



Environmental Monitoring Report

Project Number: 37328
June 2009

IND: Madhya Pradesh State Roads Sector Project II

Prepared by Madhya Pradesh Road Development Corporation
Executing Agency
Bhopal, Madhya Pradesh, India

For Madhya Pradesh Road Development Corporation

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Asian Development Bank

Environmental Monitoring Report

Loan Number : 2330-IND
Reporting period: January – June 2009

Madhya Pradesh State Road Sector Development Project

Prepared by : Madhya Pradesh Road Development Corporation
Executing Agency : Madhya Pradesh Road Development Corporation

Signed by:-



(G.P.Mehra)
General Manager
Authorized Signatory from Executing Agency
3 July 2009

ENVIRONMENT MONITORING REPORT

1. Introduction

Asian Development Bank (ADB) has approved a project loan of \$ 320 Millions in May 2007 for rehabilitation and reconstruction of about 1800 Kms of Madhya Pradesh State roads. The project titled Madhya Pradesh State Road Sector Project-II (MPSRSP-II) will improve transport efficiency of the State road network which will contribute to expansion of economic opportunities and poverty reduction. Madhya Pradesh Road Development Corporation (MPRDC) is the executing agency for the project. All the seventeen contracts under the project (two for consultancy services for construction supervision and fifteen civil work contracts) are under implementation. The loan closing date is 31st December 2010.

In all 24 state highways are being rehabilitate/ reconstructed under this project. All the sub projects have been assessed to be of environmental category B as per ADB's environmental policy 2002 and environmental assessment guidelines 2003.

These 24 State highways/Project Roads have been divided into 17 packages of which for 15 packages have been awarded as under.

Pkg .1 Shivpuri-Sheopur Pali Rajasthan Border , Pkg 2:- 1) Gairatganj -Silwani Road ,NH-12 Silwani Road ,Bareilly -Pipariya Road(SH-19) Pkg-3:-(1) Mandleshwar-Kasrawad(SH-1) Kasrawad-Khargaoan Road (SH-31) , (2) Banher to Maharashtra Border Pkg 4:- (1) Barwah-Dhamnod Road , (2) Khalghat-ManawarRoad , (3) Khalghat-Kasrawad Road Pkg 5:- (1) Birgodha- Ingoria Road , (2) Indore-Depalpur Road Pkg 6:- (1) Morena-Porsa Road , (2) Shayampur-Goras Road Pkg 7:- Khandwa-Khargaoan Road Pkg 8:- Hoshangabad - Nasarullaganj-Khatgaon Pkg 9:- Nagod-Jarso-Saleha-Pawai-Mohindra-Semaria-Amanganj Road Pkg 10:- Amanganj Malehra Road Pkg 11:- (Seoni Chiraidongri Road) Pkg 12:- Balaghat Nainpur Road Pkg 13:- 1 Tala-Shahdol 2. Katni-Barhi-Tala Road Pkg 14:- Lakhnadon-Mandla-Dindori Road) Pkg 15:- (Bela-Govindgarh-Churahat(SH-52) and Rewa-Sirmour-Dabhora Road)-

2. Compliance status with National/State/Local statutory environmental requirements:

MPRDC and Civil works contractors have obtained all permissions required under the existing statutory environmental regulations. These includes permission for working in reserve forest areas, permissions for cutting trees, consent for construction & operation of construction equipments such Hot Mix Plants, Crushers, DG sets etc. These have been obtained from the Department of forest, Department of Revenue, Madhya Pradesh Pollution Control Board, Department of Mining, Directorate of explosive, etc.

