

Republic of India

Madhya Pradesh Major District Roads Project
Project Evaluation Approach Paper
5 September 2022

Owner: Independent Evaluation Office

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ABBREVIATIONS AND ACRONYMS

BOD	Board of Directors
GDP	Gross Domestic Product
GOMP	Government of Madhya Pradesh
IEO	Independent Evaluation Office
MDB	Multilateral Development Bank
MDR	Major District Roads
MP	Madhya Pradesh
MPRDC	Madhya Pradesh Road Development Corporation Ltd.
NDB	New Development Bank
PMGSY	Pradhan Mantri Gram Sadak Yojana

I. BACKGROUND

COUNTRY CONTEXT

1. India is the world's seventh largest economy and second most populous country, with a population of 1,392 million by the end of 2021. India represented 7 percent of global GDP in 2021. After growing at very high rates for years, India's economy had begun to slow down somewhat – even before the onset of the COVID-19 pandemic. The economy saw a contraction of 6 percent in 2020, largely due to the COVID-19 pandemic. More recently, the rise in fuel prices has resulted in a retail inflation rate of 7 percent.¹

Table 1. Economic Statistics of India

	2016	2017	2018	2019	2020	2021	2022	Projected		
	2023	2024	2025							
GDP, current prices (USD billion)	2,295	2,651	2,703	2,832	2,668	3,178	3,535	3,894	4,271	4,682
GDP growth	9%	16%	2%	5%	-6%	19%	11%	10%	10%	10%
Per Capita GDP (USD)*	1,733	1,981	1,998	2,070	1,935	2,283	2,515	2,745	2,984	3,243
Share of World GDP (in PPP terms)	6.7%	6.8%	7.0%	7.0%	6.8%	7.0%	7.3%	7.6%	7.8%	8.1%
Population (millions)*	1,325	1,339	1,353	1,368	1,379	1,392	1,405	1,418	1,431	1,444

Source: International Monetary Fund's World Economic Outlook (April 2022). * Estimate

LOCAL CONTEXT

2. The state of Madhya Pradesh (MP) is the second largest state in India by area and the fifth largest in terms of population (85 million in 2022). As one of the poorer states in India, MP has a reported GDP of USD 68 billion in FY14.² The state has been among the faster

¹ Economic Times of India – August 9, 2022.

² The fiscal year of Government of India, GOMP and MPRDC runs from April 1 to March 31. FY before the year denotes the calendar year in which the fiscal year ends (i.e., FY14 denotes the fiscal year from April 1, 2013, to March 31, 2014).

growing states in India with an annual growth in per capita income of 6.8 percent during FY05 to FY14. It has the fourth highest state GDP growth among Indian states, with an average GDP growth of 14.5 percent, for the period 2012 to 2019.³ Despite this growth, per capita income was only 63 percent of the national average.

3. **Growth Drivers.** The agriculture sector has contributed significantly to GDP growth in MP. As approximately 70 percent of its population lives in rural areas, the Government of MP (GOMP) has placed a high emphasis on the farm sector, in general, and irrigation, in particular. The net-sown area under irrigation expanded at an annual rate of 5.1 percent from 4.7 million hectares in FY02 to 9.7 million hectares in FY15; and the intensity of irrigation as percent of net-sown area increased from 32 percent to 62 percent during the same period. Crop productivity rose sharply with irrigation intensity; between 2005 and 2014, the per hectare yield of paddy increased by 242 percent, wheat by 180 percent, and cotton by 193 percent. MP now produces about 10 percent of India's food-grains and replaced Punjab (in 2014-15) as the second largest producer of wheat.
4. **Social Indicators.** The state has a higher decadal population growth rate of 20.3 percent compared to the national figure of 17.6 percent. The gender ratio for the state stands at 931 females for 1,000 males, which is lower than the national figure of 940 females for 1,000 males. MP has a large tribal population with 21.1 percent of population belonging to scheduled tribes and 15.6 percent of the state's population belonging to scheduled castes. Birth rate (per 1000 population) in the state at 26.3 is higher than the national figure of 21.4, as is infant mortality at 54 compared to the national average of 40 per 1000 live births.
5. The state has a lower urbanization with 72.4 percent of the population living in rural areas compared to the national average of 68.9 percent. MP has literacy rate of 70.6 percent, lagging the national rate of 74.0 percent. The labor force participation rate in the state at 43.5 percent is higher than the national figure of 39.8 percent. Females form 36.2 percent of the workforce, which is higher than the national figure 31.1 percent. The Government of India has designated eight socio-economically backward states, including MP as

³ In current prices. Source: <https://statisticstimes.com/economy/india/indian-states-gdp-growth.php>

Empowered Action Group states for special attention. These states lag the nation in the demographic transition and have very high infant mortality rates.

