

Madhya Pradesh Road Development Corporation: A Case Study of ADB Assistance for Institutional Development in the Transport Sector in India

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Asian Development Bank

The logo of the Asian Development Bank (ADB), consisting of the letters "ADB" in a white serif font on a dark blue square background.

Presentation Outline

- Introduction
- Background on Road Sector
- ADB Support
- MPRDC Institutional Dimensions
- MPRDC Systems
- Results Achieved
- Replicability

Introduction

Madhya Pradesh - Statistics

- Geographical Area 308,000 sq. km
(2nd largest Indian State - 9.4% of India's area)
- Population (2001 census) 60.4 million
(5.9% of India's population)
- Forest Cover 94,690 sq. km
(Largest in India and 30.7% of State's area)
- Population Density 196/sq. km
(Against 313/ sq. km for India)



Introduction

Madhya Pradesh - Economy

- Agriculture
- Natural Resources
- Manufacturing sector
- Constraints - Infrastructure

Background on Road Sector

Key Statistics

- Road Length 72,410 km
- Surfaced roads 60,010 km
- Un-surfaced roads 12,400 km
- Road network density 45.1 km/sq.km
- Class I road density 18.7 km/sq.km

Background on Road Sector Situation in 2000

- Need for development and maintenance
-
- Need for road database
- Need for updating institutional framework
- Need for private sector participation framework

Background on Road Sector Impact of Poor Management

- Road conditions
 - Excessive vehicle operating costs and travel time
- Connectivity
 - access to markets, health and educational facilities
- High transportation cost
 - affecting the economic growth

ADB's Support to Integrated Development of Road Network in MP

Commenced in 2002

Assistance till date is about \$ 1 billion

- ❑ Loan 1958-IND: MP State Road Sector Development Program
\$30 million**
- ❑ Loan 1959-IND: MP State Road Sector Development Project
\$150 million**
- ❑ Loan 2330-IND: MP State Roads Sector Project II
\$320 million
TA 4013-IND: Institutional Strengthening and Capacity Building for Madhya Pradesh State Road Sector**
- ❑ TA 4934-IND: Institutional Strengthening of Madhya Pradesh Public Works Department Project**
- ❑ NHDP and PMGSY programs**

ADB Support

Outputs and Outcomes

Loan 1958-IND: MP Road Sector Development Program
\$30 million, Approved in Dec 2002, Completed in March 2006

- Establishment of Madhya Pradesh Road Development Corporation (MPRDC)
- Development of fully functional business processes at MPRDC
- Extensive training and capacity building programs

Outputs and Outcomes achieved through ADB Assistance

Loan 1959-IND: MP Road Sector Development Program

\$150 million, Approved in Dec 2002, Expected Completion in June 2009

Outputs

- **Phase I** – 332 km roads have been rehabilitated.
- **Phase II** – 1,271 km roads under implementation (95% physical progress)

MPRDC

- Institutional Dimensions

- MPRDC incorporated in July 04
- ADB funded Project and BOT road contracts
- MP Highway Bill - July 2004
- State Highway Act - October 2005
- MPRDC notified as Highway Authority for all State Highways

MPRDC

- Institutional Dimensions

- Lean organization 236 sanctioned positions
- Small and flat organizational structure
- Stimulating work environment
- IT based infrastructure and systems
- Use of outsourcing
- Focus on PPP

MPRDC Systems Management Information System

- Electronic Road Register (ERR)
- ERR interfaced with HDM-4
- Database for 4,000 km roads completed
- Web enablement being tested

MPRDC Systems Management Information System

Inventory



Bridges &
Culverts



Junctions



Traffic



Condition



Road
Accidents



Payment
Structure



MPRDC Systems Management Information System

Road Management System

Masters Link Inventory Condition Traffic Accident Reports Tools Help

 **Electronic Road Register** Date: 19/10/2005
Time: 17:46

Customized Query

Form3

Apply Filter

Select Section	Select Column		Data	
Inventory	Carriageway Width	<	4	mtr
<input checked="" type="checkbox"/> AND				
Traffic	PCU	>	2000	Veh
<input checked="" type="checkbox"/> AND				
Pavement	Year of P.M.	<	2000	

