



# COUNTRY PORTFOLIO EVALUATION

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## INDIA

INDEPENDENT  
EVALUATION OFFICE



DECEMBER 2024

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# PREFACE



I am delighted to present this country portfolio evaluation (CPE) report, which contains the findings and recommendations of the first comprehensive assessment of NDB's operations in the Republic of India by the Independent Evaluation Office (IEO).

India is a founding member of NDB and has played a critical role in shaping the Bank's mission and priorities to date. This CPE examines NDB's engagement with the country from the Bank's foundation in 2015 to 2023, encompassing both lending and non-lending activities. It aims to provide a holistic understanding of the results achieved, the challenges faced, and the lessons learned, with a view to strengthening the strategic partnership between NDB and India in the years ahead. The evaluation adopts internationally recognised methodologies tailored to the NDB context and offers an evidence-based assessment of the India-NDB partnership.

As a relatively young multilateral development bank, NDB has undertaken ambitious initiatives in India, including significant investments in transport and water supply infrastructure. These efforts align with India's and NDB's development priorities and contribute to the achievement of key Sustainable Development Goals (SDGs). However, this CPE highlights areas where further improvements are necessary, particularly in technical assistance, capacity-building, knowledge management, and the development of a more strategic and integrated approach to engagement in India. The findings also underscore the importance of addressing implementation challenges, enhancing institutional capacity, and fostering innovative partnerships to maximise the long-term impact of NDB's operations.

The evaluation also comes as NDB marks nearly a decade of operations, and continues to expand its membership. Therefore, the insights generated through this CPE not only provide us with an opportunity to reflect on the achievements and lessons from the India-NDB partnership and chart a path for enhanced collaboration over the coming years; they can also inform NDB's approach and strategy with its other members too.

I would like to thank all stakeholders who have contributed to this evaluation, in particular NDB Management and staff of the Ministry of Finance, India. It is my hope that this CPE will serve as a constructive tool for future evaluations, and for NDB and its partners, enabling us to build on successes, address gaps, and drive sustainable development more effectively in the years to come.



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# ACKNOWLEDGEMENTS

The Independent Evaluation Office (IEO) of the New Development Bank (NDB) extends its gratitude to all contributors to this country portfolio evaluation (CPE) report on NDB's activities in India, the first such evaluation done by IEO. We appreciate the collaboration and insights from the Government of India, in particular the Ministry of Finance and various state governments, throughout the evaluation process. Their willingness to share data, engage in discussions and provide feedback has been crucial in shaping the findings and recommendations of this report.

In addition, we also acknowledge the project implementation units (PIUs) and stakeholders across various sectors and regions where NDB-funded projects are being implemented in India. Their on-the-ground perspectives and detailed project experiences have enriched the evaluation.

Special thanks also go to NDB Management and staff, in particular the Director General and staff of the Indian Regional Office, for their continuous support and constructive feedback. Their cooperation in facilitating access to necessary documents, coordinating field visits, and engaging in candid discussions has been instrumental in completing this evaluation.

The report was produced under the overall supervision of Mr. Ashwani K. Muthoo, Director General, IEO. The CPE was led by Mr. Manas Puri, Senior Professional, IEO, who was supported by Mr. A.K Shiva Kumar, Senior Evaluation Specialist. The report benefited substantially from the inputs of Mr. Sridhar Ananthanarayanan, a Water and Sanitation Expert, and Mr. Indranil Bose, a Transport Infrastructure Specialist, whose technical insights were instrumental in its development. It also benefitted from two dedicated impact surveys of NDB-supported operations in India done by Sambodhi Research Ltd., whose efforts in primary data collection and analysis enhanced the analytic underpinning of the evaluation. Moreover, we appreciate the inputs by Mr. Luciano Lavizzari, former Director of the Independent Office of Evaluation of the International Fund for Agricultural Development, who acted as senior external peer reviewer, and whose thoughtful feedback at critical junctures greatly enhanced the quality and rigour of the final product.

Finally, Ms. Jaqueline Rabelo Souza, IEO communication and outreach expert, and Mr. John Laird, IEO evaluation editor and content creator, provided support in editorial quality assurance, proof-reading, communication and outreach.

*IEO is exclusively responsible for the contents and quality of the evaluation report.*



# ABBREVIATIONS AND ACRONYMS

|       |   |
|-------|---|
| ADB   | Asian Development Bank  |
| AiIB  | Asian Infrastructure Investment Bank                            |
| CPE   | country portfolio evaluation                                    |
| CSO   | civil society organisation                                      |
| DEA   | Department of Economic Affairs (within the Ministry of Finance) |
| DMF   | Design and Monitoring Framework                                 |
| IEO   | Independent Evaluation Office of NDB                            |
| IFAD  | International Fund for Agricultural Development                 |
| IFI   | international financial institution                             |
| IRO   | Indian Regional Office (NDB)                                    |
| MDB   | multilateral development bank                                   |
| MTR   | mid-term review   |
| M&E   | monitoring and evaluation                                       |
| PCR   | project completion report                                       |
| PIU   | project implementation unit                                     |
| PMGSY | Pradhan Mantri Gram Sadak Yojana                                |
| PPF   | project preparation fund  |
| PPR   | project progress reports  |
| RRTS  | Regional Rapid Transit System                                   |
| SCADA | Supervisory Control and Data Acquisition                        |
| SDG   | Sustainable Development Goal                                    |
| ToC   | theory of change  |
| UNDP  | United Nations Development Programme                            |

# EXECUTIVE SUMMARY

**1** This is first country portfolio evaluation (CPE) undertaken by the Independent Evaluation Office (IEO) of NDB. The main objectives of the CPE are to assess the broad partnership between India and NDB in promoting sustainable economic and social development and to generate lessons and recommendations for the way forward. The CPE covers both lending and non-lending activities in the period 2015–2023, although relevant developments in 2024 have also been captured by the evaluation.

**2** Given that NDB so far does not have a documented country partnership plan or country strategy for India, the CPE has taken the NDB General Strategy for 2017–2021 and General Strategy for 2022–2026 as the starting point and overarching reference for the assessment. In terms of operations, the CPE assessed and rated 26 NDB-financed projects in India with a value of approximately USD 8.6 billion across key sectors, including transport, water and energy.

## I. METHODOLOGY AND PROCESS

**3** The CPE uses internationally recognised evaluation criteria to assess the India-NDB partnership. Performance for each criterion adopted has been assessed using a six-point rating scale, with 1 being the lowest score and 6 the highest. The evaluation has used mix-method techniques for data collection and triangulation in generating findings and conclusions. Moreover, high attention was paid to ensuring a robust evidence trail in drafting the evaluation report.

**4** Some key process steps in conducting this evaluation involved the preparation of an approach paper and the holding of an inception workshop at the outset of the evaluation. Field visits were undertaken to numerous projects across different states by a multi-disciplinary team of IEO experts with strong knowledge of the local context and sectors, and interviews were held with numerous stakeholders at the national, state and local levels. In order to strengthen the database for the evaluation,

as part of the CPE IEO commissioned dedicated impact surveys of two projects in India, which have informed the analyses and conclusions of the evaluation. A final stakeholders' seminar will be held in India in the first quarter of 2025 to discuss the lessons from the evaluation and priorities for the future.

## II. KEY FINDINGS

### A. Performance of lending activities

**5 Relevance.** NDB-financed projects in India largely align well with the country's infrastructure priorities, particularly in transport, water and sanitation, supporting national initiatives and urban mobility objectives. This alignment is also consistent with Sustainable Development Goal (SDG) 6 (clean water and sanitation) and SDG 11 (sustainable cities and communities). However, notwithstanding the demand-driven nature to the financing, there is no or limited financing in some of the other key priorities outlined in the NDB general strategies, such as social and digital infrastructure and environmental protection. While the majority of the loans have been sovereign guaranteed, NDB has financed very few non-sovereign (private sector) operations in the country. Local currency financing has also lagged.