6. **Road Sector** (as of 2016). MP's location in the heartland of India accords it a strategic position at the intersection of the North-South and East-West transport corridors of the country. Despite its central location, MP is not well covered by national highways, with only 21 out of more than 200 national highways crossing through the state. With approximately 5,200 km of the national highway (NH) running through it, MP accounts for only 5.2 percent of the total NH length of about 100,000 km. The NH density (km of NH per 1000 sq. km of area) in the state is 16.8, well below the national average of 30.4. The NH density in terms of population (km of NH per lakh of population) is 7.2 against the national figure of 8.3.
7. The state highway network in MP is approximately 11,000 km. However, 9,400 km of state highway are either Standard Single Lane or Below Standard Single Lane roads. Despite being a land-locked state, with road connectivity being the prime driver of economic activity in the state, the average road density is only 38.9 km per 100 sq. km of geographical area compared to the national average of 71 km per 100 sq. km of geographical area. In several surveys, the business community has identified lack of transport infrastructure as the major impediment to accelerating the economic development of the state.
8. The importance of the district road improvements is linked to the national program to improve lower order roads since the absence of adequate roads is considered by the Government of India to be a major barrier for economic and social development. The Ministry of Rural Development supports the need to connect all rural habitations with a population of at least 250 persons with an all-season road in order to improve their connectivity to local markets, schools and health clinics. This is work-in-progress as an ongoing multi-billion national rural roads program (Pradhan Mantri Gram Sadak Yojana – PMGSY). Many states have complementary major district road projects working in tandem with PMGSY to improve access to the remoter areas.⁴

⁴ Source: World Bank review of its USD 1.5 billion commitment to the PMGSY program.

II. PROJECT BACKGROUND

9. The Project provided a Project Finance Facility of up to US\$ 350.0 million to Government of India, on lent to the GOMP, to upgrade major district roads in the state to improve connectivity of the rural interior with the national and state highway networks. A further US\$ 150 million was provided by GOMP through budgetary support to MP Road Development Corporation Ltd. (MPRDC) in a debt-equity ratio of 70:30. The project was implemented primarily by MPRDC, along with certain other state government agencies. This project is just part of the state's ongoing Road Development Program (2013-2033) for district road improvements, with complementary ongoing initiatives funded by the Asian Development Bank as well as other funding agencies and sources.

PROJECT OBJECTIVES

10. The MP Major District Roads Upgradation Project has the twin objectives of improving the state's connectivity of its rural interior and achieving a larger coverage of national and state highways. The State of MP occupies a strategic position in the heartland of India at the intersection of India's major North-South and East-West transport corridors. The expected impact of the project will be increased productivity and economic growth in the poorer served areas of the state through increased capacity, efficiency, and improved access for the local population with the objective of improving the state's connectivity of the current rural interior and achieving a larger coverage of the national and state highways.

PROJECT DESIGN AND COMPONENTS

11. The Project involves the upgrading of about 56 road stretches, totaling approximately 1,500 km, which were selected based on a set of evaluation criteria comprising project readiness, current traffic and projected traffic growth, connectivity to important socio-economic activity hubs, connectivity to tourism and religious centers, connectivity to the state and national highways networks, appropriate socio-environmental impact assessment and acceptable the economic internal rate of returns. The upgrades entailed the widening of the carriageway to intermediate lane configuration (i.e., one and a half lane width). None of the sub-project roads pass through wildlife sanctuaries or habitats of indigenous people. Cutting and replanting of trees will be necessary and was to be carried out in accordance with environmental guidelines. No land acquisition or rehabilitation and resettlement issues were envisaged for any of the sub-projects except for minor land requirements related to geometric corrections of alignments near blackspots.

