

PARTNERSHIPS IN DEVELOPMENT

Madhya Pradesh Meets the Infrastructure Challenge



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Madhya Pradesh Meets the Infrastructure Challenge

Asian Development Bank

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MESSAGE

It gives me immense pleasure to know that ADB is going to celebrate "Two Decades of ADB in India" and is commemorating the work accomplished by the Bank with particular reference to building infrastructure in the State. The Bank is bringing out a brochure christened as "Partnerships in Development: Madhya Pradesh Meets the Infrastructure Challenges".

The Bank has done a commendable job in complementing the State Government's endeavor to meet infrastructure challenges, especially in roads, water supply and power sectors. The Bank is providing timely assistance to the State in these sectors. This focus on the core infrastructure needs of the State is strengthening the State's efforts in furthering a sustainable growth process. I extend my commendation to the ADB on this occasion and hope for their continued and fruitful engagement in the State.

I wish all success to the event.


(Rakesh Sahni)

PREFACE

The Asian Development Bank (ADB) and Government of Madhya Pradesh (GoMP) have been working in close cooperation to achieve development goals. ADB has been providing financial assistance to Madhya Pradesh (MP) in the energy, road, and urban sectors, and public resource management. ADB-assisted projects have shown positive impacts over the years. This publication captures this successful partnership by highlighting good practices and success stories in project and program implementation as well as challenges faced in meeting MP's infrastructure needs.

This report focuses on the impact of ADB's assistance to MP since 1999 on its endeavors in fiscal consolidation as well as programs of sectoral reform and investment in energy, urban infrastructure, and transportation. ADB's assistance to the state began with a loan for the Public Resource Management Program approved in December 1999, followed by Power Sector Development Program in December 2000, and State Roads Sector Development Program in December 2002. Recognizing the deteriorating quality of municipal services and environmental degradation in urban centers, GoMP requested ADB to provide financial assistance to four of the largest cities of the state in 2003.

It is significant that MP is the only state in India where ADB has been assisting in the rehabilitation and improvement of rural roads, state highways, and national highways. ADB will continue to assist GoMP in institutional strengthening and the improvement of road infrastructure. MP is one of the first states which has delegated powers and functions to the Urban Local Bodies (ULBs) as per the 74 Constitution Amendment which will enable ULBs to become financially self-reliant and discharge their functions more effectively. ADB's assistance will hopefully contribute to sustainable basic urban infrastructure and services to residents of the four project cities. In the power sector ADB's program support has helped GoMP to undertake power sector reforms in the state including the establishment of a regulatory system, separate generation, transmission and distribution companies, and preparation of a financial restructuring plan for the power sector.

The publication has been prepared by ADB's India Resident Mission and demonstrates how development effectiveness can be achieved through successful partnerships. It is hoped that the study will be useful and support knowledge dissemination.

Tadashi Kondo
Country Director, India Resident Mission



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INTRODUCTION

Investment in infrastructure has significant and sustained impact on the three primary indicators of development—growth, growth with equity, and reduction in poverty—by bringing efficiency and productivity to the assets of the poor, and making resources more reliable and sustainable.

Madhya Pradesh (MP) is a large state in central India spread over an area of over 308 thousand square kilometres. Its capital is located in the city of Bhopal and it borders the states of Uttar Pradesh, Chhattisgarh, Maharashtra, Gujarat and Rajasthan. It is home to a medley of races and tribes, castes and communities and has a highly diverse population of over 60.3 million (Census 2001). MP is India's seventh most populous state and one-fifth of its population is of tribal origin, hailing from across 16 broad tribal groups. MP has an urban population of 16 million, representing about 26% of its people.

The state is ranked 12th on the Human Development Index among the 35 states of India and is a critical development priority for the Government of India. A major drag on its development is its poor infrastructural base. The lack of adequate



In recent years, MP has put in place several initiatives to develop the basic infrastructure in the state.



roads, reliable power supply, basic schooling, healthcare, and credit access delivers poor quality of life to the people of MP, a large majority of whom belongs to the economically weakest sections of the country.

Roads bring with them rural connectivity. They give names and faces to villages located in the back of beyond and pave the way for other basic amenities such as housing, electricity, water supply and sanitation, all of which comprise the critical infrastructure that a human life of dignity deserves. However, none of this is possible without direct intervention and investment by the state or investment in establishment of systems and agencies that help poor people access services.

ADB's State-level Operations

In recent years, MP has put in place several initiatives to develop the basic infrastructure in the state. The Asian Development Bank (ADB) and the Government of Madhya Pradesh (GoMP) have shared an enduring partnership in this endeavor.

ADB's state-level operations have, in the past, consisted of a public resource management program to support fiscal consolidation with programs of sectoral reform and investment in infrastructure—power, transportation, and urban social infrastructure. In MP, ADB has followed this pattern for state-level assistance with a loan for the Public Resource Management Program approved in December 1999, followed by the

Table 1: ADB's loan and technical assistance (TA) projects in MP in the last decade.

Loan	Project	Loan Amount in \$ million	Sector	Approval Date	Closing Date	Current Progress
1717	MP Public Resource Management Program	250.00	Finance	14-Dec-99	17-Mar-03	Closed
1868	MP Power Sector Development Program	150.00	Energy	6-Dec-01	28-Nov-03	Closed
1869	MP Power Sector Development Project	200.00	Energy	6-Dec-01	30-Apr-07	Closed
1958	MP State Roads Sector Dev. Program	30.00	Transport	5-Dec-02	29-Mar-06	Closed
1959	MP State Roads Sector Dev. Project	150.00	Transport	5-Dec-02	30-Dec-08	79%
2018	Rural Roads Sector Project I	400.00	Transport	20-Nov-03	30-Jun-09	61%
2046	Urban Water Supply and Env. Improvement in MP	181.00	Urban	12-Dec-03	30-Sep-09	30%
2323	MFF-MP Power Sector Inv. Program-Project 1	106.00	Energy	4-Apr-07	30-Jun-11	45%
2324	MFF-MP Power Sector Inv. Program-Project 2	45.00	Energy	4-Apr-07	30-Sep-11	42%
2330	MP State Roads Sector Project II	320.00	Transport	31-May-07	31-Dec-10	29%
2346	MFF-MP Power Sector Inv. Program-Project 3	144.00	Energy	21-Aug-07	31-Dec-11	43%
2347	MFF-MP Power Sector Inv. Program-Project 4	90.00	Energy	21-Aug-07	31-Dec-11	26%

S. No	TA No.	TA Title	TA Type	Sector	Approval Date	TA amount in US\$	Status
1	2943	MP Public Resource Management Program Support for the Govt of MP Public Finance Reform & Institutional Strengthening	Advisory	Law and Economic Mgmt	15-Dec-97	780,000	Closed
2	2944	Strengthening Local Government in MP	Advisory	Law and Economic Mgmt	15-Dec-97	700,000	Closed
3	2980	MP Power	Advisory	Energy	07-Jan-98	1,000,000	Closed
4	3338	Capacity Building for Public Expenditure Reform & Social Safety Net in MP	Advisory	Law and Economic Mgmt	14-Dec-99	600,000	Closed
5	3715	MP Integrated Water Resources Management Study	Advisory	Agriculture	06-Sep-01	500,000	Closed
6	3751	MP State Road Sector Development	Project Preparatory	Transport	29-Oct-01	600,000	Closed
7	3759	Integrated Urban Development in MP	Project Preparatory	Multi-sector	02-Nov-01	1,000,000	Closed
8	3845	MP State Road Development	Project Preparatory	Transport	14-Mar-02	1,000,000	Closed
9	3882	Development of Transfer Scheme for MP Power Sector Reform	Advisory	Energy	14-Jun-02	640,000	Closed
10	3914	Economic Studies For Rural Roads Sector Dev.	Project Preparatory	Transport	03-Sep-02	150,000	Closed
11	3915	Engineering Studies for Rural Roads Sector Dev.	Project Preparatory	Transport	03-Sep-02	150,000	Closed
12	3916	Environmental Analysis for Rural Roads Sector Dev.	Project Preparatory	Transport	03-Sep-02	100,000	Closed
13	3917	Institutional and Policy Dev. Studies for Rural Roads Sector Dev.	Project Preparatory	Transport	03-Sep-02	150,000	Closed
14	3918	Social Analysis for Rural Roads Sector Development	Project Preparatory	Transport	03-Sep-02	150,000	Closed
15	3972	Strengthening Consumer and Stake Holder Communication for MP Power Sector Reform	Advisory	Energy	05-Nov-02	131,560	Closed
16	4013	Institutional Strengthening and Capacity Building for MP Road Sector	Advisory	Transport	05-Dec-02	2,100,000	Closed
17	4086	Capacity Building for Project Management and Community Mobilization in MP	Advisory	Urban	06-Mar-03	520,000	Closed
18	4934	Strengthening of MP Public Works Department	Advisory	Transport	31-May-07	1,000,000	Scheduled completion by 6 April 2009

Power Sector Development Program in December 2000, and the State Roads Sector Development Program in December 2002. Recognizing the deteriorating quality of municipal services and environmental degradation in urban centers, the GoMP requested ADB to provide financial assistance to six of the largest cities of the state in 2003.