**6 Effectiveness.** NDB-financed projects are making notable contributions to connectivity, urban mobility, renewable energy generation and access to clean water. Despite these successes, challenges in design and project supervision have impacted implementation support and overall effectiveness. While non-sovereign engagement remains limited, partnerships with experienced local agencies have enhanced outcomes, and the multi-tranche financing approach have improved resource management and phased project execution. Varying institutional capacities across different states have however delayed progress in some projects, thus constraining overall portfolio effectiveness.

**7 Efficiency.** While projects in the portfolio demonstrated strong loan processing and disbursement performance, allowing timely implementation, several projects encountered delays and cost overruns due to external factors such as the COVID-19 pandemic, natural disasters, as well as misalignments in disbursements against initial estimates. Limited technical support, and gaps in NDB sectoral expertise have further impacted efficiency. While timelines between project approval, signing and effectiveness have generally improved especially with the establishment of the Indian Regional Office (IRO) in GIFT City, Gujarat, ongoing issues with project design, counterpart funding and procurement have contributed to delays. Enhanced use of advanced technologies, capacity-building efforts, and more robust frameworks for project adjustments could improve future efficiency.

**8 Impact.** The portfolio demonstrates potential for significant social, environmental and economic benefits, particularly as a result of the efforts in promoting transport and water infrastructure. Although a large number of projects are still in the implementation phase, evaluations of fully disbursed projects reveal positive outcomes, including improved connectivity and access to services and quality of life, especially in urban metro projects but also due to road development, as well as projects expanding access to water availability in rural parts of the country. However, challenges exist, notably in developing clear theories of change, long-term impact indicators, and systematic self-monitoring and evaluation frameworks. While project designs increasingly incorporate outcome-oriented frameworks, gaps remain in capturing broader socio-economic impacts and in engaging stakeholders consistently throughout the project lifecycle. Additionally, limited provisions for ongoing data collection constrain evaluability, affecting comprehensive assessment of long-term impacts.

**9 Sustainability.** Sustainability practices are inconsistently applied across the portfolio. While projects like the Madhya Pradesh District Roads II Project include post-construction maintenance

plans, such practices are not uniformly integrated. Climate resilience features, such as the flood management systems in the Lamphelpat Waterbody Rejuvenation Project, are adopted in some areas but not systematically. Some projects, such as the Mumbai Metro Rail (Line 2&7) Project, rely on ongoing subsidies, highlighting the need for diversified revenue streams for financial sustainability. Implementing structured exit strategies and increased stakeholder engagement and beneficiary participation would strengthen long-term project viability.

## B. Performance of non-lending activities

**10** While NDB's strategies emphasise technical assistance, knowledge-sharing, capacity-building, and partnerships, implementation has been limited. Technical assistance has supported project design but lacks consistency throughout the project lifecycle particularly during the project implementation stages. Partnership development has been ad hoc, and knowledge-sharing initiatives are minimal relative to the portfolio's scale and significance. Limited time, budget and expertise have contributed to these gaps. The establishment of the IRO in 2022 is an important development for strengthening the India-NDB partnership including in non-lending activities, though its resources remain limited in comparison to its mandate (the IRO also covers NDB operations in Bangladesh).

**11 Technical assistance.** Technical assistance has supported project preparation and assessments but is largely limited to the design phase, with limited technical support provided during project implementation.

**12 Capacity-building.** Efforts have primarily focused on technical aspects, with minimal emphasis on wider institutional development. This limited scope has hindered sustainability across projects, as a broader approach that includes institutional strengthening would enhance long-term project effectiveness.

**13 Knowledge management.** While there have been some knowledge-sharing activities undertaken and planned especially in more recent years, knowledge-sharing activities lack a structured framework, making cross-project learning at the portfolio level inconsistent. Individual project designs also do not pay much attention to capturing and sharing lessons and good practices.

**14 Partnership development.** NDB has successfully established strong dialogue with some national level ministries, and state level institutions. However, in spite of some cofinancing of projects with the Asian Development Bank and the Asian Infrastructure Investment Bank, partnerships with multilateral development banks (MDBs), international financial institutions (IFIs) and United Nations agencies more broadly, and with national development banks and the private sector, are under-developed.

### C. NDB and borrower performance

**15 NDB performance.** NDB's operations align broadly with the Government of India's development priorities. Establishing the IRO has clearly strengthened local engagement and is appreciated by stakeholders, but resource constraints (such as there only being five fixed-term staff) limit the IRO's capacity to manage and supervise a growing portfolio and to enhance engagement in non-lending activities. The absence of a country-specific strategy for India restricts effective prioritisation and the development of a full-fledged country programme approach to NDB's engagement in India. While project documentation generally meets international standards, it often lacks theories of change and comprehensive outcome indicators, limiting robust impact measurement.

**16 Borrower performance.** The central government, particularly the Ministry of Finance, has provided robust support, facilitating better project planning and regulatory compliance. Projects like the Delhi-Ghaziabad-Meerut Regional Rapid Transport System and Mumbai Metro Rail (Line 2&7) Project have benefited from this engagement. State-level performance however varies, with some states demonstrating effective coordination while others experience delays due to capacity challenges, as seen in Bihar and Andhra Pradesh. These regional differences affect project timelines and sustainability.

### D. Overall India-NDB partnership

**17** The partnership has made significant progress in infrastructure development, enhancing connectivity, water supply and renewable energy access. However, limitations in technical expertise, knowledge management and project monitoring frameworks highlight areas for improvement. Enhanced capacity-building, local currency financing, and technical assistance would support NDB's immediate goals and the sustainable, long-term outcomes in the country.

#### Assessment of the project portfolio

|                               |                       |
|-------------------------------|-----------------------|
| Overall portfolio achievement | Moderately Successful |
|-------------------------------|-----------------------|

#### Assessment of non-lending activities

|                     |                         |
|---------------------|-------------------------|
| Consolidated rating | Moderately Unsuccessful |
|---------------------|-------------------------|

|                                      |                              |
|--------------------------------------|------------------------------|
| <b>Overall India-NDB partnership</b> | <b>Moderately Successful</b> |
|--------------------------------------|------------------------------|

### III. CONCLUSIONS

**18** Over the last nine years, NDB has committed just under USD 9 billion to India's transport, water and sanitation sectors, achieving significant socio-economic benefits, such as improved mobility, expanded rural connectivity, and better access to essential services. The IRO's establishment has improved local responsiveness, though resource constraints restrict its ability to fully address operational demands and non-lending activities. Without a formal India country strategy, NDB's potential for broad sectoral impact is limited, particularly in high-impact areas like digital and social infrastructure and environmental sustainability. Furthermore, gaps in monitoring frameworks restrict comprehensive impact assessments, limiting the ability to capture broader socio-economic contributions.

### IV. RECOMMENDATIONS

#### A. Strategic recommendations

- (i) Develop and introduce a country strategy or country partnership plan for better impact:** A focused country strategy aligning with India's priorities in social infrastructure, digital connectivity and renewable energy would enhance NDB's impact, particularly in disadvantaged, climate-resilient regions, by reducing disparities and building resilience.
- (ii) Deepen strategic and purposeful partnerships for greater impact:** NDB should partner with MDBs, United Nations agencies and the private sector to boost impact in agriculture, environment, water and renewable energy, while private sector engagement can increase financing for healthcare and digital infrastructure.

- (iii) Develop a knowledge management framework to capture and share lessons and good practices from the India-NDB partnership:** A knowledge management framework would strengthen NDB's role in infrastructure by capturing and sharing insights. Synthesis papers, seminars and collaborations with institutions like the Indian Institute of Technology and the Energy and Resource Institute would build NDB's knowledge base.