Table 2. Project Funding Breakdown

	Total Planned Expenditure	Planned NDB Funding	Planned Counterpart Funding
Civil works and equipment	430	314	116
Contingencies	49.1	35.1	14
Supervision, consultancy, and administration	20	-	20
Financing charges	0.9	0.9	-
Total	500	350	150

IMPLEMENTATION SUPPORT

12. The GOMP was the Executing Agency for the Project, while MPRDC acted as the Project Implementation Agency. MPRDC identified a central Project Implementation Unit for the Project, headed by a Project Director of the rank of Chief Engineer. The Chief Engineer

was assisted by a General Manager, two Assistant General Managers, and two Managers. Field offices of the Madhya Pradesh Public Works Department were used for day-to-day implementation and project monitoring, headed by Project Managers of the rank of Executive Engineer and assisted by field staff at the actual project sites. One or two dedicated project managers were assigned for each contract package. The project managers were delegated adequate technical and administrative authority for expeditious project implementation. MPRDC engaged construction supervision consultants for project implementation oversight. All procurement of goods and works were to be undertaken according to procedures agreed to with NDB.

13. Construction work contracts for the roads were to be awarded in packages in a phased manner. Duration of each construction work contract would depend on the length of the roads in each package. Typical construction duration periods were expected to be 3 years. Due to the phasing of contracts and conservatively considering minor delays in construction, the implementation period was expected to take until March 2021. In view of the same, repayments for the loan were to commence after a grace period of 5 years.
14. Three mission reports tracked the progress and performance of the project over the course of its life. Table 3 shows these reports and their respective reporting period. The Project Completion Report is under preparation and not yet available.

Table 3. Mission Reports

Mission Report	Reporting Period
Project Environmental and Social Performance Report	July 2021 – December 2021
Project Performance Assessment	April 2021 – September 2021
Project Progress Report	October 2021 – March 2022

III. PROJECT EVALUATION

RATIONALE

15. The evaluation of this project is part of its initial work program agreed with the Board of Directors (BOD) for this fiscal year. The results of the evaluation, including the Management Response, will be presented to the BOD in December 2022. The MPMDRP is one of two projects selected for an evaluation⁵. The selection criteria included: closed (or nearly closed) operations; sector coverage; financing type (non-sovereign operation and sovereign); availability of documentation; and country coverage. In selecting the projects for evaluation, the Independent Evaluation Office (IEO) also consulted with the NDB Management, and in particular all operational teams.

EVALUATION OBJECTIVES

16. The primary purpose of the project evaluation is to focus on fostering accountability and generating lessons learned for improving the quality of future operations. In addition, a secondary purpose is to draw lessons and insights for future evaluations, which would also serve as useful inputs for the development of IEO's evaluation methods and processes in the future.

METHODOLOGY

17. The project evaluation will follow internationally recognized evaluation methodologies, criteria, and processes, as adopted by the Evaluation Cooperation Group of the Multilateral development banks (MDBs) and the United Nations Evaluation Group. The evaluation will thus examine evaluation criteria, such as relevance, effectiveness, efficiency, sustainability, and impact. Recently, a new criterion, cohesiveness, has emerged. This criterion will be discussed but not rated since it is still being examined by some development agencies.

18. The evaluation is summative and will rely on mixed methods of both quantitative and qualitative analysis. Based on the evidence collected and using techniques of triangulation, the evaluation team will assign a performance rating to each evaluation

⁵ The other being an NDB-financed non-sovereign operation in Brazil.

criterion, using a six-point scale (Table 4). A holistic project performance rating will also be assigned, based on the ratings of the individual criteria assessed.

Table 4. Rating Scale

Rating Scale	
6	Highly Satisfactory
5	Satisfactory
4	Moderately Satisfactory
3	Moderately Unsatisfactory
2	Unsatisfactory
1	Highly Unsatisfactory

EVALUATION QUESTIONS

19. The Evaluation will address a number of key questions (see Annex 1 for full evaluation framework) such as:
- To what extent does the road upgrading project contribute to socio economic development through improved connectivity and accessibility for the local populations served?
 - Is there evidence of improved living standards and poverty reduction in the project areas as a result of the project?
 - To what extent are the arrangements for private sector performance-based maintenance contracts of the upgraded roads robust and sustainable.
 - To what extent have the designs for the upgraded roads improved the levels of road safety.
 - To what extent are the road improvements in line with India’s environmental and social regulations.
 - To what extent were ethical dimensions incorporated in the design and implementation of the project.
 - Were land acquisition and resettlement activities minimal as anticipated at appraisal and, when required, were they in compliance with national and state regulations?

- Was the results framework sound and to what extent are the performance indicators being monitored?
- To what extent were the project designs, construction processes, operations, and administration efficient?