Filters the Links based on the Selection

MPRDC Systems Management Information System

Form3

1 of 1+

00%

Preview

- Capital Zone, Bhopal
- Ujjain Zone
- Sagar Zone
- West Zone

Customised Query Result

19/10/2016

GOVERNMENT OF MADHYA PRADESH
Electronic Road Register

Link History

Links with Carriageway Width < 4 and PCU > 2000 and Year of P.M. < 2000

Road #	Link Start	Link End	Section	Column Description	Data Section	Length in
Capital Zone, Bhopal						
Betul						
SH-26	Makada Dhana ODR km 29/2	Mohada ODR km 48/6	Inventory	Carriageway Width	Bitumen	9.80
					Metalled	9.60
SH-26	Makada Dhana ODR km 29/2	Mohada ODR km 48/6	Pavement	Year of P.M.	Metal Renewal	10.60
SH-26	Makada Dhana ODR km 29/2	Mohada ODR km 48/6	Traffic	PCU		19.40
Vidisha						
SH-19	Ambanagar MDR km 53/4	Ambanagar MDR km 56/6	Inventory	Carriageway Width	Bitumen	3.20
SH-19	Ambanagar MDR km 53/4	Ambanagar MDR km 56/6	Pavement	Year of P.M.	Premix Carpet	3.20
SH-19	Ambanagar MDR km 53/4	Ambanagar MDR km 56/6	Traffic	PCU		3.20
SH-19	Dolkhedi MDR km 9/8	Bamuriya MDR km 16/4	Inventory	Carriageway Width	None/Not Known	1.00
SH-19	Dolkhedi MDR km 9/8	Bamuriya MDR km 16/4	Pavement	Year of P.M.	Premix Carpet	6.60
SH-19	Dolkhedi MDR km 9/8	Bamuriya MDR km 16/4	Traffic	PCU		6.60
SH-19	Johad MDR km 42/4	Ambanagar MDR km 53/4	Inventory	Carriageway Width	Bitumen	11.00
SH-19	Johad MDR km 42/4	Ambanagar MDR km 53/4	Pavement	Year of P.M.	Premix Carpet	11.00
SH-19	Johad MDR km 42/4	Ambanagar MDR km 53/4	Traffic	PCU		11.00
						34.60
Ujjain Zone						
Shajapur						
SH-41	Jathda MDR/ODR km 6/10	Ashta NH-86 km 0a	Inventory	Carriageway Width	Bitumen	38.20

MPRDC Systems Procurement Systems

- Procurement guidelines, procedures and standard documents developed
- Citizen's right for information honored
- Human Resource Policy Manual of MPRDC lays down well-defined delegation and reporting structures
- FIDIC conditions largely adopted
- Role of Supervision Consultant as Engineer accepted
- All type of contracts including BOT suitably modified

MPRDC Systems

Financial Management System

- Modern Computerized Financial Management System
- Financial Accounting on EX platform
- Financial Accounting in line Indian Accounting Standards
- Capable of generating current information on project financials, contractor payments and transaction records
- Extensive report generation capability
- Generation of corporate and statutory financial reports

MPRDC Systems

Human Resources System

- HR emphasis on training & development of employees
- Two training programs per employee per year
- Employees trained in use of computers

