Livelihoods Project

Prepared by District Development Committee, Ramechhap for the Asian Development Bank (ADB).

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**Government of Nepal**  
**Ministry of Local Development**  
Decentralized Rural Infrastructure and Livelihood  
Project

Environmental Monitoring Report  
of  
**Manthali- Pakarbas Road Sub-Project**

Proponent:  
**District Development Committee, Ramechhap**  
Manthali, Ramechhap

**January 2010**

## **1.0 Introduction**

1. Manthali-Pakarbas road sub-project lies in Ramechhap district of Central Development region of Nepal. The construction of this road has been started by Manthali-Galpa User's Committee through DDC funding using bulldozer from FY 062/63. The road starts from Bhatauli-5, Mugitar at the right bank of the Tamakoshi River and ends at Chyandanda of Pakarbas VDC. The road alignment passes through Bhatauli and Pakarbas VDCs. The total length of the road is 16.8 km and formation width is 5.0 m. Location of the road is given in **Figure 1**.

2. The District Development Committee (DDC), Ramechhap is the executing agency at the district level under Decentralized Rural Infrastructure and Livelihood Project (DRILP) and the proponent of the Initial Environmental Examination (IEE) study for Manthali-Pakarbas road sub-project.

## **2.0 Monitoring environmental issues**

3. Field supervision was done to monitor environmental aspects and compliance of mitigation measures as defined in the IEE report. Following are the field observations and details are given in **Table 1**.

### **2.1 Accessibility to transportation**

4. The construction and rehabilitation of the road has been done satisfactorily. There is positive impact of road as regular vehicle movement has already been started. Vehicles are plying from the starting point, Bhatauli up to the last point of the road and beyond. There are four buses, two jeeps, four mini trucks, four tractors regularly plying in this road. Due to this, transportation cost has been reduced up to one rupee per kilogram (personal conversation with local people).

### **2.2 Spoil disposal**

5. Spoil disposal has been done properly with necessary toe walls. However, additional protection structures like retaining wall at Ch 9+500 and breast wall at Ch 15+100 are needed.

### **2.3 Community Infrastructure**

6. Most of the community infrastructures affected by the construction of the road have been rehabilitated. However, trails joining the road should be rehabilitated to have easy access to the rural people at Ch 9+800, 11+500 and 11+550.

### **2.4 Market centre development and shops**

7. At Thati, there is new market center emerging with the construction of new shops.

### **2.5 Harvesting and transportation cost**

8. Harvesting and transportation cost of trees have been provided to the concerned owners except at Ch 15+400 and Ch 16+000 for few trees where owners weren't available and even they did not contact project staff in spite of notices given to them.

### **2.6 Health and safety**

9. BG members are locals from nearby areas and they walk from their home for work. They have been provided with facemasks, goggles, gloves and first aid kit with necessary medicines. However, procurement of helmets is going on and workers will get soon. All the BG members are provided with labor cards and having group accidental insurance.



**Table 1. Environmental Monitoring format**

<b>District</b>	<b>Ramechhap</b>	<b>Sub-project</b>	<b>Manthali-Pakarbas road</b>
<b>Date</b>	<b>09 December 2009</b>		<b>Ref No.</b>