EVALUATION TEAM AND PROCESS

20. The evaluation will be conducted under the overall guidance and responsibility of the Director General IEO⁶. Critical inputs will be provided by a team of consultants comprised of Rakesh Nangia (Team Leader), Peter Freeman (Senior Expert, Transport), and Laura Shelton and B. Ramakanth (both Research Associates). They will be supported by Jaqueline Rabelo Souza, IEO evaluation communication and outreach expert. The Director General of IEO is responsible for the overall quality and timeliness of the report.
21. The evaluation will comprise two main phases to compile findings on the key questions: A desk review and a field mission.
- a. **Desk Review.** IEO will conduct an initial literature review. Thee documents that will be reviewed include, inter-alia, the project appraisal document, the loan agreement and any amendments to the same, the project progress reports, and the project completion report. It will also examine findings on the impacts of access and district road improvements on communities elsewhere in India that may have findings relevant to the project. This phase will be in preparation for the field work.
 - b. **Field Work.** Thereafter, IEO will organize a field mission to India to conduct data collection and initial analysis. The mission, of around 10 days, will interview key informants, collect additional evidence, and visit selected project sites. The qualitative analysis will rely on the use of semi-structured interview questionnaires to be used with key informants, field observations, and relevant project documents. The quantitative analysis will rely on secondary data, including data from the project's internal monitoring and evaluation system, financial data, as well as country and sector data from public sources. The mission members will participate in a debriefing meeting with relevant stakeholders.

⁶ Mr Ashwani K. Muthoo.

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22. An important dimension of the evaluation will be to ensure a transparent and coherent evidence trail, which means that the evaluation conclusions will be clearly anchored in the findings (and cross-referenced accordingly) and recommendations based on the conclusions of the evaluation. The evaluation will produce the following deliverables:
- a. **Project Evaluation Template.** IEO will develop a template to be used for this and potentially future project evaluation reports. As inputs, IEO will examine the project level evaluation reports of other MDBs and select the aspects most relevant to NDB. The objective is to learn from evaluation reports of other MDBs and ensure the IEO reports are brief yet comprehensive. A first draft of this template is in Annex 2 and will be fine-tuned during the course of the evaluation. The final template will be approved by the Director General, IEO who will also guide revisions.
 - b. **Draft Evaluation Report.** Following completion of the field work, IEO will draft the evaluation report. The draft report will follow the agreed template and outline (see Annex 2 for draft).
 - c. **Revised/Final Evaluation Report.** IEO will revise the draft report based on comments received from NDB Management, Government of India and GOMP, and other stakeholders.

23. **TIMELINE**

23. The evaluation will be conducted from August 2022 to December 2022. Specific deliverables, and a corresponding timeline, are shown in Table 5. A more detailed implementation plan is presented in Annex 9.

Table 5. Deliverable Timeline

Deliverable	Timeline
Draft Approach Paper	Aug 12, 2022
Finalize Approach Paper and send to Management and Government	Aug 19, 2022
Comments by Management and Government received	Aug 29, 2022
Finalize Approach Paper and send to Management and Government	Sept 5, 2022
Main Evaluation Mission to India	Sept 9-23, 2022
Draft Evaluation Report sent to Management and Government for comments	Oct 28, 2022
Comments by Management and Government received	Nov 11, 2022
Final Evaluation Report sent to Management	Nov 18, 2022
Preparation of Management Response	Nov 21-24, 2022
Send Final Evaluation Report/Management Response to Corporate Secretary's Department	Nov 24, 2022
Presentation to BOD	Dec 13, 2022
Final Workshop	TBD

V. DISSEMINATION PLAN

24. The evaluation findings will be shared with BOD on December 13, 2021. A final evaluation workshop will be held in Bhopal, Gift City⁷ and/or New Delhi (date and venue to be determined). The evaluation report will be posted on the IEO pages of the NDB website, and its main findings and recommendations will be disseminated through social media and other relevant communication instruments.

⁷ The location of the NDB regional office.