ADB's governance assistance at the sector level has helped reduce the scope for corruption. For example, in the power sector, the major source of corruption had been significant theft of electricity causing non-technical losses. Today, theft of electricity is being successfully reduced through:

- ▶ governance measures, which include matching of feeder loads and meters;
- ▶ unbundling of utilities, which allows for comparison of financial performance and the disaggregation of costs and revenues by utility functions;

- ▶ emphasis on consumer inclusiveness by regulators, which promotes and enforces consumer interests through transparent decision-making.

For MP, with its historical backwardness, creating infrastructure is a major challenge as well as a great opportunity. While implementing programs, the Government needs to ensure that its policy priorities and investment decisions in infrastructure are guided by where they are required most, to service the marginalized citizen.

— MP Human Development Report





These measures are relatively permanent as they are applied at the institutional level. Procurement is being demystified, for example, through the use of more transparent international competitive

bidding, through ADB's monitoring and control systems, and, where deemed necessary, by using international procurement experts with specific industry knowledge.







P

PUBLIC RESOURCE MANAGEMENT

In India, state finances depend heavily on transfers from the center. In the early 1990s, fiscal expansion and spiraling oil prices post Gulf War made state finances unsustainable. In 1991, the Government of India initiated stabilization and structural adjustment programs to contain fiscal imbalance. Thereafter, it encouraged multilateral development banks to partner with states to assist in fiscal reform and capacity building. Beginning in 1996, ADB approved program lending in Gujarat, MP, Kerala, and Assam.

Madhya Pradesh Public Resource Management Program

In 1999, MP became the second state after Gujarat to receive ADB support to implement public resource management reforms. A three-tranche \$250 million program loan aimed at improving social development and spurring sustainable economic growth through improved public resource management and increased social sector expenditure was approved on 14 December

1999. Reforms focused on fiscal consolidation with increased social sector expenditure, public enterprise restructuring, and private sector investment.

The loan was complemented by three technical assistance (TA) projects valued at \$2.08 million. The key features of these TA programs are presented below:

TA to support 'Public Finance Reform and Institutional Strengthening', approved on 15 December 1997 for \$780,000, focused on:

- ▶ strengthening the sales tax administration, including staff member training to facilitate transformation of the sales tax system to VAT;
- ▶ strengthening the Stamp Duty & Registration Directorate, establishing a state-level central valuation cell and district valuation cells for valuation of assets, and training staff members on the new valuation system;
- ▶ assessing the institutional, policy, and regulatory frameworks for improvement of social services, particularly health and education services;
- ▶ training staff to strengthen analytical capability for budget planning and monitoring as well as revenue and expenditure analysis and projections; and

In 1999, MP became the second state after Gujarat to receive ADB support to implement public resource management reforms. Reforms focused on fiscal consolidation with increased social sector expenditure, public enterprise restructuring and private sector investment.





- ▶ training staff from the Finance Department and key infrastructure departments on expenditure prioritization and Core Investment Program (CIP).

TA to 'Strengthen Local Government in MP', approved on 15 December 1997 for \$780,000 to improve governance of local government bodies (LGBs) in MP, intended to:

- ▶ develop resource-raising capabilities of LGBs through policy support and training;
- ▶ improve information gathering at the district level, to enhance rational decision making at local and state levels; and
- ▶ strengthen training facilities of LGBs, facilitating dissemination of best practices throughout LGB administration.

TA for 'Capacity Building towards Public Enterprise Reform and Social Safety Net in MP', approved on

14 December 1999 for \$600,000, was provided as an accompanying grant to the loan.

Best Practices

The program loan and the TAs helped in introducing many good practices.

- ▶ The TA on strengthening local government improved operational capacity at the local level by introducing a statistical package for efficient management of fiscal data in 31 district level Directorates of Economics and Statistics and trained over 100 officers.
- ▶ Several initiatives to facilitate an efficient transition from the sales tax to VAT regime under the TA on public finance reform were undertaken. For example, the Commercial Tax Department initiated a three-pronged approach to computerizing the sales tax/value-added tax (VAT) administration, auditing, and

trader registration that included: systems study and software development contract for software application; completion of the networking architecture and procurement of hardware; and training of staff.

- ▶ A blue print for restructuring and divestment of public sector enterprises including a mechanism for integrating this plan with a social safety net was prepared under the TA on public enterprise reform.

Several good practices were also introduced under the program loan. A State Budgeting and Fiscal Analysis Unit was set up in the Finance Department to strengthen the analytical and technical capacity for development and analysis of economic policy options, and strengthen the debt management capability.

- ▶ The state set formal guidelines to bring recorded values of properties into greater conformity with market values.
- ▶ The government introduced a 'top down' Medium Term Fiscal Framework (MTFF) while simultaneously introducing the corresponding 'bottom up' Core Investment Plan (CIP). The MTFF played an important role in steering expenditure patterns toward the medium-term goals, particularly in the social sector, while integrating current and capital expenditure decisions.
- ▶ Urban local bodies were granted full freedom to fix water charges to cover a rising proportion of operation and maintenance cost. Tolls were introduced on numerous highways and toll roads expanded under a build-operate-transfer scheme.



- ▶ All treasuries were computerized to enable timely generation of financial data.
- ▶ The government introduced financial criteria to determine return on investment for dividend payment.
- ▶ The government established an independent Madhya Pradesh Electricity Regulatory Commission (MPERC).

During the program period, MP improved its fiscal position despite numerous exogenous shocks. The bifurcation of the state created fiscal and administrative disruptions which generated costly long-term effects, and substantially changed the economic profile of the state. For example, power generation capacity per capita in the new MP led to a worsening of the preexisting excess-demand situation in power.

GoMP was closely involved in designing the program through frequent policy dialogues. Program objectives were designed in accordance with the development agenda of GoMP, as outlined in the 5-year development plans and ADB's country development strategy for India. The program framework effectively established a long-term plan for sustained fiscal consolidation in the state.

Milestones

Overall, ADB-assisted fiscal consolidation programs in the states have provided recognition and support for more politically difficult reform measures. ADB addressed the need to build capacity to manage complex reform processes with TA and TA loans. Thereby, ADB developed

a comparative advantage in state-level fiscal reforms, with lessons influencing other public resource management programs in India and the region.

- ▶ The programs improved revenue, legislative and regulatory frameworks as well as administration systems and procedures, including automating tax administration and preparing for the introduction of value-added tax.
- ▶ Multi-year expenditure planning was introduced.
- ▶ Treasury payment systems were automated.
- ▶ An efficient debt management system was established.
- ▶ Power sector subsidies were reduced in two states.
- ▶ Within public enterprise reforms a number of poorly performing enterprises merged, divested, or closed.
- ▶ Far-reaching measures included critical reforms, establishment of power and port sector regulatory authorities, and attracting significant private sector and ADB investment in power and transport .

State governments realigned their service delivery role and got the opportunity to chart the desired direction of development while building the capacity to implement complex fiscal reforms. The programs also supported computerization of expenditure, treasury, and debt accounts and closure of loss-incurring public enterprises. The programs attracted private sector participation and thereby changed attitudes, practices and perspectives, which contributed to their sustainability in the long run.





ENERGY SECTOR

The energy policy of India is driven by its economic growth, increasing household incomes, limited domestic reserves of fossil fuels, as well as environmental issues and concerns. Since 1986, the ADB has provided 24 public sector loans worth \$4.6 billion to the energy sector of India. This constitutes 29% of ADB's total public lending to the country. ADB's assistance has maintained constant focus on transmission and distribution. Lately, in line with its new energy policy, ADB has chosen to exit generation and hydrocarbons sector to play a larger role in transmission and encourage sector restructuring.