3. Compliance Status with the Environmental Covenants as Stipulated in the Loan Agreement.

Sr. No	Particulars	Remarks
a	The Project is carried out and all Projects / Subprojects facilities are designed, constructed, operated, maintained and monitored in compliance with the environmental laws and regulations of the Borrower, the State, ADB's Environment Policy (2002), and the EARF;	Ongoing
b	An IEE or EIA report as required shall be prepared, including on EMP with budget identifying the cost of its implementation (as incorporated in the related procurement bid document), with adequate public consultation for each Subproject, in accordance with the EARF. This shall be submitted to ADB for review and approval before award of related civil works contract.	Complied
c	The EIA or IEE for Subprojects categorized under ADB's Environment Policy (2002) as "A" or "B" sensitive shall be subject to prior approval of ADB before the 120 day requirement of public disclosure under ADB's Environment Policy (2002);	So far no environmental category A or B sensitive category projects considered under this loan.
d	All environmental clearance required by all laws, acts, and regulations of the Borrower, State and local levels shall be obtained in a timely manner and prior to commencement of civil works for the relevant section of the Subproject as applicable;	All Permission required under the existing environmental statutory have been obtained.
e	All mitigation measures identified in the IEE, and SEIAs, and the EMPs, prepared for the Subprojects, as applicable, are incorporated in Subproject designs, and are carried out during their construction, operations and management, and are disclosed to stakeholders;	Ongoing the mitigation measures identified during environmental assessment have been incorporated in design and are being implemented during construction. The cost towards these mitigation measures has been included in the construction cost.
f	If there are any changes in specific locations or	So far no changes in

	alignments of any infrastructure or Project facilities after completion of the process of IEE or EIA, or any new information is made available during detailed design or implementation that has an impact on the environmental assessment process carried out thus far, then additional environment assessment shall be carried out in accordance with ADB's Environmental Policy (2002) and the EARF, and prior approval of ADB shall be obtained before further physical implementation of the relevant section of the Subproject as applicable; and	specific locations or alignments have been made after the completion of process of IEE.
g	Semiannual progress reports shall submitted to ADB on the implementation of the EMP's, and measures under the IEE/EIA, and the environmental monitoring carried out as a regular part of Project Implementation for review and disclosure in accordance with ADB's Public Communications Policy (2005	The progress report submitted by the supervision consultants includes details of implementation of environmental management and monitoring plan. The MPRDC has submitted semiannual progress report for the period Jan 2009 to June 2009 to ADB.

4 Compliance status with environmental management plans as stipulated in the environmental documentation as agreed with ADB.

MPRDC, through its environmental expert closely monitors the implementation of environmental management and monitoring plan (EMMP) for all packages through regular review meetings held with the environmental experts of supervision consultants and by visiting the construction sites. For effective supervision of implementation of these EMMP, the supervision consultants have designated their existing site staff for environmental coordination. All contractors have also designated environmental officers for the respective contracts.

The supervision consultant submits periodic progress report to MPRDC that includes information on implementation of EMMP. The environmental information captured in these reports includes environmental monitoring status of construction sites, pollution control measures being adopted, and measures for workers safety at construction site and camp site etc. Although MPRDC has assessed that the implementation of EMMP during the reporting period has been satisfactory, some areas such as safety arrangements, traffic management and usage of personal protective equipments (PPE) by the construction workers require to be improved further. MPRDC conducted two workshops on environmental safeguard requirements for its staff consultants and contractors during this reporting period.

During the reporting period MPRDC has conducted public consultations for contract packages 1, 3, 9, 13 and 14. The recommendation and suggestions from the participants are being appropriately incorporated in the project. So far MPRDC has not received any complaint from the public. MPRDC has established complaint handling system at each construction sites for effective and timely redressal.

5 Approach and Methodology engaged for environmental monitoring of the project.

MPRDC has been ensuring that the monitoring of components such as ambient air quality, water quality and noise levels is being carried out by the civil work contractors as per the agreed monitoring plans. The sampling locations for these components have been identified based on environmental sensitive locations like schools, hospitals, construction sites, pollution sources, discharge points etc. The details on environmental components, parameters, methodology, duration of monitoring and instruments are described in following table.

Env.l Components	Parameters	Method of Monitoring	Duration/Frequency of Monitoring	Instrument used.
Air	RPM , SPM , SO ₂ , NO _x	By using Repairable	24 hrs, thrice in a year.	Repairable Dust
Water	pH , BOD , COD , TDS , TSS , DO , Oil & Grease- , Turbidity- , Hardness , Total Coliform	As per IS Code 10005 or drinking water	Random sample thrice in a year.	-
Noise	dB(A)	By using Noise Meter	24 hrs. thrice in a year.	Cygnet

6. Monitoring of environmental receptors/attributes (e.g. ambient air, surface water, ground water and Noise):-

During the reporting period the environmental monitoring was carried out as per the agreed monitoring plan for all contract packages except for Package-5 and Package-15. The monitoring results under all packages show that the levels observed within the regulatory limits except for the packages 4, 9, 10 and 11. The deviations observed where for exceeding hardness in ground water (package-4), exceeding values of suspended particulate matter (package 9 and 10) and noise level (package-11). MPRDC has instructed the civil work contractors to take appropriate mitigation actions for reducing hardness/making alternate drinking water arrangements, carry out regular water sprinkling in dust prone areas, and provide enclosures/silencers for the construction equipments. MPRDC has also instructed the supervision consultants and contractors to ensure usage of PPE by all staff working at the camp site.