ANNEXES

Annex 1: Evaluation framework

Evaluation Criteria	Evaluation Questions	Sources
Relevance	To what extent was the project relevant to the national and state policies and plans?	Stated policies and plans; interviews with officials.
	To what extent was the project relevant to local community needs and interests?	Stated policies and plans; interviews with community members.
	Was the project design relevant to best practice appropriate for district roads and their maintenance?	Policies and plans. Consultation with design experts.
Coherence	Were the project objectives compatible with other interventions carried out nationally, at state level and locally?	Perusal of relevant policy documents and scrutiny of other projects in the area.
	Was the project intervention in line with societal and international norms and standards?	Review of project in the context of stated societal and international norms and standards.
	To what extent were ethical dimensions incorporated in the design and implementation of the project?	Review of design and implementation in the context of stated and inferred ethical issues.
Effectiveness	To what extent have the roads been completed as envisaged?	Physical inspections, implantation reports and interviews with relevant staff.
	To what extent have the designs of the upgraded roads improved the levels of road safety?	Review of baseline and data and data collected during implementation, interviews with road safety staff.
	To what extent are the road improvements in line with India's environmental and social regulations? Was land acquisition and	Review of regulations and safeguards pertinent to the

	resettlement minimal as anticipated at appraisal?	project, interviews with staff and community members.
	Has the project met its design objectives for all-season roads and improved road safety?	Comparison of design objectives with weather events and discussions with users and maintenance staff.
	Has the project improved the quality of road maintenance and asset management?	Physical inspections, results data, discussions with maintenance contractors and agency staff.
	Has the project improved connectivity in the project areas?	Analysis of traffic before and after project. Discussions with users and beneficiaries.
	Has the project increased transport capacity and improved access to economic, social and educational centers for the affected population?	Analysis of results data. Discussions with users and beneficiaries.
Efficiency	What was the economic and (if applicable) financial return on the project?	Comparative economic and financial data.
	Was the results framework sound and to what extent are the performance indicators being monitored?	Review of results framework, implementation and effectiveness of performance indicators.
	To what extent were the project designs, construction processes, operations and administration activities efficient?	Onsite inspections, interviews with staff and community members.
	What was the proportion of project management costs and overheads in comparison to investment costs?	Perusal of relevant documentation and discussions with financial management staff
	Was the project's disbursement performance in line with appraisal estimates?	Perusal of relevant documentation and discussions with financial management staff
	Was the project implemented within the timelines estimated at design?	Perusal of relevant documentation.

	To what extent did the project's procurement and contracting arrangements facilitate project delivery?	Assessment of processes and discussions with appropriate staff.
Impact	To what extent does the project contribute to socio-economic development through improved connectivity and accessibility for the local populations served?	Review of baseline and collected data, interviews with affected parties. Evidence from similar projects.
	Is there evidence of improved living standards and poverty reduction in the project areas as a result of the project?	Review of statistics relevant to the project and field evidence.
	Is there evidence of travel time savings for the local communities?	Review of travel time data and interviews with beneficiaries.
	Is there evidence of improvements in road safety?	Review of accident data before and after the project.
	What are the effects of removing hazardous locations and how effective is the accident response system?	Review of accident data before and after the project. Discussions with users and road safety experts.
Sustainability	To what extent are the arrangements for private sector performance-based maintenance contracts of the upgraded roads robust and sustainable?	Review of progress on similar relevant projects
	How sound is the road sustainability strategy followed in Madhya Pradesh?	Consideration of the current strategy in the light of comparative strategies that could be followed. Discussions with experts
	What is the capacity of the main institutions and engineers for delivery?	Discussions with relevant staff/management and comparison with international norms.
	To what extent is funding available for future road maintenance? Is the State Highway Fund generating sufficient funds for road maintenance?	Analysis of road maintenance funding plans, budgets and projections. Discussions with officials. Analysis of projected

Annex 2: Evaluation report outline (draft)

Acknowledgements	1 page
Preface by DG IEO	1 page
List of Abbreviations and acronyms	1 page
Executive summary	3-4 pages
Management response	
Background	
• Country and international context	1 page
• State and local contexts	1-page
• Key points of chapter (bulleted in a box)	
Project background	
• Project objectives	½ page
• Project design and components	1 page
• Implementation arrangements and support	½ page
• Key points of chapter (bulleted in a box)	
Evaluation objectives, methodology and process	
• Objectives	½ page
• Methodology, questions and rating system	2 pages
• Limitations and mitigation measures	½ page
• Process steps	1 page
• Key points (bulleted in a box)	
Project performance	
• Relevance	2 pages
○ Objectives	
○ Design	
▪ Components	
▪ Implementation arrangements	

- Effectiveness in achieving development objectives 1-2 pages
- Efficiency of resources use 1-2 pages
 - Planned vs actual by component
 - Financial (incl the economic internal rate of return, financial internal rate of return)
 - Operational and administrative efficiency
- Impact 1 page
- Sustainability ½ page
- Coherence ½ page
- Compliance 2 pages
 - Environmental and social safeguards
 - Financial management and procurement
 - Monitoring and evaluation
- Overall project performance (with table of ratings by criteria) 1 page
- Key points (bulleted in a box)