#### B. Operational recommendations

- (i) Enhance the operational capacity of the Indian Regional Office:** Assessing the IRO's staffing, financial, and technological needs would help NDB meet growing demands. A robust project management system would improve monitoring, while joint teams and a liaison officer would strengthen coordination with headquarters for better oversight and issue resolution.
- (ii) Strengthen state-specific capacity-building for local implementing agencies to enhance project management and procurement efficiency:** Capacity-building from the "India Country Procurement Systems Assessment for NDB-Financed Projects 2024" would enhance efficiency. Training and workshops for state officials would improve procurement, while a project support unit in states with multiple projects would aid oversight and knowledge-sharing.
- (iii) Strengthen the continuum between project design, implementation and completion:** NDB should conduct regular supervision missions, formal mid-term reviews, and improve project completion reports. Annual technical missions and mid-term reviews would strengthen oversight, while standardised project completion reports would capture insights for future projects and boost impact.

# NDB MANAGEMENT RESPONSE

The Management appreciates the efforts made by the Independent Evaluation Office (IEO) for undertaking the Republic of India Country Portfolio Evaluation (CPE). The CPE assessed and rated the NDB's lending portfolio in India that includes 26 projects approved in 2016–2023 as well as non-lending activities of the Bank. The Management acknowledges that the IEO engaged with various stakeholders, including the Indian Regional Office (IRO), seeking their comments on the report. The Management observes that unfortunately a limited number of Bank's comments have been considered while several of important comments and suggestions were not reflected in the final version of the evaluation report. In addition, the report could have been strengthened with application of a more robust methodology and quantitative analysis.

To evaluate overall portfolio achievement, the IEO has applied five criteria namely, Relevance,

Effectiveness, Efficiency, Impact and Sustainability, and used standard six-point scale for evaluation of the India portfolio. IEO rated the "overall India – NDB partnership" as "moderately successful". The Management is of a view that such rating doesn't fully correlate with Bank's performance in India. NDB generated a robust USD 9 billion portfolio in a very short time span and with rather limited resources. A number of issues outlined by IEO in the report, in particular related to non-lending activities evaluated as "moderately unsuccessful", are based on comparisons with other multilateral development banks that have been operating in India for decades with different financial and human resources (e.g. World Bank's office in India counts 195 staff, Asian Development Banks's office - 145 staff, versus NDB's office in India consisting of 5 staff).

Please refer below for the detailed Management response.

## STRATEGIC RECOMMENDATION 1:

### DEVELOP AND INTRODUCE A COUNTRY STRATEGY OR COUNTRY PARTNERSHIP PLAN FOR BETTER IMPACT

Following the completion of the CPE, it is recommended that NDB coordinate with the Government of India and others concerned to develop a dedicated country strategy or country partnership plan for its cooperation with India. Given the urgency of the matter, the CPE recommends this recommendation be fully implemented before the end of 2025. Some elements to consider in the development of such a strategy/plan include the following:

(a) **Diversifying investments across sectors:**

While transport infrastructure and water and sanitation remain key, the NDB-funded India portfolio could explore expanding into other

sectors vital for sustainable development such as social and digital infrastructure, renewable energy, and environmental sustainability. Additionally, in consultation with the Government, the Bank may pilot providing support to the agriculture sector, for example, focusing on modern irrigation, cold storage, and warehousing infrastructure to improve productivity and incomes.

(b) **Adopt a more strategic approach to the identification of geographical regions for investments:**

Rather than selecting geographical areas for investments merely based on a demand basis, and while consolidating the existing portfolio, NDB may take a sharper focus to its geographical coverage for new investments at least in the next cycle of funding in the following areas:

(i) **Further development in the economically lagging regions.** Several states are classified as

economically disadvantaged regions due to their remoteness and need increased investments and support. Hence, prioritising the region would be consistent with Government priorities and also strengthen regional integration.

- (ii) **Coastal regions.** With climate threats, these regions need resilient infrastructure. NDB can focus on clean energy, energy efficiency, modern ports, fisheries, and water management. States and Union Territories in the eastern and south-eastern coastal areas could be prioritised given their generally weaker infrastructure and deeper exposure to climate risks.
- (iii) **Strengthen investments at the district levels.** Greater proportion of NDB investments may be provided at the district levels, without neglecting infrastructure financing in large metropolis, to help reduce inequality and promote development of rural areas of the country. A large number of districts are in great need of investments in connectivity, water, health services, schools, sanitation, social infrastructure, and agriculture (e.g. irrigation and rural roads), which can improve living standards and prosperity more generally. The government calls these “aspirational districts”. It would also contribute to promoting gender equality by opening up social and economic opportunities to both men and women at the local level.

## Management Response

The Management acknowledges that a Country Partnership Plan (CPP) for India may be introduced if the Government of India supports this initiative, as the implementation of CPPs should be voluntary. As the practice shows, some countries may be reluctant to adopt them. NDB could commence the work on the CPP following approval of Bank’s mid-term financial model that would determine Bank’s lending volume in India and other countries.

The Management is already in discussions with the Government of the Republic of India on expanding operations in such sectors as digital infrastructure, social infrastructure, environmental protection, etc. based on the development priorities of the Republic of India and demand from clients.

## STRATEGIC RECOMMENDATION 2:

### DEEPEN STRATEGIC AND PURPOSEFUL PARTNERSHIPS FOR GREATER IMPACT

Partnerships are essential to ensure co-ordination and complementarity of action and investments and for deeper collective results to advance the SDGs. Taking into account the priorities in the NDB General Strategies, the Bank would need to focus its efforts in India on partnership around generating further project co-financing, local currency financing, private sector lending, knowledge partnerships, partnerships for capacity-building and technical assistance, and others. In light of the strong existing partnerships with Government, the CPE recommends that NDB devote attention to the following actionable steps:

#### Actionable steps

- (a) **Partnership with MDBs/IFIs.** Expand project co-financing with the Asian Development Bank (ADB) and the Asian Infrastructure Investment Bank (AIIB), and explore similar opportunities with the International Fund for Agricultural Development (IFAD) and the World Bank particularly in the sectors where NDB has not yet provided investments in India and therefore does not have a comparative advantage. This includes, for example, agriculture and fisheries, digital infrastructure, social infrastructure including educational and health care infrastructure as well as environmental protection. Such organisations are the main MDBs/IFIs in India with a track record in such sectors and experience in a variety of geographical

areas, and have robust project pipelines that could provide opportunity for NDB to enter into co-financing agreements with them.

- (b) **United Nations organisations.** Deepen partnerships with selected specialised United Nations organisations (such as UNDP in water and sanitation and digital infrastructure) and the International Solar Alliance, headquartered in India, to collaborate on renewable energy and environmental initiatives, leveraging their technical and policy expertise. Cooperating with such agencies would also provide an opportunity to mobilise their grant funding, particularly for capacity-building and technical assistance, which could help to some extent make NDB loans more “attractive” to the borrower in terms of pricing.
- (c) **Private sector.** Forge partnerships with International Finance Corporation and Confederation of Indian Industries to expand private sector lending and mobilise private finance, focusing on healthcare and digital infrastructure. Similarly, grant co-financing may be pursued from the foundations of large multinational Indian companies such as TATA Trust and Infosys.
- (d) **National development banks.** Collaborate with established Indian development banks like the National Bank for Agriculture and Rural Development and National Bank for Financing Infrastructure and Development for local currency co-financing to reduce currency risks and increase engagement with rural and agricultural communities.

### Management Response

The Management acknowledges the importance of deepening strategic cooperation and partnership with various stakeholders and has already made significant progress in this direction. Almost 20% of Bank’s portfolio in India (excluding COVID-19 Emergency Loans) are co-financed with other

MDBs. In continuation of these efforts, in 2024 and 2025 NDB has already focused on development of non-sovereign operations in India in collaboration with other MDBs, which would allow to further diversify Bank’s portfolio and enter new sectors of economy. Apart from cofinancing with MDBs, the Management agrees with the point of IEO on the need to forge strong business relations India’s national development banks.