ADB's presence in the energy sector has aimed to:

- ▶ strengthen the power sector
- ▶ promote higher efficiency and low-carbon power sources
- ▶ expand and optimize transmission and distribution systems
- ▶ enable institutional strengthening to implement reforms required by the Electricity Act 2003
- ▶ promote private sector participation, and

- ▶ encourage energy conservation to ensure environmental sustainability.

Madhya Pradesh Power Sector Program

Prior to 2000, MP faced a severe power shortage and the infrastructure for transmission and distribution was inadequate to deliver power to the consumers. Power shortages, poor quality of supply with significant voltage fluctuations, and frequent loadshedding across the state undermined industrial competitiveness and led to sub-optimal utilization of agricultural potential. This posed severe constraints for the economic development of the state. The sector was in dire need of huge investment, which the State Electricity Board (SEB) was in no position to make.

Demand for electricity at the end of the 10th Five Year Plan in 2007 was estimated at 36,299 million kWh, which called for expansion of power availability and corresponding augmentation of transmission and distribution facilities in MP.

In keeping with its new energy policy, ADB in December 2001 approved a sector development program (SDP) disbursement comprising a policy loan of \$150 million and an investment loan of \$200 million to support the restructuring of the power sector in MP and to meet part of its investment needs. The SDP was designed to support GoMP's long-term goal of creating an efficient, self-sustaining, competitive power sector capable of providing adequate power to the people of MP, in terms of both, availability and quality. The MP State Electricity Board (MPSEB), GoMP, and the Central Ministry of Power participated actively in the process of formulating the SDP and gave it full support.

The state government, in 2001, initiated a comprehensive reform process in order to improve the financial position of MPSEB and ensure long-



term sustainability of the sector. Separately, two TA grants totaling \$1.4 million were also provided by ADB to the state government to support the reform initiatives: the MP Power Sector Development Project, and the Development of Transfer Scheme for MP Power Sector Reform. Based on the TA completion reports, two more small-scale TA programs were approved in 2002: the Legal Support for MP Sector Reform program (TA 3883-IND), and the Strengthening Consumer and Stakeholder Communication for MP Power Sector Reform program (TA 3972-IND).

Given the growing demand for energy and the inability of MPSEB to attract private capital due to poor creditworthiness, sector reform and restructuring strategy focused on enhancing

cash flows at the distribution end. In addition to rationalizing the tariff structure, the SDP also focused on reducing transmission and distribution losses, pursuing 100% metering, improving billing and collection efficiency, and installing efficient operational management of power sector companies. For these changes to be effectively sustained it was imperative for the power sector in the state to function autonomously along commercial lines. This was especially true for the distribution functions.

In addition, independent sector regulation and corporatization of the generation, transmission, and distribution functions of MPSEB, were required. The SDP was designed to assist the state government and MPSEB in achieving these objectives.

The SDP provided incentives for institutional and organizational action for the functional unbundling of MPSEB and improvements in sector governance. Simultaneously, it supported physical investments to strengthen the capacity of the power system and reduce technical and non-technical losses in order to improve operational and financial sector performance. The SDP intended to improve public and private resource allocation in MP by increasing MPSEB's operational efficiencies and delivery capacity while progressively reducing the need for transfers from the state government budget. This required simultaneous intervention at the policy level (to provide the necessary legal and institutional framework) and at the project level (to support critical investment components to ensure success of the reform). Therefore, a mixed-modality SDP was considered the best instrument for supporting an initiative to restructure the power sector in the state.

The SDP was thus realistically designed and formulated to address the key developmental needs of the MP power sector in a holistic manner

with due regard for the lending support provided by other bilateral agencies such as CIDA and DFID. This ensured that ADB's support was well targeted. The design also provided for close monitoring of progress by way of releasing the policy loan in three tranches, subject to tranche conditions being met. The SDP approach continues to be highly relevant even now, given the priority accorded by the central and state governments to a reform agenda as enshrined in the Electricity Act 2003.

Implementation

The MP Department of Finance was the Executing Agency (EA) for the program loan. The state government also set up an institutional framework for managing the power sector reforms process under a steering committee chaired by the Chief Secretary of the state government. To ensure better co-ordination between state and central government departments, the Joint Secretary of reforms from the central Ministry of Power, and the Director of the Department of Economic Affairs, were also included as members. The establishment of the steering committee and regular monitoring of the implementation of reforms at the highest level by the Chief Secretary helped the state government to meet the tranche conditions very close to the envisaged dates and facilitate the tranche releases. Three tranches under the Policy Loan were released in March 2002 (\$65 million), October 2002 (\$40 million) and November 2003 (\$45 million).

The resident mission played a key role in the institutional capacity building of MPSEB, particularly with respect to procurement while providing timely advice. Administration of the project was delegated to the resident mission in June 2003. ADB, MPSEB, and officials from the Department of Economic Affairs held many tripartite meetings, which helped in the successful implementation of the project.

MPSEB, with the support of the state government, took advance action to acquire land and other statutory clearances, which helped in project implementation. Prompt action in awarding contracts for civil as well as other construction/erection activities of EHV substations and EHV lines and close monitoring by the EA was responsible for completion of these activities 12 to 18 months ahead of the target completion schedule. Early award of procurement contracts also enabled the transmission companies to take advantage of lower prices of steel and other raw materials that were procured against the ADB loan.

The savings so ensured have been quite significant, being of the order of US\$ 54 million, that is around 27% of the total ADB project loan. In recognition of the above savings, ADB in October 2004, decided to finance additional works (out of the savings) which included 220kV transmission lines covering 855 circuit km, four new 220kV sub-stations; 132kV transmission lines covering 426 circuit km, thirteen new 132kV substations; and capacity augmentation in four 132kV sub-stations.



State power utilities have been exposed to international best practices in procurement and have benefited from adopting such practices. Greater accountability and standard monitoring procedures introduced by ADB loans have inculcated a rigorous work culture in the state government departments.

—Sanjay Bandopadhyay, Secretary (Energy), GoMP

The successful implementation of the project amply demonstrated that, with proper planning and timely guidance to the EA, schedules can be maintained and milestones achieved fairly smoothly.

The long-term sustainability envisaged for the program may be attributed to:

- ▶ the commitment shown by the state government in implementing the program,
- ▶ the financial support provided to the sector through timely payments of subsidies and subventions,
- ▶ support to the power utilities provided as per the Feeder Renovation Program,



- ▶ improved efficiency in the functioning of the utilities within a corporate environment, and
- ▶ effective functioning of Madhya Pradesh Electricity Regulatory Commission (MPERC).

Achievements

A major achievement has been the restructuring of the vertically integrated MPSEB into six successor companies, unbundled on a functional basis—a generation company, a transmission company, three distribution companies, and a power trading company. This has improved operational aspects of all the three segments with enhanced focus, better supervision through decentralization of decision-making, and improved

accountability. This has instilled competitive spirit across the sector spurring these entities to improve operational efficiencies.