<b>SN</b>	<b>Activity</b>	<b>Details</b>	<b>Remarks</b>
<b>1.0</b>	<b>Employment generation and technical skill</b>		
1.1	Number of local labour employed in contractor package	Local labours are from within the district	
1.2	Number of women in work force with BG/contract package	1,159 women out of 2,859 in BGs (40.53%)	
1.3	Number of child workers (if any)	No child workers	
1.4	Number of life skill training conducted and participants number	20 events with 369 participants	
1.5	Number of technical training conducted and participants number	Technical training identified	
<b>2.0</b>	<b>Trade and commerce</b>		
2.1	Number of shops increased or decreased	19 no. of new shops	
2.2	Rental of houses and land spaces increased or decreased	Increased	
2.3	Volume of business increased/decreased	Increased	
2.4	Establishment of cottage industries in the vicinity of project area	Grill (fabrication of iron plates) industry at Thati	
<b>3.0</b>	<b>Landslides or other forms of slope instability</b>		
3.1	Number and location of slope failure	Smaller slips	
3.2	Disturbed area due to lack of drainage	No	
3.3	Presence of fresh gullies and erosion	No	
3.4	Measures for landslide and erosion control	-	
3.5	Application of bioengineering measures	Slips plantation near Bhatauli and for other areas estimate has been completed and will be done just before rainy season	
3.6	Establishment of nursery (no. and location)	Initiated coordination with District Forest Office.	
<b>4.0</b>	<b>Disposal of spoils and construction wastes</b>		
4.1	Cut and fill balance maintained or not	Maintained	
4.2	Stockpiling of construction materials done properly or not	Done properly	
4.3	Care and safe storage of top soil for later use	-	
4.4	Spoil falling or being washed on to forest and farm land	Minimum effect on forest and farm land	
4.5	Compensation provided to land owner and measures to prevent further damage	Not needed	
4.6	Presence of toe walls for safe disposal of excavated materials and other construction wastes	Toe walls have been constructed for safe spoil disposal at necessary sites	
<b>5.0</b>	<b>Water management/water quality</b>		
5.1	Disruption of drinking or irrigation water supplies and their restoration and rehabilitation status	Not disturbed	

5.2	Drain water discharge into farm land/risky areas	No	
5.3	Diversion of water away from natural water course	No	
5.4	Quality of surface water observed	Not polluted	
<b>6.0</b>	<b>Community infrastructures</b>		
6.1	Suitable reinstatement measures for disruption to community infrastructures (trails, trail bridges, Chautara etc)	At Ch 1+600, 7+360 trails for school, Ch 6+760 and 8+880 trails for villagers and at Ch 13+300 and 15+420 trails for Sitka road completed. At Ch 8+500 and 9+360 reconstruction of Chautara (resting place) completed. For other community infrastructures, estimate has been completed and rehabilitation work will start soon.	
<b>7.0</b>	<b>Air quality</b>		
7.1	Dust generation from construction work	Dust generation due to earthen road	
<b>8.0</b>	<b>Noise pollution</b>		
8.1	Noise from large work sites	No	
<b>9.0</b>	<b>Quarrying of construction materials</b>		
9.1	Pollution, disturbance and danger from quarry operations	No	
9.2	Rehabilitation of abandoned quarry sites		
<b>10.0</b>	<b>Forest and vegetation</b>		
10.1	Number of stumps of cut trees	1,858 trees are removed (367 from CFs and 1,491 from private land)	
10.2	Pressure on nearby forest for firewood/timber use	Not observed	
10.3	Compensatory plantation and its survival rate	-	
10.4	Sale of timber/NTFP increased/decreased	-	
<b>11.0</b>	<b>Wildlife</b>		
11.1	Cases of wildlife hunting by work force	No	
11.2	Cases of trading of wildlife products	No	
<b>12.0</b>	<b>Occupational health and safety matters</b>		
12.1	Types and no. of accident occurred	1 no	
12.2	Adequacy of safety gadgets (helmet, facemasks, muffles, gloves etc)	Facemasks, gloves and goggles provided	
12.3	Facility of first aid and emergency services provided or not	Provided	
12.4	Compensation to the loss of life or disability	Provided	
12.5	Accidental insurance for workers	Done	
<b>13</b>	<b>Camp site management</b>		
13.1	Material used for camp site construction	No camp site as BG members are local	

13.2	Water supply and sanitary condition	-	
<b>14</b>	<b>Sites for cultural and religious values</b>		
14.1	Protection of culturally and religiously sensitive spots (temple, mane, cremation sites, mela spot etc)	Temple has been dismantled and cost estimate has been completed to shift temple at Ch 12+000, Thati	
<b>15</b>	<b>Change in migration pattern</b>		
15.1	No. of persons migrating to other places	-	
15.2	No. of persons stopped migrating/return from outside	60 person	

### Photographs



Vehicles plying in Manthali-Pakarbass road



Road passing through community forest



Toe wall constructed at Ch 9+300



Trail to be rehabilitated at Ch 11+500