To further leverage existing and nurture new partnerships, including with United Nations agencies, private sector entities, philanthropic foundations, think tanks and other relevant institutions, the Management is already in the process of formulating a client-centric and outcome-oriented Partnership Roadmap for both lending and non-lending activities, as envisioned in NDB’s General Strategy for 2022–2026. As a first step, an approach paper has been developed by the Management and is expected to be submitted soon to the Board of Directors for information. The objective is to mainstream partnerships across NDB’s lines of work and in the Bank’s member countries and beyond. Organisations and institutions recommended in the CPE will be considered for partnership building in India.

### STRATEGIC RECOMMENDATION 3:

#### DEVELOP A KNOWLEDGE MANAGEMENT FRAMEWORK TO CAPTURE AND SHARE LESSONS AND GOOD PRACTICES FROM THE INDIA-NDB PARTNERSHIP

In addition to developing a country strategy/partnership plan, developing a knowledge management framework in India would be timely. This would facilitate the replication and scaling up of success stories by NDB, the Government and others as well as help increase the Bank’s visibility in India. Such a framework will however need to be adequately backed-up with human and financial resources and include performance indicators for assessing and reporting on progress. In particular, the CPE recommends that a dedicated

knowledge management/communication full-time professional staff be hired based in the IRO for this purpose. The below are some of the actions that could be included as part of the framework.

### Actionable steps

- (a) **Preparation of synthesis papers from experience.** After nearly 10 years of operations in the country, invest in the preparation of a series of short synthesis papers on selected sectoral/thematic topics, capturing lessons and good practices from NDB operations in India. This would not only serve to showcase experience, but also inform future designs and implementation of operations. They would also be useful as wider public goods and help NDB gradually position itself as a “knowledge bank” for emerging markets and other developing countries.
- (b) **Annual national knowledge seminar to exchange experiences.** In addition to the usual project portfolio reviews, it is recommended that NDB organise a national seminar on an annual basis, bringing together all project partners, development organisations, government authorities, think-tanks, and others in India, to exchange knowledge, experiences, good practices and lessons from the portfolio of projects. Such a seminar would help advance the CPE recommendation to promote a country programme approach in India and would give opportunities from enhancing state-to-state exchanges, cooperation and dialogue.
- (c) **Explore partnerships** with premier Indian institutions such as the Indian Institute of Technology (IIT), The Energy and Resource Institute (TERI), and WaterAid India to access cutting-edge research and expertise. Partnerships with leading academic and research institutions will expand NDB’s knowledge networks, providing valuable technical inputs required to strengthen quality of interventions.

### Management Response

The Management acknowledges the importance of accumulation of knowledge from Bank’s operations and exchanging lessons learned and good practice with member countries, clients and development partners. Generally, such function is centralised, rather than allocated to regional offices, and the Management intends to review practices of other MDBs regarding where such knowledge sharing departments/units are usually placed in the organisational structure of banks.

### OPERATIONAL RECOMMENDATION 1:

#### ENHANCE THE OPERATIONAL CAPACITY OF THE INDIAN REGIONAL OFFICE (IRO)

The IRO faces limitations due to insufficient staffing and infrastructure. With only four professional staff managing 26 projects and the Bangladesh operations, the office is understandably challenged to keep up with the growing demands. For instance, this situation hampers NDB’s ability to ensure adequate project supervision and implementation-support.

### Actionable steps

- (a) **Conduct a self-assessment.** Conduct a structured self-assessment of the current capacity of the IRO to identify essential gaps that are constraining its ability to be even more responsive and effective. Such a self-assessment would enable the Bank to accurately determine what additional human, financial, and IT-related resources are needed to consolidate the functioning of the IRO. The findings of the review would inform a time-bound action plan for strengthening the office in the near future, and allow the Bank to make provisions for such needs in its institutional budgets and other processes.

- (b) **Enhancing the IRO's digital infrastructure.** Strengthen the IRO's digital infrastructure to improve project management capabilities, by implementing a dedicated cloud-based project management system. While the current SharePoint system facilitates document sharing, a more robust platform designed for project tracking and coordination is necessary for real-time monitoring of progress, disbursements, and key performance indicators. Systems like Microsoft Project Online, or Primavera P6 which are widely used by international development banks could provide the necessary tools for structured project oversight. These platforms allow for seamless integration of task management, resource allocation, timelines and reporting, ensuring better control over large-scale infrastructure projects. Staff should be trained to maximise the potential of the selected tool.
- (c) **Improve coordination and communication.** Explore concrete opportunities to further improve coordination and communication between the IRO and NDB headquarters. This could include outlining regular updates, fixed timely reports, and a defined escalation mechanism for project issues. Joint project management teams, where both IRO and headquarters staff collaborate on high-impact projects, would enhance shared ownership and problem-solving. Both offices should utilise the same integrated project management software, allowing real-time access to project data and fostering collaboration. Moreover, assigning a liaison officer at headquarters for the IRO would help prompt follow-up and resolution of issues.

## Management Response

The Management agrees that staffing of Indian Regional Office (IRO) should be strengthened, however this is to be done by NDB Human Resources (HR) function in a centralised manner, taking into consideration the balance of operations and non-operations staff in NDB and the budgetary constraints. The same approach is

to be followed with regards to IT infrastructure, as it is centralised in NDB and does not pertain to a specific regional office.

With regards to the recommendation in point (c) the Management agrees and would like to highlight that that it has been already implemented and

- (i) the project work is organised by way of project teams that include staff from both Regional Offices (ROs) and Headquarters (HQ), and
- (ii) the regular communication between HQ and ROs, both at managerial and working level, has been established and institutionalised.

## OPERATIONAL RECOMMENDATION 2:

### STRENGTHEN STATE-SPECIFIC CAPACITY-BUILDING FOR LOCAL IMPLEMENTING AGENCIES TO ENHANCE PROJECT MANAGEMENT AND PROCUREMENT EFFICIENCY

Strengthening state-specific capacity-building for local implementing agencies is essential for improving project management and procurement efficiency. Due to varying capacities across states, projects often face delays and inefficiencies. By tailoring capacity-building programmes to the specific needs of each state, informed by the NDB India Country Procurement Systems Assessment 2024, NDB can address these challenges and ensure smoother project implementation.

## Actionable steps

- (a) **Organise periodic workshops and training sessions for state officials based on the findings of the India Country Procurement Systems Assessment 2024.** These sessions should focus on improving procurement efficiency and addressing infrastructure and governance challenges unique to each state.

- (b) **Establish an apex-level project support and coordination unit.** Explore the feasibility of establishing an apex state-level project support and coordination unit in states with multiple NDB projects. The unit would facilitate coordination and sharing of experiences across executing agencies and government departments, follow and monitor implementation at the aggregate level, and help resolve common challenges faced by individual projects. The unit could also organise thematic workshops to discuss results and lessons that could foster mutual learning and improvement.
- (c) **Procurement training.** Provide targeted training for state procurement officials on procurement guidelines, particularly for high-complexity projects, to align local procurement processes with NDB requirements and minimise delays.

## Management Response

Recognizing the importance of capacity-building for local project implementing agencies (PIAs) as a way to enhance project management and procurement efficiency, NDB's Procurement Division conducted a Procurement Training and Capacity Building Workshop on NDB's procurement policy and the use of country systems for four PIAs in India in June 2024. It was also part of the Bank's efforts to embark on a client centricity program, as envisioned in NDB's General Strategy for 2022–2026.