MPRDC Systems

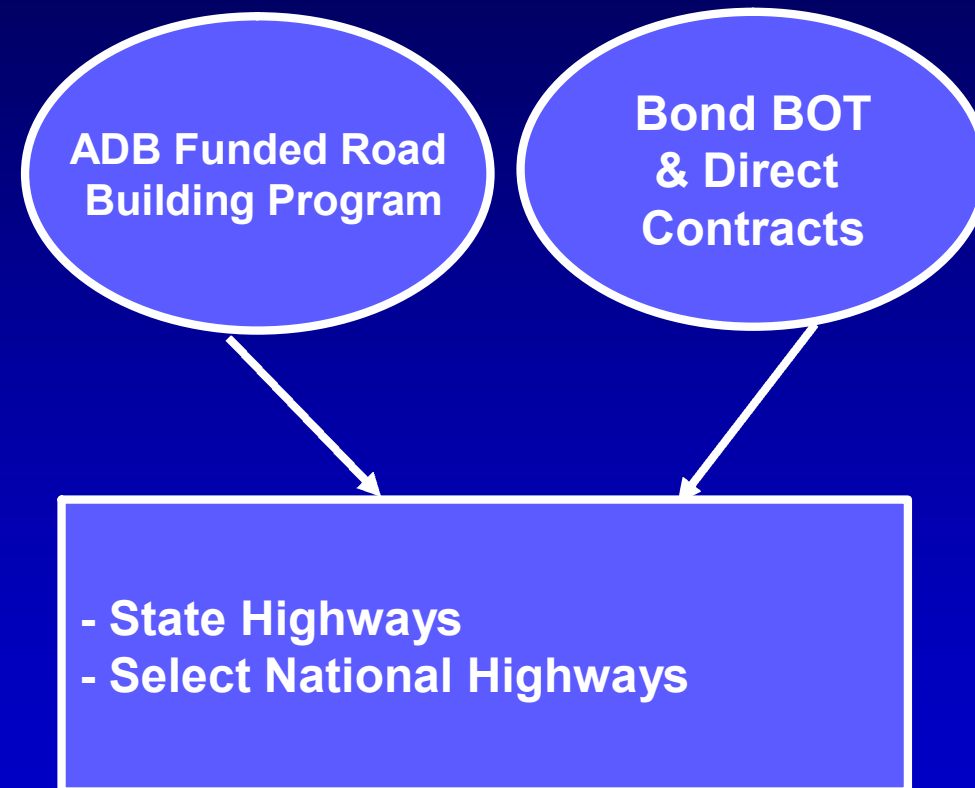
Road Asset Management System

- Road Maintenance Manual updated
- MPRDC procured HDM-4 and staff trained
- Road Management System (RMS) using HDM-4 developed
- Electronic Road Register (ERR) an integral part of Road Management System
- Performance-based Maintenance adopted for all BOT Projects
- Performance-based Maintenance contracts being piloted for roads rehabilitated under ADB assistance

MPRDC Results Achieved Programs

Of 8,729 km vested with MPRDC, 7,617 km have been taken up and are in various stages

- 2,077 km completed
- 4,663 km under construction
- 878 km under preparation



MPRDC Results Achieved ADB Projects

- ❑ **Marked improvement in road condition**
- ❑ **Increased capacity of the highway corridor to cater to projected traffic**
- ❑ **Substantial reduction in travel time – travel time has reduced by more than half**
- ❑ **Reduced vehicle operating cost – to the extend of 50% for some corridors**

MPRDC Results Achieved ADB Projects



MPRDC Results Achieved ADB Projects



New Bridge

Old Bridge

Results Achieved

Public Private Partnerships

- One of the leading States in BOT in 2001
- Comprehensive review of BOT undertaken in 2005
- Procurement system and concession agreement modified
- MS Excel based Decision Support Model
- Role of Independent Consultant reviewed and enhanced
- Performance-based maintenance introduced in BOT roads
- 1,489 km roads completed under BOT contracts, 752 km under progress and 868 km being planned
- India's 11th Five Year Plan has a special mention of MPRDC for upgrading roads using Central Government's Viability Gap Fund

MPRDC Results Achieved

Capacity Enhancement in Project Preparation and Management

- most of the civil works contracts within 3-4 months of loan approval
- the first disbursement within 6 months of loan approval

Replicability to PWD

- Development of Corporate Plan
- Information and communication technology with computerization
- Road asset management system and financial management system
- Staff training and capacity building
- Outsourcing construction supervision and quality control
- Strengthening planning capabilities

THANK YOU