Performance of NDB ½ page

Performance of Government and others involved in design and implementation ½ page

Conclusions and recommendations

- Storyline 2 paras
- Conclusions 3-4 paras
- Recommendations 1 page

Annexes:

- Map of project area
- Project Details including results framework, risks, Theory of Change
- Evaluation objectives, methodology, evaluation questions and sources
- Lists of documents reviewed and list of Interviewees
- Map of roads in project area

Annex 3: The six evaluation criteria explained⁸

<p>RELEVANCE</p> <p>IS THE INTERVENTION DOING THE RIGHT THINGS?</p>	<p>The extent to which the intervention objectives and design respond to beneficiaries, global, country, and partner/institution needs, policies, and priorities, and continue to do so if circumstances change.</p> <p>Beneficiaries is defined as, “the individuals, groups, or organizations, whether targeted or not, that benefit directly or indirectly, from the development intervention.” other terms, such as rights holders or affected people, may also be used.</p>
<p>COHERENCE</p> <p>HOW WELL DOES THE INTERVENTION FIT?</p>	<p>The compatibility of the intervention with other interventions in a country, sector, or institution.</p> <p>The extent to which other interventions (particularly policies) support or undermine the intervention, and vice versa. Includes internal coherence and external coherence: internal coherence addresses the synergies and interlinkages between the intervention and other interventions carried out by the same institution/government, as well as the consistency of the intervention with the relevant international norms and standards to which that institution/government adheres. External coherence considers the consistency of the intervention with other actors’ interventions in the same context. This includes complementarity, harmonization and co-ordination with others, and the extent to which the intervention is adding value while avoiding duplication of effort.</p>
<p>EFFECTIVENESS</p> <p>IS THE INTERVENTION ACHIEVING ITS OBJECTIVES?</p>	<p>The extent to which the intervention achieved, or is expected to achieve, its objectives, and its results, including any differential results across groups.</p> <p>Analysis of effectiveness involves taking account of the relative importance of the objectives or results.</p>
<p>EFFICIENCY</p>	<p>The extent to which the intervention delivers, or is likely to deliver, results in an economic and timely way.</p>

⁸ Source: OECD-DAC Evaluation Criteria.

HOW WELL ARE
RESOURCES BEING
USED?

“Economic” is the conversion of inputs (funds, expertise, natural resources, time, etc.) into outputs, outcomes and impacts, in the most cost-effective way possible, as compared to feasible alternatives in the context. “timely” delivery is within the intended timeframe, or a timeframe reasonably adjusted to the demands of the evolving context. This may include assessing operational efficiency (how well the intervention was managed).

IMPACT

WHAT DIFFERENCE
DOES THE
INTERVENTION MAKE?

The extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects.

Impact addresses the ultimate significance and potentially transformative effects of the intervention. It seeks to identify social, environmental and economic effects of the intervention that are longer term or broader in scope than those already captured under the effectiveness criterion. Beyond the immediate results, this criterion seeks to capture the indirect, secondary and potential consequences of the intervention. It does so by examining the holistic and enduring changes in systems or norms, and potential effects on people’s well-being, human rights, gender equality, and the environment.

SUSTAINABILITY

WILL THE BENEFITS
LAST?

The extent to which the net benefits of the intervention continue, or are likely to continue.

Includes an examination of the financial, economic, social, environmental, and institutional capacities of the systems needed to sustain net benefits over time. Involves analyses of resilience, risks and potential trade-offs. Depending on the timing of the evaluation, this may involve analyzing the actual flow of net benefits or estimating the likelihood of net benefits continuing over the medium and long-term.

Annex 4: Project data sheet

Project country / Name	India: Madhya Pradesh Major District Roads Project			
Loan Number	16IN02			
Sector and Subsector	Transport	Road Transport		
Safeguard Categories	Environment			
	Indigenous People			
			Approved (USD Million)	Actual (USD Million)
NDB Financing (USD million)	Project Finance Facility: 350	Total Project Cost	500	481.1
		Loan	350	346.0
		Borrower	150	135.1
Co-Financiers	-	Total co-financing	-	-
Approval Date	22/11/2016	Signing Date	30/3/2017	
Effectiveness Date	12/6/2017	Closing date	31/3/2021	
Restructuring and/or Additional Financing				
<u>Date:</u> 17/10/2017 31/3/2021	<u>Reasons for Revision:</u> Amendment 1: Clarification of drawdown requests, interest payments, and documentation for approval. Amendment 2: Extension of closing date to 31/3/2022			