MPRDC has informed the contractors of packages of 5 and 15 to carry out the monitoring of environmental components immediately. In case the environmental monitoring is not carried out, MPRDC will withhold the payments till the monitoring is carried out.

Contract package- wise details are provided below.

Environmental Monitoring Details Package1: The last monitoring in this package was carried out in the Month of March 2009. All the parameters are well within the limit.

Environmental Monitoring Details Package2The last monitoring in this package was carried out in the Month of February 2009. All the parameters are well within the limit.

Environmental Monitoring Details Package3No Environmental Monitoring is carried out in this package.

Environmental Monitoring Details Package4The last monitoring in this package was carried out in the Month of February 2009. All the parameters are well within the limit except hardness is high in ground water. The treatment like RO shall be provided before using this water for drinking purpose.

Environmental Monitoring Details Package5The last monitoring in this package was carried out in the Month of December 2008. All the parameters are well within the limit

Environmental Monitoring Details Package6The last monitoring in this package was carried out in the Month of April 2009. All the parameters are well within the limit

Environmental Monitoring Details Package7The last monitoring in this package was carried out in the Month of March 2009. All the parameters are well within the limit

Environmental Monitoring Details Package8The last monitoring in this package was carried out in the Month of March 2009. All the parameters are well within the limit

Environmental Monitoring Details Package9The last monitoring in this package was carried out in the Month of February 2009. The monitoring was carried out for Air quality only. The values of SPM & RPM are very high & exceeding the prescribed limits and need to be rechecked and re-monitored. Regular water sprinkling need to be done in dust prone areas. The value of NOx is also very high but within the limit. Ambient air quality near hot mix plant needs to be monitored

Environmental Monitoring Details Package10: . The last monitoring in this package was carried out in the Month of February 2009. The monitoring was carried out for Air quality only . The values of SPM & RPM are very high & exceeding the prescribed limits and need to be rechecked and re-monitored. Regular water sprinkling need to be done in dust prone areas. The value of NOx is also very high but within the limit. Ambient air quality near hot mix plant needs to be monitored

Environmental Monitoring Details Package-11: Environmental Monitoring was done on this package in May, 2009 only the result of Noise levels are exceeding in Camp sites for res. Areas.

Environmental Monitoring Details Package-12The last monitoring in this package was carried out in the Month of May 2009. The environmental monitoring was carried out for Air, Noise and Water Quality. The result of monitoring shows values are within the limit, however regular water sprinkling need to be done to control SPM levels.

Environmental Monitoring Details Package-13 The last monitoring in this package was carried out in the Month of May 2009. The environmental monitoring was carried

out for Air, Noise and Water Quality. The result of monitoring shows values are within the limit, however regular water sprinkling need to be done to control SPM levels.

Environmental Monitoring Details Package14 The last monitoring in this package was carried out in the Month of April 2009. The environmental monitoring was carried out for Air, Noise and Water Quality. The result of monitoring shows values are within the limit, however regular water sprinkling need to be done to control SPM levels.

Environmental Monitoring Details Package-15: No Environmental Monitoring is carried out in this package.

7. Any other environmental aspects, impacts observed during implementation which was not covered earlier.

There is no such environmental aspect, which was not covered earlier.

8: Details of Redress Committee and complaints received from public and actions taken thereof to resolve.

No complained received so far. AIDS awareness campaigns for construction workers and people from nearby villagers were conducted in packages 1, 3, 5, 9, 13 and 14.

9. Follow-up actions and conclusions

The environmental monitoring for contract packages for 5 and 15 will be completed by 31st July 2009. The MPRDC will also follow-up, directly and through supervision consultants, with the civil work contractors for ensuring safety arrangements, traffic management and usage of PPE for further strengthening the implementation of EMMP's.