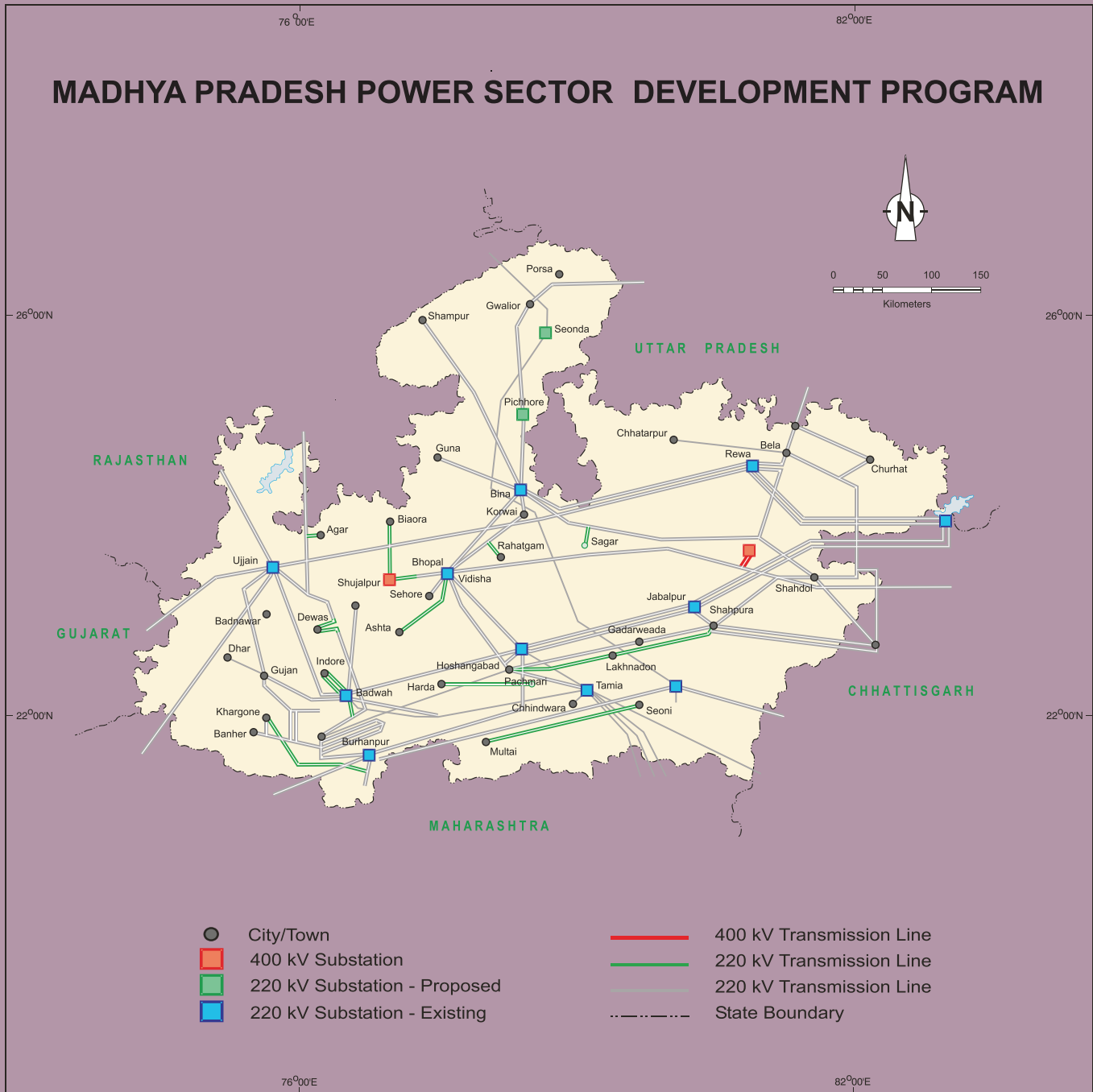
The program assisted the MPERC to strengthen its institutional capacity in order to establish a robust regulatory regime in the state. MPERC is now fully operational and tariff orders have been issued keeping in view the interest of the sector as well as protecting the interest of the consumers.

To further the reform process in the state under the Electricity Act 2003 the state has already implemented the following:

- ▶ open access to consumers demanding power to the tune of 1 MW and above;
- ▶ 100% feeder meterization;
- ▶ regular energy audits; and
- ▶ issuance of a non-conventional energy policy and a small hydro policy.

Investments made with the support of the project loan and other sources of financing during 2002-07 helped the state to:

- ▶ transmit and distribute 32,600 million kWh of energy during FY2007 against the 27,088 million kWh of energy during FY2002, and meet peak demand of about 6107 MW in FY2007 against the peak demand of 4632 MW met in FY 2002;
- ▶ improve the power availability situation— industrial consumers now practically have 24 hours supply;
- ▶ reduce the distribution transformer failure rate and enhance the reliability of power supply in urban and rural areas;
- ▶ improve the collection efficiencies from less than 80% in FY2002 to about 91% in FY2007 with better metering and the computerized billing and collection system;
- ▶ reduce the transmission and distribution losses



from 47.18% in FY2001 to 40.07% in FY2007;
and

- ▶ reduce the revenue gap which was about Rs1.88 per kWh in FY2002 to Rs0.93 per kWh in FY2005.

The other initiatives, to benefit the consumers, taken by state government during the

implementation of ADB supported power sector development program are:

- ▶ implementation of computerized revenue management system in 64 electricity divisions by which electricity bills payment can be made from any point within the cities of Indore and Jabalpur;

- ▶ establishment of 24 hour computerized call centers to attend to consumers' complaints in the big cities such as Indore, Bhopal, Jabalpur; and
- ▶ spot billing and bill payment facility through the internet in Bhopal.

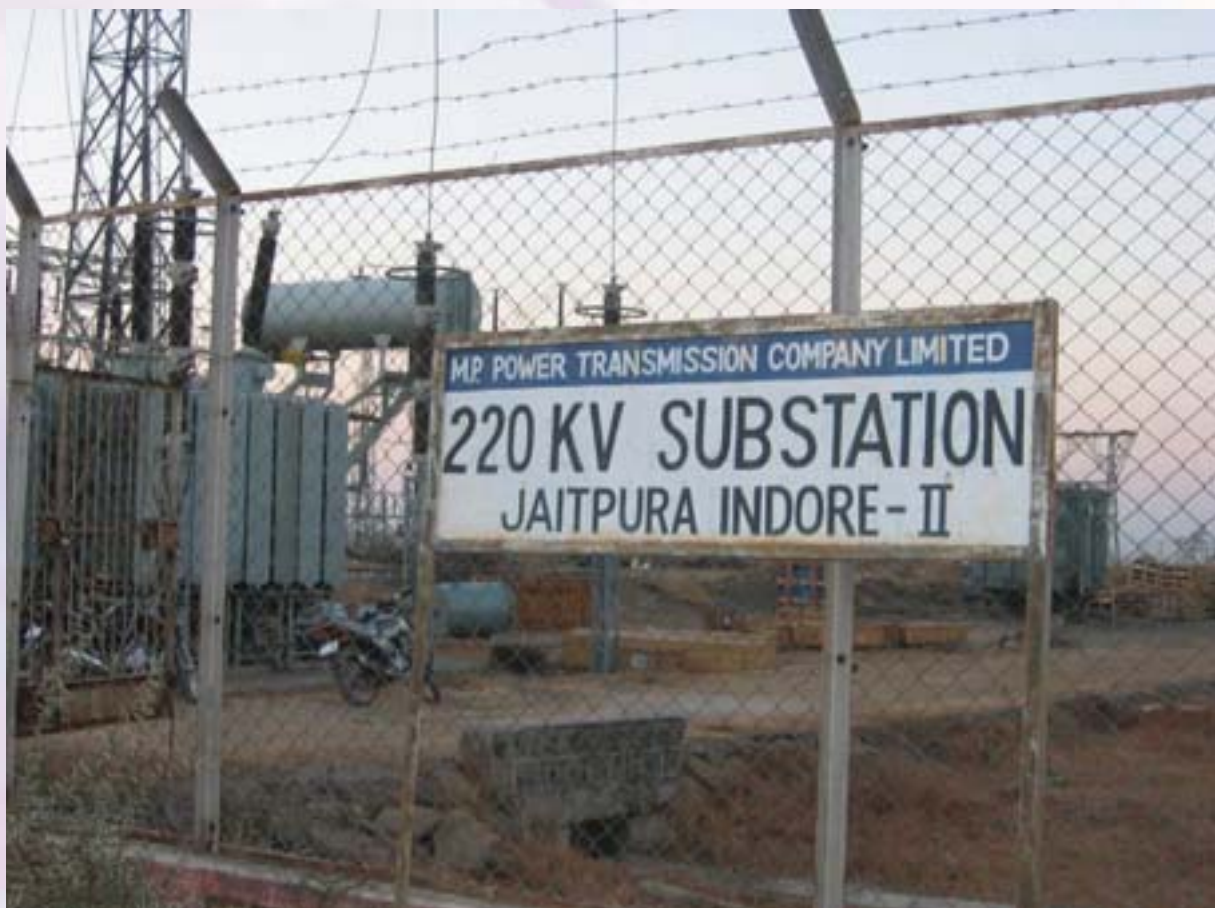
Specific Improvements in Transmission

According to the Madhya Pradesh Power Transmission Company Limited (MPPTCL) significant improvements in transmission have been achieved including:

- ▶ **Improvement in voltage level:** The low voltage problem at 400kV, 220kV and 132kV has been totally eliminated.
- ▶ **Reduction in overloading of transformers:** At the time of sanction of the ADB loan in the first quarter of 2002, about 58 extra high volt-

age substations suffered from overloading. The problem has now been reduced to zero.