Annex 5: Project results framework

Design Summary	Performance Targets/indicators	Reporting Mechanism	Assumptions and Risks
<p>Impact</p> <p>Improved connectivity of the interior regions with district headquarters and state road network</p>	<p>By 2020, an additional 1,500 km of the Major District Roads (MDRs) will have been upgraded to standard intermediate lane configuration with rigid pavement</p>	<p>MPRDC through project progress reports and post-implementation reports</p>	<p><i>Assumptions</i></p> <p>Upgrading MDRs and thereby improving and integrating these into the state road network will be focus of the state government.</p> <p><i>Risk</i></p> <p>Future funding constraints for asset maintenance beyond 5 years due to other competing social demands</p>
<p>Outcome</p> <p>Improved transport connectivity to the interior regions and the resultant boost to economic activity in the rural hinterland</p>	<p><i>By 2019:</i></p> <p>Traffic on the newly rehabilitated MDRs as measured by average daily vehicle-km in the first full year of operation will have increased by 30 percent compared to 2016</p> <p>Average travel time on the project roads will be reduced by 25 percent from the present 2.5 minutes per km.</p> <p>Vehicle operating cost (economic) on project roads will be reduced</p>	<p>Post-implementation monitoring and reporting by MPRDC and accident data collected from Police</p>	<p><i>Assumptions</i></p> <p>Assured funding and appropriate mechanisms for road asset maintenance. Strict enforcement of traffic laws and regulations.</p> <p><i>Risk</i></p> <p>State government is unable to fund road asset maintenance in a sustained manner and unable to enforce strict discipline on road users.</p>

	<p>by 25 percent from the present ₹10/km for cars, and ₹23/km for medium trucks.</p> <p>Fatal road accidents on project roads will be reduced to less than 25 per year from the present 30 per year.</p>		
<p>Outputs</p> <p>Upgraded major District Roads</p>	<p>About 1,500 km of MDRs upgraded to intermediate lane width (5.5m wide carriageway of rigid pavement with 2.25 m of earthen shoulders on either side i.e., total formation width of 10 m), with all-weather access, proper signage, pedestrian crossings and other road safety features.</p> <p>Upgraded MDRs integrated into MPRDC's accident response system</p>	<p>Project progress reports from MPRDC</p>	<p><i>Assumptions</i></p> <p>Project is executed within the stipulated timeframe and within the estimated project cost. MPRDC ensures availability of adequate qualified staff for project implementation and continued road asset maintenance & management.</p> <p><i>Risk</i></p> <p>Delays in award of contracts and project implementation.</p>
<p>Improved and reliable road asset management and maintenance system</p>	<p>Road asset maintenance & management of all project roads will be carried out through performance-based PPP contracts</p>	<p>PPP contracts for road maintenance awarded</p>	
<p>Activities with Milestones</p> <p><i>Output 1: Major District roads upgrade, rehabilitated, or reconstructed to intermediate lane all weather standards and road safety features.</i></p>		<p>Input</p> <p>NDB Loan: USD 350 million</p>	

<p>1.1 Prepare Baseline data of traffic and other socio-environmental indicators for impact measurement before submitting sub-project road to NDB</p> <p>1.2 Environmental and Social Safeguards, statutory clearances ready before submitting sub-project road to NDB</p> <p>1.3 Construction Supervision consultant mobilized by Q4 2016</p> <p>1.4 Award of first batch of construction contracts by Q1 2017</p> <p>1.5 Award of all construction contracts by Q4 2017</p> <p>1.6 Complete all construction contracts by Q1 2021</p> <p>1.7 Integrate project roads (1500 km) into MPRDC developed Road Accident response System by Q1 2021</p> <p>1.8 Post Implementation evaluation and measurement of indicators by Q2 2021</p> <p><i>Output 2: Improved Road Asset Maintenance and Management</i></p> <p>2.1 Award Performance based PPP-contracts for Road Assets management by Q2 2021</p> <p>2.2 Approved financial framework for Road Assets Management by Q1 2020</p>	<p>Government of MP Co-financing: USD 150 million</p>
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Annex 6: Project Risks and Mitigation Measures

The evaluation will assess each of the risks as tabled at appraisal. It will evaluate the extent to which each of these risks materialized and the robustness of the mitigation measures proposed against actual events. It will also identify any risks not considered initially for their impact either on the project or its results (e.g., the COVID-19 pandemic and inflation).