Feedback from participants highlighted the usefulness of the workshop in enhancing their understanding of NDB's project cycle and procurement procedures, while also suggesting that future sessions could include contract management topics during project implementation and that earlier training could be provided during project processing. In this regard, the Management could explore the possibility of forming partnerships with national training institutions to deliver training on country systems, augmented with modules on NDB procurement policies and practices.

With regards to point (b), this idea will be discussed with the Indian Ministry of Finance's Department of Economic Affairs.

## OPERATIONAL RECOMMENDATION 3:

### STRENGTHEN THE CONTINUUM BETWEEN PROJECT DESIGN, IMPLEMENTATION AND COMPLETION

Putting in place a robust project design and provision of financing is indeed essential, but not sufficient for NDB to play the role of a fully-fledged development bank in India. Notwithstanding the continuous fine-tuning of design, further improvements in project supervision, implementation support, and monitoring and reporting are essential for better outcomes and the integrity of the entire project cycle. Strong completion reporting is also equally important to document results and inform other ongoing and future project designs and implementation. While enhanced attention to this topic will require additional resources, as one option, the IRO could explore mobilising funds from the Project Preparation Facility (PPF) for this purpose.

## Actionable steps

- (a) **Project supervision.** Each project financed by NDB in India should have provisions for at least one detailed supervision mission per year, including participation of key technical experts in the relevant domains of the project. Such missions should spend sufficient time in the field undertaking site visits and holding discussions with key partners involved in implementation. Each such mission should be guided by specific terms of reference and concluded with a detailed supervision report documenting progress, lessons and recommendations for the way forward.

- (b) **Mid-Term Reviews (MTR).** Provision should be made for a comprehensive MTR, done once in the lifespan of a project. Similar to supervision missions, an MTR mission would be undertaken and a report produced at the completion of the mission. The MTR would normally be undertaken when around 50% of the NDB loan had been disbursed and/or when the project has reached its mid-point in implementation. A separate supervision mission would not be required for the same project in the year when an MTR is undertaken.
- (c) **Implementation-support.** In addition to supervision missions and the MTR, the IRO could also provide ad-hoc “implementation support” to project implementing authorities, on a case-by-case basis in specific subject matters where the authorities require technical assistance for specific problem-solving. The combination of supervision missions, MTRs and ad-hoc implementation-support would ensure that NDB is thoroughly involved in supporting projects throughout their implementation with the aim of achieving timely delivery and enhanced results.
- (d) **Improvements in the quality of NDB Project Completion Reports (PCR).** It is recommended that future PCRs of projects in India be prepared in a comprehensive manner and, in the absence of PCR guidelines, follow the provisions, methodology and criteria, and structure agreed by the NDB Board as captured in the document *Project Completion Report Validation: Methodology and Process*. This would ensure that a thorough analysis is conducted at the time of the PCR preparation and consistency across PCRs in the portfolio. It would also facilitate the PCR validation process by IEO, a requirement in place agreed by the Board for all PCRs for NDB-financed projects. Following the aforementioned guidance is also likely to result in better assessment of the quality of the PCR through the IEO validation process.

## Management Response

The Management agrees that project implementation and supervision play a key role in ensuring the achievement of project objectives and pays significant attention to constantly improving the quality of project implementation and fostering collaboration amongst various NDB functions. In particular, points (a) to (c) have already been implemented and operationalised.

The Management also supports the point (d) on preparation of NDB project completion reports and follows the document *Project Completion Report Validation: Methodology and Process*.



# 01 INTRODUCTION

- A. India's development context and priorities
- B. Infrastructure development
- C. Climate resilience and sustainability
- D. Digital transformation in India
- E. Cross-cutting issues: local capacity and institutional challenges

## 01 Introduction

1. The New Development Bank (NDB), established in 2014 by the BRICS nations (Brazil, Russia, India, China and South Africa), has expanded its membership to include Bangladesh, Egypt, the United Arab Emirates and Uruguay representing over 40% of the world's population.
2. NDB's mission is to mobilise resources for infrastructure and sustainable development projects in BRICS countries and other emerging markets and developing countries (EMDCs). It complements existing initiatives by multilateral development banks (MDBs) and international and regional financial institutions, contributing to global growth and development. As part of the BRICS cooperation framework, NDB strengthens collaboration between BRICS members and EMDCs.
3. India, a founding member of NDB, has actively participated as both a contributor and borrower since the Bank started its operations in 2015. Recognising India's sizeable project portfolio, in November 2023 the NDB Board of Directors tasked the Independent Evaluation Office (IEO) with conducting its first-ever country portfolio evaluation (CPE) in 2024.
4. This initial CPE prioritises accountability and learning, focusing on areas of success, identifying areas for improvement, and in so doing informs future NDB directions and interventions in India. By documenting results and analysing past experiences, the CPE aims to enhance the overall effectiveness of the India-NDB partnership.
5. This CPE is designed as a formative evaluation, focusing on providing insights and recommendations to enhance the future performance of NDB's portfolio in India. A formative approach is particularly valuable at this stage because it allows for an in-depth assessment of ongoing projects, identifying strengths and areas for improvement while they are still in progress. This evaluation aims to guide strategic adjustments and optimise project

outcomes, ensuring that NDB's investments are more effectively aligned with both its strategic priorities and India's evolving development needs. By adopting a formative perspective, the evaluation seeks not only to assess past and current performance but also to proactively inform future decision-making, thereby contributing to the continuous improvement of NDB's operations in India.

### A. INDIA'S DEVELOPMENT CONTEXT AND PRIORITIES

6. India's economic growth has been significant over the past few decades, transforming it into one of the world's fastest-growing major economies. In recent years, the country's gross domestic product (GDP) growth rate has seen fluctuations, influenced by both domestic and global factors. The GDP of India was approximately USD 3.737 trillion in 2023,<sup>1</sup> making it the world's fifth-largest economy by nominal GDP and third largest by purchasing power parity. The growth rate dipped during the COVID-19 pandemic but rebounded sharply post-pandemic due to strong domestic demand and supportive government policies.
7. The Indian economy is characterised by a diversified structure with significant contributions from agriculture, industry and services. According to the Ministry of Statistics and Programme Implementation, in 2022 the services sector is the largest contributor, accounting for around 54% of GDP, followed by industry (29%) and agriculture (17%). In particular, the IT and software services industry has been a significant growth driver, contributing significantly to exports and employment. The industrial sector has seen growth due to the "Make in India" initiative, aimed at boosting manufacturing capabilities and attracting foreign investment.

1 See the International Monetary Fund source here: <https://www.imf.org/en/Countries/IND>.

**Table 1: Key economic indicators for India**

|                       | 2015 | 2016 | 2017 | 2018 | 2019 | 2020  | 2021 | 2022 |
|-----------------------|------|------|------|------|------|-------|------|------|
| GDP growth rate (%)   | 8.0  | 8.2  | 6.8  | 6.4  | 3.8  | (5.8) | 9.1  | 7.0  |
| Inflation rate (%)    | 4.9  | 4.5  | 3.3  | 3.9  | 3.7  | 6.6   | 5.5  | 6.0  |
| Unemployment rate (%) | 7.9  | 7.8  | 7.7  | 7.7  | 6.5  | 7.9   | 6.7  | 4.8  |

Source: World Bank data (2023).

## B. INFRASTRUCTURE DEVELOPMENT

8. India's infrastructure sector is undergoing a transformation characterised by rapid advancements and challenges. Economic growth, coupled with accelerating urbanisation – estimates suggest that 60% of the population will reside in cities by 2050 – is exerting significant pressure on the current infrastructure. The government has therefore made, and is planning to continue making, substantial investments in new projects and modernisation efforts.