- ▶ **Reduction in transmission losses:** By systematically implementing the system expansion and upgradation plan and initiating steps towards reduction in down time of faulty lines and substation equipments, MPPTCL has brought down its transmission losses from 7.93% in 2002-03 to 5% in 2006-07. Given that the network is spread over an area that is one of the largest in the country, a 1% reduction in transmission loss translates to financial savings of around Rs 640 million.
- ▶ **Enhancement of transmission system capacity:** The capacity of the transmission system has registered a substantial increase from 3890 MW in 2002-03 to 6359 MW in 2006-07. Such capacity enhancement has enabled access to newer operators and consumers in line with the policy of open access provided in Electricity Act, 2003.



- ▶ **Enhancement of system availability:** Effective maintenance management under ADB assisted works has enhanced availability of the transmission system from 93% earlier to 99% today.

A Pilot Project in Distribution

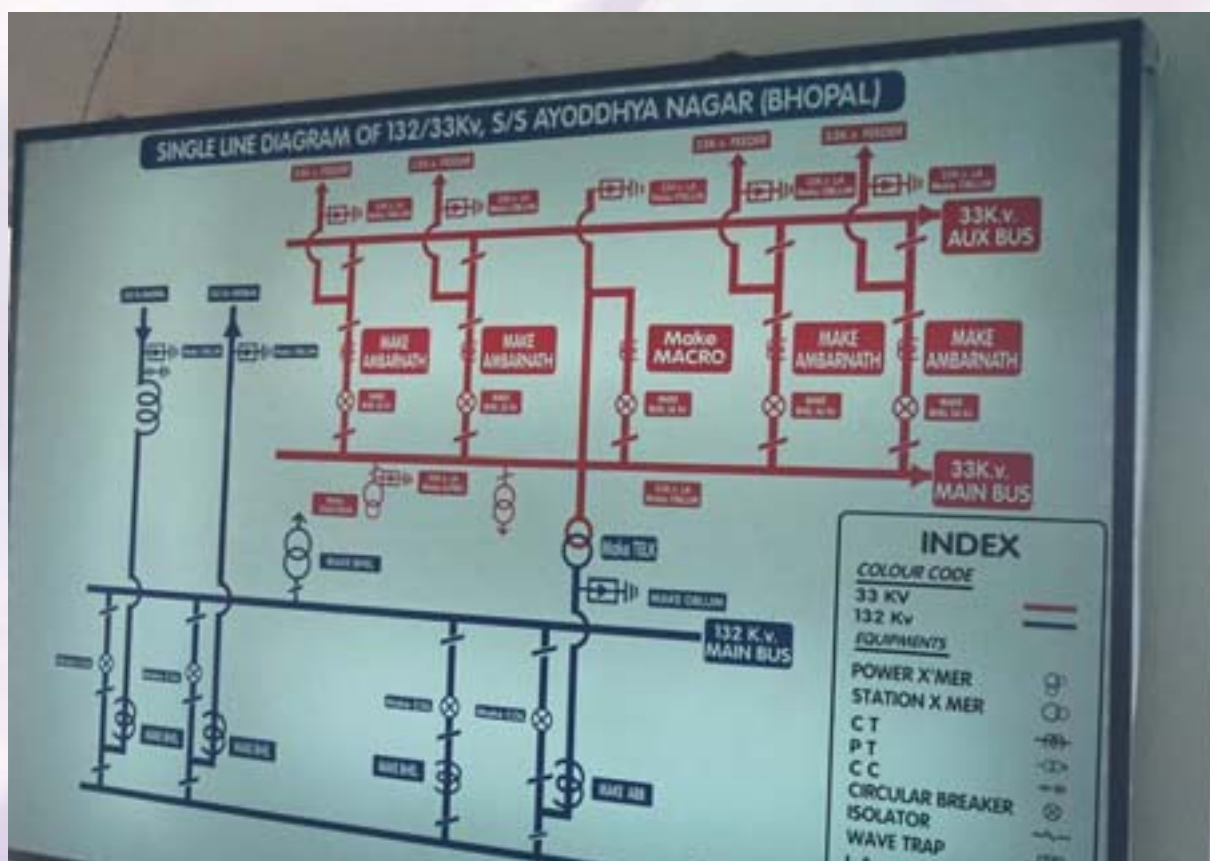
Under ADB assistance, MPSEB implemented a pilot project in Mandsaur and Ujjain districts to evaluate the impact of converting a low voltage supply system to a high voltage distribution system (HVDS), thus reducing distribution losses. If found beneficial to the sector, the pilot could be replicated in projects across the state. As a part of the pilot, nine low voltage distribution feeders in Mandsaur and Ujjain were converted to HVDS. On completion of the pilot project in 2006, MPSEB estimated that the commercial losses had been reduced from 25% to about 8%. The implementation of HVDS system has practically eliminated illegal

tapping of power supply. Based on the benefits accrued under this pilot project, MPSEB is now implementing similar projects to convert low voltage supply systems to HVDS across the state, part of which is being financed under an ADB multi-tranche financing facility approved in March 2007.

Sector Assistance Program Evaluation

A Sector Assistance Program Evaluation of the Energy Sector in India, undertaken by ADB in 2007, examined generation, transmission, and distribution; legislation and regulation; and fuel requirements. The primary lessons learned are as follows:

- ▶ ADB's approach to lending at the state level has worked well and could be used as a model for future assistance;
- ▶ sustained technical assistance is needed to support reform programs; and



- ▶ corporatization can provide benefits similar to those normally attributed to privatization.

The study also identified major future challenges such as:

- ▶ the continuing shortage of energy supplies—both for fuel and generation which threatens the government’s development goals;
- ▶ the need to improve the viability of the energy sector through better governance and higher operational efficiency; and
- ▶ the necessity to minimize environmental impacts from increased generation.

Concurrently, the study recommended that environmental concerns be integrated through:

- ▶ state system upgrades that reduce losses from the overloaded systems;
- ▶ rehabilitation of existing older generation plants;
- ▶ greater emphasis on energy efficiency;
- ▶ a strategic environmental focus on the development of the system.

Supporting these efforts, there should be continued emphasis on improving the operational efficiency of electrical power through better governance and the development of independent regulation.

At the state level therefore, ADB will continue to support policy reforms in line with the Electricity Act of 2003 and fund investments for strengthening the T&D system. It will focus on increasing distribution coverage including rural electrification, promoting energy-efficiency and use of clean energy sources. Financial restructuring of SEBs and measures to ensure their long-term commercial viability remain a key area of concern.

ADB’s approach to lending at the state level has worked well and could be used as a model for future assistance.







URBAN SECTOR

The urban population in MP grew from 11.8 million to 15.1 million between 1991 and 2001. The state has a total of 338 urban local bodies (ULBs) comprising 14 Municipal Corporations (MCs), 87 Nagar Palikas and 237 Nagar Panchayats. Water supply and sanitation figure among the fundamental infrastructural needs for all towns, followed by roads and other civic amenities. Of the 338 ULBs, 208 are completely dependent on groundwater sources for their water supply. About 130 towns also draw water from surface water sources like rivers, dams, tanks, apart from ground water sources. Providing drinking water and sanitation facilities is a rising challenge for ULBs which are perennially starved of resources. Due to excessive and uncontrolled exploitation of groundwater, ULBs are finding it extremely difficult to sustain the bare minimum supply of drinking water to their citizens; there is continuous demand for creation and augmentation of water sources; and little attention paid to leakages and inefficiencies in the system. Most ULBs have to resort to tanker-based supplies rather than piped water.

Madhya Pradesh Urban Water Supply and Environmental Improvement Project

The GoMP, with financial support from ADB, is executing the Urban Water Supply and Environmental Improvement Project (UWSEIP) or Project Uday in four major cities, namely Bhopal, Indore, Gwalior and Jabalpur, to meet their urban infrastructure requirements and support sustainable economic growth. The project aims to improve urban infrastructure and services and strengthen the capacities of local authorities in the areas of resource mobilization and cost recovery. Project Uday in MP is being executed by the Urban Administration and Development Department, GoMP (UADD-GoMP).

The ADB loan of \$181 million for UWSEIP focuses on improving the delivery of basic services in the four project cities through infrastructure in water—sewerage and sanitation, storm water drainage, and solid waste management along with slum improvement. ADB has been working in partnership with DFID and UN Habitat in implementing project components such as slum

improvement and construction of public toilet facilities where community mobilization and participation are used as vehicles of program execution. The loan is expected to strengthen the capacity of the project cities to plan and manage urban water supply and sanitation systems in an effective, transparent, and sustainable manner; and promote active participation of women citizens in municipal management and project implementation as beneficiaries as well as agents.