Table 6. Key project risks and mitigation measures

#	Risk	Mitigant
1.	Technical Design	Technical risks associated with the project design are minimal and limited to some stretches of the sub-project roads traversing through minor patches of black cotton soil. As the pavement is designed as a concrete rigid pavement, any differential settlement in these black cotton soil patches could result in cracking of the pavement. Mitigating this risk includes preparation of the subgrade with proper drainage and laying the concrete pavement with suitably designed expansion and construction joints.
2	Construction	Construction contract to be awarded to experienced contractors through international competitive bidding open to NDB member countries.
3	Land acquisition and rehabilitation & resettlement	The proposed developments are within the existing right-of way and no land acquisition or relocation/resettlement of existing population or settlements is required. Some minor corrections of road geometrics may be necessary at a few places in order to correct accident black-spots requiring minimal land acquisition.
4	E&S	None of the sub-project roads pass through wildlife sanctuaries or habitations of indigenous people. Some cutting and replanting of trees will be necessary, which would be done in accordance with environmental guidelines.

5	Raw material availability	Raw material availability Raw material for construction is available within the project region.
6	Procurement	Through bidding process compliant with national laws. MPRDC is experienced in carrying through the tendering process efficiently and awarding contracts on time and as planned.
7	Project delays and cost overrun	Project construction contracts have incentives for early completion of works and penalty for delays. MPRDC has put in place a dedicated project implementation unit at headquarter level with the Madhya Pradesh Public Works Department field offices and supervision consultants monitoring individual work sites.

Annex 7: List of documents for review

Loan Agreement – Madhya Pradesh Major District Roads – March 30, 2017

Loan Amendment 1 – MP Major District Roads Project – October 17, 2017

Loan Amendment 2 – MP Major District Roads Project – March 31, 2021

NDB Loan Extension Request – June 24, 2022

Project Agreement for Madhya Pradesh Major District Roads Project – March 30, 2017

Project Document to the Board – Madhya Pradesh Major District Roads Project

Project Environmental and Social Performance Report – January 2022

Project Performance Assessment – March 18, 2022

Project Performance Management System – Baseline Data – Final Report Civil Construction
Package No. P-16

Project Progress Report from October 2021 – March 2022

Rural Road Development in India: An Assessment of PMGSY project benefits in three states by
gender and ascribed social groups, Report AUS5487, World Bank, 2014

Annex 8: Tentative mission schedule

Date	Day	Purpose
September 8 – 9	Thursday – Friday	Arrive in Delhi Meeting with officials in Delhi
September 10 – 11	Saturday - Sunday	Arrive in Bhopal Preparation for Meetings
September 12 – 13	Monday - Tuesday	Meeting with officials in Bhopal
September 14 – 17	Wednesday – Saturday	Field visit
September 18	Sunday	Arrive in Bhopal
September 19	Monday	Meeting with officials in Bhopal
September 20	Tuesday	Arrive in Ahmedabad
September 21	Wednesday	Meeting with NDB officials in Ahmedabad Departure for Delhi
September 22 – 23	Thursday – Friday	Meeting with officials in Delhi Departure

Annex 9: Evaluation implementation plan

	8-Aug	15-Aug	22-Aug	29-Aug	5-Sep	12-Sep	19-Sep	26-Sep	3-Oct	10-Oct	17-Oct	24-Oct	31-Oct	7-Nov	14-Nov	21-Nov	28-Nov	5-Dec	12-Dec	19-Dec	
Inception Phase																					
Draft Approach Paper	█	█																			
Finalize Approach Paper and send to Management and Government		█	█																		
Comments by Management and Government received			█	█																	
Finalize Approach Paper and send to Management and Government				█	█																
Data Collection and Evaluation Phase																					
Desk Review				█	█	█															
Prepare for Mission					█	█															
Evaluation Mission to India						█	█	█													
Reporting Phase																					
Draft 1 Evaluation Report								█	█	█	█										
Comments from Director General, IEO											█	█									
Revise Evaluation Report and send to Management and Govt.												█	█								
Comments by Management and Government received													█	█							
Revise Evaluation Report and send to Management														█	█						
Preparation of Management Response															█	█					
Send Final Evaluation Report/Management Response to Secretary's Office																█					
Presentation to BOD																		█	█		
Final Workshop (TBD)																					