### KEY PRIORITIES

9. The government has prioritised nation-wide sustainable urban development, recognising the increasing trend of urbanisation. The "Smart Cities Mission" aims to establish 100 smart cities across the country, driving sustainable and citizen-centric urban growth – additionally, there is the Pradhan Mantri Awas Yojana housing scheme for both urban and rural India. The scheme aims to provide affordable housing to around 11.8 million urban households and 29.5 million rural households by the end of 2024. The completion rate is currently almost 90%.<sup>2</sup>

10. The government's major focus is increasing connectivity by enhancing transport infrastructure. The *Bharatmala Pariyojana* scheme originally envisioned developing a vast network of 83,677 km of roads, encompassing 34,800 km of new national highways and 48,877 km of highways under the existing National Highway Development Project by the end of 2022. However, the new deadline has been extended

to 2027, given the delays caused by COVID-19 and issues related to land acquisition and environmental clearances.

11. With regard to rural connectivity, India's Rural Road Development and Connectivity Policy, implemented through the *Pradhan Mantri Gram Sadak Yojana (PMGSY)* programme, aims to connect rural habitations with all-weather roads, thereby enhancing access to essential services such as markets, schools and healthcare facilities. The first phase, PMGSY-I, focused on connecting unconnected habitations, with 99.38% of eligible villages covered by 2023, while the second phase, PMGSY-II, upgraded 48,691 km of rural roads. PMGSY-III, launched in 2019, aimed to consolidate 1.25 lakh kilometres (125,000 km) of roads connecting economic hubs and social services, with over 69,500 km completed by December 2023.<sup>3</sup> PMGSY-IV, set to launch in 2024, plans to extend connectivity to 25,000 additional villages with a budget of INR 19,000 crore, addressing smaller and more remote settlements. Despite the successes, the programme faces challenges, particularly in fund utilisation and project delays in some states.

12. **Renewable energy.** Given the large and still growing population, meeting the escalating energy demand while mitigating environmental consequences necessitates a significant expansion of renewable energy capacity in the country. India's renewable energy sector has made strides towards achieving its ambitious targets. As of July 2024, India had an installed renewable energy capacity of 150.28 gigawatts (GW), including 87.21 GW of solar power,

<sup>2</sup> See <https://pib.gov.in/PressReleaselframePage.aspx?PRID=2003570>.

<sup>3</sup> See both: Ministry of Rural Development. (July 27, 2022). *Development of rural roads*. Press Information Bureau; and Press Information Bureau. (December 20, 2023). *Construction of Rural Roads and Amrit Sarovars*.

47 GW of wind power, and smaller contributions from hydro and bioenergy. The country aims to reach 500 GW of non-fossil fuel energy capacity by 2030, with targets of adding 50 GW of renewable energy capacity per year between 2023–2028.<sup>4</sup>

13. Key initiatives like the Renewable Purchase Obligation are driving this growth, with targets requiring 29.91% of total energy to come from renewable sources by 2024–2025, rising to 43.33% by 2029–2030. India's policy trajectory includes a strong focus on solar and wind energy, backed by large-scale bids and infrastructure improvements to support grid integration.<sup>5</sup> Despite land acquisition and financing challenges, the government is making significant progress, with approximately 82 GW of additional projects in various stages of implementation.
14. Social infrastructure, which includes increasing access to good quality education and healthcare, remains fundamental for human development and a major focus of the Government of India, which is committed to expanding and upgrading social infrastructure, including schools, hospitals, and other essential amenities. The *Ayushman Bharat* scheme, providing health insurance coverage to over 500 million people, represents a substantial step towards universal healthcare access. As of July 2023, over 180 million Ayushman Bharat cards have been issued. Meanwhile, the *Samagra Shiksha Abhiyan* initiative, aimed at improving school education quality, concentrates on holistic development and inclusive learning across all levels, and the Pradhan Mantri Schools for Rising India scheme, which focuses on developing model schools that embody the principles of the National Education Policy 2020, are two examples of education initiatives.
15. Despite these positive strides, challenges persist, particularly in terms of financing, human resource shortages, and maintaining quality standards. Nevertheless, India's commitment to expanding social infrastructure, coupled with ongoing government efforts and potential private sector collaboration, offers a promising outlook for the future, with the potential to bridge gaps and ensure more equitable access to education and healthcare for all citizens.
16. While several programmes and policies are in place, infrastructure development in India encounters obstacles related to financing, capacity and the prevailing rural-urban divide.
17. **Financing and fiscal constraints.** India's financing needs for its infrastructure are large. According to estimates by the World Bank, India will need USD 840 billion-worth of investment in urban infrastructure over the next 15 years – or USD 55 billion per year on average<sup>6</sup> – to effectively meet the needs of this fast-growing country. The lack of investment hampers both the construction of new infrastructure and the maintenance of existing facilities in rural areas.
18. Land acquisition is a significant challenge in India's infrastructure development due to complex legal, social and administrative issues. Acquiring land often disrupts communities, leading to displacement and protests from affected landowners who may feel inadequately compensated. The process is further complicated by India's dual governance structure, where central and state governments have overlapping authority on land matters. Additionally, inadequate digital land records and protracted legal disputes over compensation and land rights can often be bottlenecks.
19. Human resources and institutional capacity are also challenges, particularly in rural infrastructure development. The shortage of skilled professionals, including engineers, project managers and technical staff, makes it difficult to implement projects efficiently. This issue is compounded by the fact that institutional capacity tends to be concentrated in urban areas, leaving rural regions under resourced. Rural settings also lack local training facilities, administrative capacity, and insufficient financial management skills, further hindering the effective execution of development programmes.

4 Ministry of New and Renewable Energy (MNRE). (2024). *Physical Achievements as of July 2024*.

5 Press Information Bureau (PIB). (2023). *Renewable Purchase Obligation (RPO) and RE Capacity Targets*. See <https://pib.gov.in/PressReleasePage.aspx?PRID=1913789>.

6 See <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099615110042225105/p17130200d91fc0da0ac610a1e3e1a664d4#:~:text=This%20report%20estimates%20that%20India,fast%2Dgrowing%20population.>

## RURAL-URBAN DIVIDE

20. India's rural-urban divide in infrastructure development is stark, with urban areas benefiting from superior access to healthcare, education, transportation and digital services. Approximately 75% of healthcare infrastructure is concentrated in urban regions, which house only 27% of the population, leaving rural areas underserved.<sup>7</sup> This results in a shortage of doctors, medical equipment, and facilities in rural India, significantly hindering access to essential healthcare services.<sup>8</sup>
21. The educational and digital infrastructure gap is equally pronounced. In rural India, 31% of the population has access to the internet, compared to 67% in urban areas.<sup>9</sup> This digital divide limits opportunities for online education, access to e-health services, and other digital innovations that have become integral in urban settings. Projects like BharatNet,<sup>10</sup> which aim to bring broadband connectivity to 600 million rural residents, are essential to bridging this gap. Additionally, only 24% of government schools in rural India are equipped with internet access, limiting their ability to implement digital learning programmes.

## OUTLOOK

22. The government has launched several initiatives to address this challenge, such as PMGSY (see para. 11 above) for rural road connectivity, the Jal Jeevan Mission for providing piped water to rural households, and the *Saubhagya* scheme for universal household electrification. The outlook for India's infrastructure sector remains positive. The National Infrastructure Pipeline (NIP), with its projected investment requirement of approximately USD 1.5 trillion by 2025, outlines the ambitious scale of planned development. As of December 2023, projects worth over USD 500 billion were under implementation under the NIP. Mega-projects like the Gati Shakti National Master Plan, aimed at creating a holistic and integrated infrastructure network, exemplify this long-term vision.