The loan supports urban reforms within the framework laid down under the Jawaharlal Nehru National Urban Renewal Program (JNNURM). ADB will assist MP in accessing and leveraging JNNURM funds by strengthening the project management skills and the capacity of the government to implement reforms, as also to meet the additional funding gaps. The ADB loan focuses on supporting decentralized urban governance, efficient and financially sustainable urban service providers, and improved municipal finance by developing sustainable sources of revenue: for example, rationalizing user charges, reforming property taxation, and improving financial management and accounting. Reforms support decentralization of municipal functions and improved municipal

Peer reviews have helped to successfully cross-fertilize ideas, successes and program implementation in each city and motivate personnel.



Table 2: Financing Plan for Project Uday

(\$ Million)

	Bhopal	Gwalior	Indore	Jabalpur	Total
Water Supply	12.70	14.40	81.50	17.40	126.00
Sewerage & Sanitation	9.40	13.10	12.50	13.00	48.00
Drainage	0.00	0.80	0.00	4.90	5.70
Solid Waste Management	2.30	1.40	2.60	1.60	7.90
Urban Governance	2.10	1.00	1.90	1.40	6.40
Implementation Assistance	3.70	4.10	6.80	4.70	19.30
Taxes & Other Incidentals	5.15	5.35	9.15	5.75	25.40
Contingencies	4.50	6.30	18.70	6.80	36.30
Total	39.85	46.45	133.15	55.55	275.00



By obtaining land acquisition and other clearances before the bidding procedure, the project has streamlined the overall approval process.

finance for better service delivery and reduction in inefficiencies.

Project Uday is expected to contribute to poverty reduction in urban poor settlements, for which purpose two specific funds have been set up—the Area Improvement Fund (AIF) and the Community Initiatives Fund (CIF). The total provision for AIF and CIF under the project is \$ 4.56 million.

These are pilot initiatives using limited funds and only the poorest of slums have been identified to be served under this scheme. The funds cover community managed water supply schemes; construction of household toilets and community toilets, and renovation and rehabilitation of existing toilets; formation of self help groups (SHGs) for educational and health activities; and capacity building activities.



The project is at an advanced stage of implementation and UADD-GoMP has increased the sanctioned posts in the Project Implementation Unit by 40% to expedite implementation. MP is one of the first states to have delegated powers and functions to the ULBs as per the 74th Constitutional Amendment. This implies that ULBs have to become financially self-reliant in order to be able to discharge their functions more effectively. In this context of financial self-reliance, an agreement was reached that the city corporations would prepare and submit a resolution to their councils for executing a Financial Improvement Action Plan (FIAP) in accordance with a timetable agreed upon with ADB. The FIAP includes revision of water charges, reassessment of property taxes, introduction of sewerage surcharge, and improvement of billing and collection efficiency.

The project has resolved procurement related constraints by adopting exclusive open competitive bidding, introducing flexibility in package size and grouping, and inducting contractors as partners through the introduction of e-tendering and widespread adoption of online bidding.

Implementation

The project is striving to become a role model in creating efficient, inclusive and sustainable water and sanitation infrastructure. Some initiatives that have been taken are as follows:

- ▶ Master plan workshops are held regularly to explain procedures at every level and to inculcate a sense of ownership among the elected representatives of the people.
- ▶ The project has resolved procurement related constraints by adopting exclusive open competitive bidding, introducing flexibility in package size and grouping, and inducting contractors as partners through the introduction of e-tendering and widespread adoption of online bidding.
- ▶ By obtaining land acquisition and other clearances before the bidding process the project has streamlined the overall approval process.
- ▶ The local Mayors-in-Council (MIC) (group of council members) is bestowed with key powers for approving all procurement-related



Workshops held for Corporators in each city to clarify overall provisions under Project Uday have effectively built trust among all stakeholders.



decisions without having to involve the entire Municipal Corporation.

- ▶ Monthly/Quarterly Contractor's Reviews have helped to monitor physical and financial progress of contracts, whereby contractors collectively participate in reviewing progress and discuss all implementation related issues and constraints. This helps cross learning and problem solving.
- ▶ The system of payments made within 3 days of a contractor's claim, and the remainder released after 28 days has built confidence among contractors.
- ▶ Workshops held for Corporators in each city to clarify overall provisions under Project Uday have effectively built trust among all stakeholders.
- ▶ Regular information sharing with Mayors/ Corporators has been instrumental in creating a sense of ownership among the elected representatives.
- ▶ Inclusion of the MIC at all principal approval stages has inspired confidence among the elected representatives, resulting in spontaneous decision making.
- ▶ Branding of Project Uday through an eye-catching logo, along with a vision statement has significantly improved the project's identity and image.
- ▶ Newsletters in English and Hindi have been instrumental in increasing awareness about the project's activities and progress.
- ▶ A project website has been developed with links to MIS, e-tendering, and a popular e-group.
- ▶ Peer reviews have helped to successfully cross-fertilize ideas, successes and program implementation in each city and motivate all project personnel.
- ▶ Appreciation of the concept that 'time is cost' has instilled consciousness among participants to minimize delays and contain additional costs accrued through ADB commitment charges to the government. Vigilance and anticipation of challenges are an important lesson learned by all project personnel.

Training

‘Training and Exposure’ visits have been organized for the elected representatives and officials. UN-HABITAT has played a major role through the Water for Asian Cities (WAC) program in conducting a series of capacity building initiatives in water demand management for staff under the project (Table 3).

Initiatives to raise community awareness have included activities (AIF/CIF), newsletters, pamphlets, publications, website, street-plays, radio programs, exhibitions, WATSAN Classroom & Rath Yatra.

The project, in collaboration with the Indore Municipal Corporation, conducts regular Narmada Darshan tours for a nominal fee to sensitize students and interested citizens on engineering best practices followed in implementing the Indore water supply project. Each visitor is presented with an information brochure in the local language describing the three stages of implementation of the project.



Table 3: Capacity Building Initiatives under Project Uday

Name of training	Conducted by	No of Programs	No of participants
GIS Application For Cities	IIRS, Dehradun	03	29
Water Demand Mgmt for Technical Staff	SGSITS, Indore	02	64
Sensitization Of ULBs / Corporators on Water Demand Management	EPCO/TERI	02	100
Financial Management In Local Bodies	NIFM, Faridabad	03	40
Enhancing Water & Sanitation Service Delivery In MP	ASCI, Hyderabad	10	278
Continuous Water Supply In Asian Cities	SUI, Singapore	01	08
Operation & Maintenance of Water Supply & Waste Water Treatment System	Metro Water, Chennai	01	16
Community Managed Environmental Sanitation & Solid Waste Management	TWAD Board, Chennai	02	52
Environmental Management In General & Bio Medical Waste Management	NEERI, Nagpur	01	17
Total		25	604

Indore Water Supply Project

The Indore Water Supply Project that will supply water to Indore city is an example of good practices being implemented under Project Uday. Water from the Narmada will be pumped to the Malwa Plateau in the Vindhya mountain range and will be released to all city tanks in Indore city through a distance of approximately 70 km including 3 km of tunnels. When completed, the project will be able to triple the present supply of water to Indore. Urban water supply is estimated at 135 liters per head per day, while in slum clusters that constitute 16% of the city population, water supply will be 40 liters per head per day. By 2024 assured water supply is targeted to reach 3.3 million population.

An intake well and bridge over Maheshwar Hydel Dam near Mandleshwar on the river Narmada will ensure water supply for the next 30 years. A water treatment plant near village Bhaklaya will convert untreated water into potable water while the sludge released from the plant will be recycled, resulting in water and power conservation. The untreated water will be pumped to a 363 MLD capacity water treatment plant while two 132/33 KVA and two 33/6.6 capacity power substations will provide constant and adequate power supply to operate pumps at the intake well and water treatment plant.

Potable water will be pumped for a distance of approximately 6.98 km from the water treatment plant at Bhaklaya to a brake pressure tank at a height of 660m in the hills. Six turbine pumps with 91 MLD capacity and the necessary power equipment will be installed at the three pumping stations. The operation and maintenance of the installed pumps, other power equipment, pump capacity, and power consumption will be monitored by a computerized system.



Rehabilitation of existing electrical and mechanical works under the Narmada water supply scheme and Yashwant Sagar intake works will improve the efficiency of pumps resulting in recovery of the capital investment within one year.