## C. CLIMATE RESILIENCE AND SUSTAINABILITY

23. India's vulnerability to climate change is substantiated by its ranking as the seventh most climate-vulnerable country globally in the Notre Dame Global Adaptation Initiative. The Council on Energy, Environment, and Water (CEEW) highlights that more than 80% of India's population resides in districts highly susceptible to extreme weather events, underscoring the widespread nature of this vulnerability. The CEEW's Climate Vulnerability Index further delineates regional disparities, indicating that the northeastern states are particularly prone to floods, while the southern and central regions face a heightened risk of extreme droughts.
24. To tackle the challenge, India is making environmental sustainability and climate resilience a priority, but it faces a complex landscape of both possibilities for progress and challenges. The government's policies and ambitious targets demonstrate a commitment to addressing environmental concerns but balancing economic growth with environmental protection in a rapidly developing nation remains a daunting task.

## KEY PRIORITIES

25. Reducing air pollution, particularly in urban areas, remains a significant threat to public health and quality of life. While the National Clean Air Programme aims to reduce particulate matter concentration, data from the Central Pollution Control Board for 2023 reveals that 131 out of 132 non-attainment cities (i.e. cities exceeding National Ambient Air Quality Standards) still exceeded the annual average safe limit of 40 µg/m<sup>3</sup> for particulate matter (PM) 2.5. Major cities like Delhi experienced an annual average PM2.5 concentration of 99.5 µg/m<sup>3</sup>, nearly 2.5 times the safe limit, highlighting the urgent need for localised solutions, stricter emission control enforcement, and a shift towards cleaner energy sources.

7 Healthcare Radius. (2023). *Bridging India's Urban-Rural Healthcare Divide*. Retrieved from <https://www.healthcareradius.in/>.

8 MC Public Health. (2023). *Determinants of Rural-Urban Differential in Healthcare Utilization among the Elderly Population in India*.

9 RSA Regions. (2020). *Contours of Internet Access in Rural-Urban Landscapes in India*. Retrieved from.

10 Times Now News. (2023). *Building an Inclusive Bharat with BharatNet: Bridging the Digital Divide for Rural India's Growth*.

26. The Jal Jeevan Mission has made impressive strides, with over 60% of rural households now having access to piped water. However, ensuring water quality and sustainability remains a critical concern. A 2023 study by the Comptroller and Auditor General of India revealed that only 20% of tested water samples met the prescribed quality standards. This emphasises the need for robust water quality monitoring and management systems, complemented by community-led initiatives for source protection and conservation.
27. Forest conservation efforts, while showing positive outcomes, are tasked with restoring 26 million hectares of degraded land by 2030. The Global Forest Watch data indicates India lost an average of 134,000 hectares of natural forest annually between 2010 and 2023. Strengthening enforcement against illegal logging and encroachment, while promoting sustainable forest management practices and community-led afforestation efforts, are vital to achieve restoration goals and ecological balance.
28. India's commitment to renewable energy is evident in its target of having 40% cumulative electric power installed capacity from non-fossil fuel sources by 2030. As of 2023, India had achieved approximately 39% of this target, demonstrating substantial progress in solar and wind energy expansion. However, challenges remain in ensuring grid stability, expanding transmission infrastructure, and promoting decentralised renewable energy solutions, especially in remote areas.
29. The agricultural sector, vital to the Indian economy, is increasingly vulnerable to climate change. The National Mission for Sustainable Agriculture promotes climate-smart practices, but their adoption faces challenges due to fragmented landholdings and limited access to credit and technology, particularly for small and marginal farmers, who constitute over 86% of farmers in India according to the National Sample Survey Office.
30. Rural areas, where agriculture forms the backbone of the economy and livelihoods, are particularly vulnerable to the adverse effects of climate change. Erratic rainfall patterns, prolonged droughts, and fluctuating temperatures pose significant challenges to agricultural productivity and rural communities' sustenance. According to the Indian Council of Agricultural Research, climate change has already led to a 5–10% decline in crop yields in certain regions. The World Bank estimates that climate change could reduce India's gross domestic product by 2.8% by 2050, impacting rural livelihoods most significantly. To address these vulnerabilities, targeted interventions are crucial. This includes promoting climate-resilient crops, enhancing water resource management through techniques like rainwater harvesting and micro-irrigation, and establishing effective early warning systems for extreme weather events.
31. Despite growing national and international emphasis on climate change mitigation and adaptation, rural areas often receive a disproportionately smaller share of climate finance compared to urban centres. Data from the Climate Policy Initiative reveals that only 10–15% of climate finance flows to rural areas in India, creating a significant gap in funding for local climate solutions. Bridging this urban-rural divide necessitates innovative financing mechanisms that prioritise rural communities. This could include dedicated funds for rural climate projects, community-based financing models, and the integration of climate considerations into broader rural development programmes.
32. Deforestation, land degradation and water scarcity are pressing environmental challenges that disproportionately impact rural communities dependent on natural resources. India lost 21% of its forest cover between 2001 and 2021, with significant implications for biodiversity, water availability, and climate regulation. Furthermore, unsustainable agricultural practices and over-extraction of

groundwater exacerbate land degradation and water scarcity, affecting crop yields and rural livelihoods. To counter these trends, comprehensive efforts are needed to promote sustainable land-use practices, restore degraded ecosystems, and invest in water conservation and management technologies.

33. Furthermore, many areas in India often lack adequate waste management infrastructure, contributing to environmental pollution and health hazards. A 2020 study by the Centre for Science and Environment estimated that 70% of rural waste is disposed of improperly, posing a risk to soil and water quality. While initiatives like waste segregation and recycling hold potential, their successful implementation faces challenges due to limited awareness of proper disposal methods and a lack of infrastructure in rural areas.

## D. DIGITAL TRANSFORMATION IN INDIA

34. India's digital landscape is undergoing rapid transformation, driven by investments in digital infrastructure, expanding internet penetration, and a growing emphasis on digital literacy. The government's Digital India initiative is at the forefront of this revolution, aiming to empower citizens and establish a digitally empowered society and knowledge economy.

### KEY PRIORITIES AND INITIATIVES

35. **Broadband connectivity.** Expanding broadband connectivity is crucial for a digitally inclusive India. The BharatNet project, aimed at connecting all 2.5 lakh<sup>11</sup> gram panchayats with high-speed broadband, is pivotal in bridging the urban-rural digital divide. As of December 2023, over 1.8 lakh gram panchayats have been connected under BharatNet. Government efforts to promote affordable mobile data and expand 4G coverage have resulted in over 800 million internet subscribers in 2023, a testament to increasing internet penetration.
36. **Digital identity and payments.** Aadhaar, the world's largest biometric identification system, has provided a unique digital identity to over 1.3 billion residents, facilitating access to government and financial services. The Unified Payments Interface (UPI) has revolutionised digital payments, with transaction volumes surpassing 8 billion in August 2023 alone, highlighting its widespread adoption.
37. **Digital literacy and skills development.** Programmes like the Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) aim to equip rural citizens with digital literacy skills. The National Digital Literacy Mission aims to empower at least one person per household with these skills. As of March 2023, over 60 million individuals have been trained under PMGDISHA.
38. India's digital transformation faces multiple challenges, particularly in rural areas. Despite concerted effort, rural broadband penetration remains around 37%, compared to 69% in urban areas, reflecting a significant infrastructure deficit. Even with internet access, rural regions lack locally relevant digital services, especially in local languages, limiting their engagement in the digital economy. Moreover, the affordability of digital devices and services is a barrier, with rural households spending about 4% of their income on mobile services, compared to 2% in urban areas.
39. Additionally, gender and social inequalities widen the digital divide, with women and marginalised communities in rural areas having limited access to digital technologies. While programmes like PMGDISHA address basic digital literacy, there is a critical gap in advanced skills training. This limits opportunities in areas like e-commerce, digital financial services, and telemedicine, preventing rural populations from fully participating in the benefits of digitalisation.

11 1 lakh equals 100,000. Gram panchayats are local governing body in India that represents a village or group of villages.