Technical Innovations

- ▶ A main pipeline, using the force of gravity, will transport the potable water to the Bijalpur Control Room at Indore—a distance of 40 km from the brake pressure tank. A 2.7m dia–2965m long tunnel at three sites with RCC lining is being constructed to serve as a pipeline and obviate the need for laying additional pipelines. Water supply through the tunnel will considerably enhance flow capacity and is likely to bring down power expenditure by Rs 2.50 crore per annum.
- ▶ The existing 30 year-old 1200 mm dia main pipeline is being replaced by a 1400 mm glass reinforced plastic (GRP) pipe that will have better hydraulic efficiency and more resistance to surge pressure and corrosion resulting in reduced investment on pumping equipment by Rs 65 lakh. The capital investment on the new pipeline is expected to be recovered from power savings alone.
- ▶ Rehabilitation of existing electrical and mechanical works under the Narmada water

supply scheme and Yashwant Sagar intake works will improve the efficiency of pumps resulting in recovery of the capital investment within one year.

- ▶ Provision of soft starters will minimize the initial starting current and increase the life of the motors.
- ▶ The dedicated 132/33 kV power feeder and 132/ 33 kV substations will lower recurring energy charges and ensure uninterrupted power supply to all pumping stations and an ultimate cost saving of around Rs 80 lakh per month.
- ▶ The reuse of treated waste water will reduce the impact on the environment.
- ▶ Vertical turbine pumps and the innovative SCADA system will ensure



computerized monitoring and control, and effective operation and maintenance.

- ▶ The tunnel design will cater to an additional flow of 360MLD, prevent unnecessary cutting of trees in the reserved forest area, and have a positive impact on the environment.
- ▶ Pipes made of mild steel (MS) and ductile iron (DI) for the pumping and feeder mains will ensure minimum leakages and maintenance shut down.
- ▶ Bulk meters being installed to measure the quantity of water supplied en route as well as to city consumers, will result in assessment and reduction of unaccounted for water (UFW) and help to identify non-revenue water.
- ▶ Electromagnetic meters with GSM monitoring facility have been selected to accurately assess quantity at all key pumping locations.
- ▶ Enforcement of QA/QC (Quality Assurance/ Quality Control) and Health and Safety manual compliance will help supervision and quality control of construction works.

- ▶ Modern software has helped in achieving better standards and timely execution of work.

Commercial Innovations

- ▶ The procurement of plant and machinery following the International Competitive Bidding (ICB) procedure promotes the use of new technology and international competition for the latest technology.
- ▶ The online bidding process promotes transparent bidding systems. The results of technical/ financial evaluation are published online to achieve transparency in the evaluation process.
- ▶ Only the best products are short listed for key equipment and machinery in the project. To doubly ensure quality, provision has been made for Third Party Inspection for all the equipment and material.



With timely financial support from the ADB, Indore has been able to take a large stride towards sustainable urban development. I am confident that my city will soon be recognized as a front-runner among the cleanest and best-planned metropolises of the country.

—Dr. Umashashi Sharma,
Mayor of Indore



- ▶ Provision of 80% running payment to contractors within 3 days motivates and encourages contractors to complete the work before time.
- ▶ Provision of import permission and exemption from custom duty and excise duty helps to attract international quality supplies.
- ▶ Delegation of complete financial power to local bodies such as the MIC comprising elected representatives of the Municipal Corporation encourages public participation and transparency.
- ▶ Provision of electronic payment through RTGS technique reduces procedural time and facilitates timely payment to the contractor.
- ▶ A three tier account auditing system creates a transparent account management process.
- ▶ The saving in power due to the tunnel design and ensuring supply to tanks in Indore city without pumping will provide carbon credit advantages.

The online bidding process promotes transparent bidding systems. The results of technical/ financial evaluation are published online to achieve transparency in the evaluation process. Provision of 80% running payment to contractors within 3 days motivates and encourages contractors to complete the work before time. Provision of import permission and exemption from custom duty and excise tax has helped to attract international quality supplies.





TRANSPORT SECTOR

Among all the multilateral and bilateral development agencies active in the Indian sub-continent, ADB is the largest provider of technical assistance (TA) to the Indian transport sector. Besides helping to enhance the capacity of the national agencies and targeted state governments in key areas of road, rail, and inland waterways sector planning and management, TA projects are important tools for ADB in carrying out policy dialogue on issues such as policy reforms, sector and sub-sector restructuring, private sector participation, and socio-economic considerations.

In 2002 and 2004, ADB extended assistance to two states—MP and Chhattisgarh—for improving their existing state road networks and undertaking policy reforms to strengthen the institutional framework for state roads institutions. Following the successful implementation of the first MP State Roads Sector Development Program of \$180 million, the second loan of \$320 million was approved in May 2007 for MP State Roads Sector Project II along with a piggy-backed TA for capacity building.

Madhya Pradesh Roads Sector Development Project

MP is the only state in India that the ADB has been assisting in the rehabilitation and improvement of rural roads, state highways and national highways. The total length of roads in MP stands at over 160,000 km. Road density is to the tune of 52.2 km per 100 sq km. The state has 18 national highways passing through it, offering a total length of 4664 km of roadway. MP is a landlocked state and its road network is critical to its growth prospects. Under the ongoing National Highway Development Program (NHDP), 634 km of road in MP are being converted into 4-6 lane

carriage-ways. Two more projects to upgrade 100 km of national highways through public private partnerships (PPPs) are being planned.

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Table 4: ADB assistance in the transport sector in MP

S. No.	Project	Year	Amount (\$ million)	EA/IA	Status	Remarks
1.	Loan 1958-IND: MP State Roads Sector Development Program	2002	30	GoMP	Completed	Road sector reforms and Institutional Strengthening
2.	Loan 1959-IND: MP State Roads Sector Development Project	2002	150	PWD, GoMP/MPRDC	Ongoing	Rehabilitation of about 1600 km roads
3.	TA 4013-IND: Institutional Strengthening and Capacity Building	2002	2.1	GoMP	Nearing completion	Support for Institutional Strengthening and Capacity Building
4.	Loan 2018-IND: Rural Roads Sector (I) Project	2003	400	MORD/GoMP MPRRDA	Ongoing	MP has a component of about \$200 million covering about 5900 km roads
5.	Loan 2154-IND: National Highway Corridor (Sector) II Project	2004	400	NHAI	Ongoing	A significant component of the project passes through MP
6.	Loan 2330-IND: MP State Roads Sector Project II	2007	320	MPRDC	Ongoing	Rehabilitation of about 1800 km of road.
7.	TA 4934-IND: Institutional Strengthening of MP Public Works Department	2007	1	PWD, GoMP	Ongoing	Support for Institutional Strengthening and Capacity Building

The MP government has accorded high priority to improving the road infrastructure in the state and has been successful in attracting private sector participation in the development of highways. It has constructed 17 bridges and bypasses to four of its cities through private sector participation. Maintenance of three state highways has been outsourced to the private sector.

The thrust areas of the road policy of the GoMP are:

- ▶ Encouragement to private sector participation through BOT contracts
- ▶ Amendment of Indian Tolls (MP) Act, 1932 to facilitate private sector participation
- ▶ Enabling legislation for regulation and development of the sector through the proposed MP Highway Bill
- ▶ Development of existing road network through preparation of Master Plan, providing new links, and focusing on highway safety
- ▶ Development of an efficient 'Maintenance Management System' to make optimal use of the available resources

- ▶ Setting up of a State Road Maintenance Fund
- ▶ Creating an incentive structure for participants to ensure the commercial viability of road projects

National Highways

ADB assistance for the NHDP program started from 2000 with a loan every year, until 2004. Following a programmatic approach, ADB has so far provided more than \$2 billion for the four laning of about 2500 km of national highways constituting approximately 20% of NHDP I and II.

NHAI is implementing the National Highway Corridor (Sector) II Project with ADB assistance of \$400 million (Loan 2154-IND) which includes

ADB has so far provided more than \$2 billion for the four-laning of about 2500 km of national highways constituting approximately 20% of NHDP I and II.



The Madhya Pradesh Road Development Corporation is the executing agency for upgrading of about 3400 km of state roads with ADB funding support of \$470 million.

sections of the North–South Corridor passing through MP that is being upgraded to four lanes. The section in MP constitutes about 300 km of NH 26 from the MP–Uttar Pradesh border (near Lalitpur) to Lakhnadon.

State Roads

Given the poor condition of state highways in the late 1990s, GoMP embarked upon a massive exercise in road upgradation by providing higher budgetary allocation and developing projects in the PPP mode. A \$30 million program loan was approved by ADB in 2002 to support roads sector reforms in MP. Under the program loan, various administrative reforms were implemented including the creation of the MP Road Development Corporation (MPRDC) in August 2004.

MPRDC was established to (i) act as the State Highway Authority; (ii) develop strategic plans for the state road sub-sector; (iii) identify and prioritize projects according to economic, social, technical, and commercial criteria; and (iv) serve as the nodal agency of the state government in implementing road and related projects under PPP and BOT schemes. The 8000 km network of state highways in MP was transferred to MPRDC for development, construction, improvement, and maintenance.



MPRDC is the EA for upgrading of about 3400 km of state roads with ADB funding support of \$470 million.

As a pioneering Indian state that has used the PPP mode for developing the road sector, MP has put to toll more than 1500 km of road. Eight other projects are in various stages of execution.

ADB approved a project loan of US\$150 million under the MP State Roads Sector Development Project in December 2002 which is being executed by the Public Works Department, GoMP/MPRDC in two phases. About 1600 km of deteriorated and damaged state road corridors are being rehabilitated to provide reliable road transport services and support social and economic development programs. Of this, six corridors covering road length of 332 km have been completed in 2007. The remaining 18 corridors covering

Box 1: Bhopal–Raisen Junction Road

The Bhopal-Raisen Junction Road is one of the corridors under Phase I roads. It has improved intrastate road connectivity particularly to Bhopal, Sukhi Sevania, Salamatpur, Deewanganj, and Sanchi. It will provide improved access to Bina, where an oil refinery is coming up. This corridor on State Highway No.18 is 36 km long and has been rehabilitated to two lanes with wide shoulders on either side. The improvements include bituminous as well as concrete pavements in some of the stretches. The road was completed in April 2007 at a cost of \$7.3 million.

The Bhopal–Vidisha stretch of this corridor connects the world famous heritage site of Sanchi to Bhopal, the state capital. Sanchi is the center of ancient Buddhist monuments and is world famous for its stupa, monolithic pillar, and a monastery which attract domestic and foreign tourists throughout the year. The Bhopal–Vidisha road has cut down travel time for tourists from 2 hours earlier to 40 minutes today. Vehicular traffic has more than doubled between 2002 and 2007 and vehicle operating cost has come down. The road has promoted business and commercial activity en route and brought great benefits for the local economy. Tourists, both domestic and foreign, have increased greatly in numbers. Farmers can now convey fresh agricultural produce to markets more easily. Connectivity with schools, hospitals, and other essential services has vastly improved. Land prices have appreciated, bringing financial security and prosperity to the local population.



**The Bhopal–Vidisha road
has cut down travel time for
tourists from 2 hours to
40 minutes today.**



road length of 1271 km are in advanced stages of execution, and are likely to be completed in 2009.

Based on successful implementation of the first project, ADB approved a second loan of \$320 million as well as a \$1 million TA grant to help the GoMP to improve the state road network and enhance the state's capacity for road asset development and management. The documentation, and preparation of the project report for the second loan was completed within a record time of 13 months resulting in direct saving

According to Chief Engineer, MPRDC, a greater degree of transparency has been achieved in the procurement of works and services through the application of ADB guidelines, not just to ADB-assisted projects but also to other road projects in the state in general. Exposure to international supervision consultants has led to the inculcation of international best practices by MPRDC staff.



of US\$90 million on account of early execution. Roads for this project were selected keeping in mind their industrial, commercial and tourism potential as well as the regional development of the state. Development hubs were created in towns like Jabalpur, Chhindwara, Hoshangabad, Indore, Ujjain, Bina, Tikamgarh, Gwalior as all the roads emanate from these centers to the outer periphery meeting the national highways or the state borders. These roads also serve as arterial roads to the Golden Quadrilateral and North-South and East-West corridors of the national highways network.

According to Chief Engineer, MPRDC, a greater degree of transparency has been achieved in the procurement of works and services through the application of ADB guidelines, not just to ADB-assisted projects but also to other road

Since 2000, ADB has been supporting the implementation of the Prime Minister's Rural Roads Program to improve rural connectivity in India.



projects in the state in general. Exposure to international supervision consultants has led to the inculcation of international best practices by MPRDC staff.

The involvement of highly specialized professionals in projects has contributed to better quality of roads and valuable exposure of MPRDC staff to the construction of quality roads for the state highways projects in MP.

Rural Roads

For centuries, people living in rural habitations that are not connected to all-weather roads have been compelled to rely on earth tracks for commuting. These pathways are unsuitable for motorized traffic and become unusable during the rainy season.

Since 2000, ADB has been supporting the implementation of the Prime Minister's Rural Roads Program (Pradhan Mantri Gram Sadak Yojana, PMGSY) to improve rural connectivity in India. ADB approved in 2003, a \$400 million loan for a Rural Roads Sector (I) Project (Loan 201 8-IND) for two of India's poor states, MP and Chhattisgarh. The project is building 11,102 km of all-weather roads, 5936 km in MP (at \$200 million) and 5166 km in Chhattisgarh (\$200 million). Under the project, 1768 rural habitations are being connected to all-weather roads in MP. The EA for the program is the Ministry of Rural Development (MoRD) at the center while the program implementation is being carried out by the Rural Roads Authority in each state.

In accordance with the basic goal of PMGSY, the project is aimed at reducing poverty and deprivation in the two states by providing better access to markets through public and commercial transportation, employment opportunities, and health and education facilities to support economic growth through safe, all-weather road connections.

So far, country-wide, 81,000 km have been completed under PMGSY. Recently, GoI has re-focused its target through the program of Bharat

Nirman which aims at connecting all habitations above 1000 population (500 in the case of hilly or tribal states) by 2009. The five states covered by ADB—Assam, Chhattisgarh, MP, Orissa, and West Bengal—are home to more than 50% of the unconnected habitations nationwide. MoRD has therefore, requested ADB to continue its assistance to these five states. Considering that the recently approved Rural Roads Sector II project would be completed in 2010, ADB has, in response to the request of GoI, envisaged the Rural Roads Sector III project for \$700 million which is being programmed for 2009.

Achievements

- ▶ Overall, GoMP has significantly enhanced the funding allocation for road development and maintenance in the state. GoMP created a wholly owned government company, the MPRDC, incorporated under the Companies Act 1956, now notified as the State Highway Authority (SHA).
- ▶ Major road development activities are being undertaken in MP encompassing national highways, state highways, and rural roads which would ensure effective and efficient road transport services; and contribute to poverty reduction and economic development.
- ▶ Business processes have been developed in MPRDC/SHA, related to, among others, systems for financial management and accounting; planning, budgeting, and programming; road safety; management information systems; procurement; asset management; and human resources. A computerized financial and accounting system has been developed and operationalized at MPRDC/SHA.
- ▶ MPRDC/SHA and PWD staff has participated in extensive training and capacity building

programs to adapt and adopt the new business processes and modern road management systems. GoMP has undertaken several initiatives for private sector participation, axle load control and enhancing road safety in the state.

Challenges

The challenges that the road sector in India faces in general are equally keenly felt by the ADB assisted programs in MP. These include:

- ▶ Expeditious implementation, both in individual projects and at the strategic level.
- ▶ Local variations in implementation capabilities.
- ▶ Need to maximize the benefits of private sector participation that not only replaces public financing but improves the quality of services; intensive policy dialogue to develop action plans for road safety, sector governance and corruption, institutional coordination, climate change, and socially inclusive objectives.
- ▶ More recent areas of concern that are affecting road projects include the steep rise in prices of steel and cement that have adversely affected implementation of projects.

Despite odds, in 2006, a Sector Assistance Program Evaluation of the Transport Sector in India found that ADB's assistance had improved the quality of the road and railway infrastructure in India. ADB contributed to promoting policy development, institutional strengthening, private sector participation, and compliance and public awareness of social safeguards. The study recommended continued support to the roads and highways projects in India.

PARTNERSHIPS IN DEVELOPMENT

Madhya Pradesh Meets the Infrastructure Challenge

About the Book

The Asian Development Bank (ADB) and the Government of Madhya Pradesh have shared an enduring partnership in catalyzing a series of state-wide initiatives toward developing basic infrastructure. This report captures the impact of ADB's assistance to the state of Madhya Pradesh since 1999 on its endeavors in fiscal consolidation as well as sectoral reform programs and investments in energy, urban infrastructure, and transportation.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries substantially reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two thirds of the world's poor. Nearly 877 million people in the region live on \$1.25 or less a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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