## E. CROSS-CUTTING ISSUES: LOCAL CAPACITY AND INSTITUTIONAL CHALLENGES

40. India has prioritised sustainable development for transformative growth in its infrastructure and digital sectors. Strong government commitment, ambitious policy initiatives, and a growing skilled workforce drive this potential. However, unlocking this potential requires a strategic focus on enhancing local capabilities and addressing institutional weaknesses supported by data-driven approaches.
41. India's talent pool includes a workforce of approximately 500 million, with 1.5 million science, technology, engineering and mathematics (STEM) graduates entering the market annually (according to the India Brand Equity Foundation, 2023). The technology sector, valued at USD 227 billion, is expected to reach USD 350 billion by 2025, growing at a compound annual growth rate of 12–14% (according to data-collection firm Statista, 2023). This provides a solid foundation for infrastructure development and digital transformation. However, fully realising this potential requires upskilling initiatives. The National Skill Development Corporation (NSDC) programmes have trained over 30 million individuals, but NSDC notes that gaps remain in emerging fields like artificial intelligence, data analytics, and renewable energy. Collaboration between the public and private sectors is essential to bridge these skill gaps.
42. Institutional capacity remains a challenge in project implementation, especially in the less developed states in India. India's ranking of 63<sup>rd</sup> in the World Bank's Doing Business 2020 report highlights the need for improved regulatory processes and better coordination among government bodies. Strengthening institutional frameworks and improving transparency are critical for attracting investment. Furthermore, access to financing for rural entrepreneurs has also been a challenge. Although financial inclusion has improved, rural entrepreneurs, particularly women, face challenges accessing credit due to limited outreach by formal institutions. While digital banking has expanded, many rural populations remain outside formal financial systems.
43. The Government of India has implemented several initiatives to improve institutional capacity, including "Ease of Doing Business" reforms to streamline processes and reduce bureaucracy, the Digital India programme to enhance governance and service delivery through technology, "Direct Benefit Transfer" to ensure efficient and transparent welfare delivery, and the "Skill India Mission" to equip young people with market-relevant skills. These efforts represent significant progress, but sustained focus on regulatory simplification, coordination, and accountability remains crucial for fostering investment, growth, and development. Rural local bodies like panchayats often lack institutional capacity to manage development projects. Enhancing local governance, particularly in planning and financial management, is crucial for effective rural development. For example, a study in 2017 by the National Institute of Rural Development and Panchayati Raj (NIRDPR) found that only 40% of elected panchayat representatives possessed the necessary skills and knowledge to perform their duties effectively, highlighting a significant capacity gap. A report by the Comptroller and Auditor General of India in 2019 revealed that 30% of audited panchayats had deficiencies in financial management, including inadequate accounting practices and internal controls.



# 02

## THE NDB PORTFOLIO IN INDIA

A. The NDB General Strategies as the overarching reference

## 02 The NDB portfolio in India

### A. THE NDB GENERAL STRATEGIES AS THE OVERARCHING REFERENCE

44. Due to the absence of an explicit and documented India-NDB country strategy or partnership framework, this evaluation has been guided by the overarching objectives and principles outlined in the two NDB General Strategies to date: for 2017–2021 and 2022–2026. These strategies are therefore used in this evaluation as the primary reference point for assessing the India-NDB partnership overall. Other relevant NDB corporate policies and strategies have also been taken as a reference, as applicable to the NDB context in India.

45. As outlined in its general strategies, NDB supports sustainable infrastructure development in the following focus areas: clean energy and energy efficiency, transport infrastructure, water and sanitation, environmental protection, social infrastructure, and digital infrastructure. The aim is to help member countries expand infrastructure, promote economic growth, and improve lives while shaping a sustainable future. By the end of 2023, NDB had approved 27 projects for India. These include 25 sovereign operations and two non-sovereign operations.<sup>12</sup> However one project, approved in 2016, was eventually cancelled, bringing the total number of projects to 26.

**Table 2: Total project approvals in India by year and type**

| Year         | Sovereign | Non-sovereign | Approvals   |
|--------------|-----------|---------------|-------------|
| 2016         | 2         | -             | 2*          |
| 2017         | 2         | -             | 2           |
| 2018         | 4         | -             | 4           |
| 2019         | 5         | 1             | 6           |
| 2020         | 4         | 1             | 5           |
| 2021         | 1         | -             | 1           |
| 2022         | 3         | -             | 3           |
| 2023         | 4         | -             | 4           |
| <b>Total</b> | <b>25</b> | <b>2</b>      | <b>27**</b> |

Source: NDB loan dashboard.

\* 1 project was eventually cancelled.

\*\* Including the cancelled project.

46. From the beginning of NDB operations until 2023, NDB's investment in the 26 projects totalled USD 8.6 billion, with an aggregate disbursement of funds of around 44% by the end of 2023.

**Table 3: Snapshot of NDB portfolio in India**

|  |     |
|--|-----|
| Number of approved projects                            | 26* |
| Overall loan commitments by NDB in India (USD billion) | 8.6 |
| Overall disbursement (%)                               | 44  |

Source: NDB loan dashboard.

\* Excluding the one cancelled project.

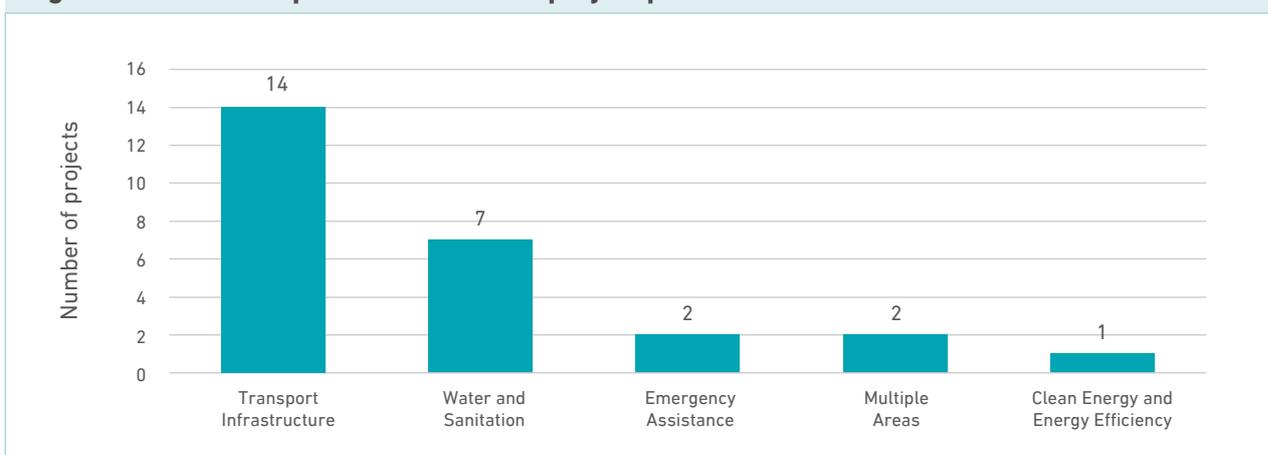
12 The non-sovereign operations are:

- (i) the REC Renewable Energy Sector Development Project; and
- (ii) the National Investment and Infrastructure Fund: Fund of Funds – I (an equity investment).

**47. Sector composition of the NDB portfolio.** Out of the 26 projects funded by NDB in India, 14 projects focus on the roads and transport sector, aimed at improving the country's road infrastructure, connectivity and urban mobility. A further seven projects are designed to improve water and sanitation, ensuring clean and safe water supply to communities across the country.

**48.** The remaining five NDB-approved projects are distributed among the themes of clean energy and energy efficiency, COVID-19 emergency assistance, and multi-dimensional projects. The latter type of projects aims to, for example, both support India's transition towards clean and renewable energy, and promote sustainable development across different sectors.

**Figure 1: Sector composition of the NDB project portfolio in India**

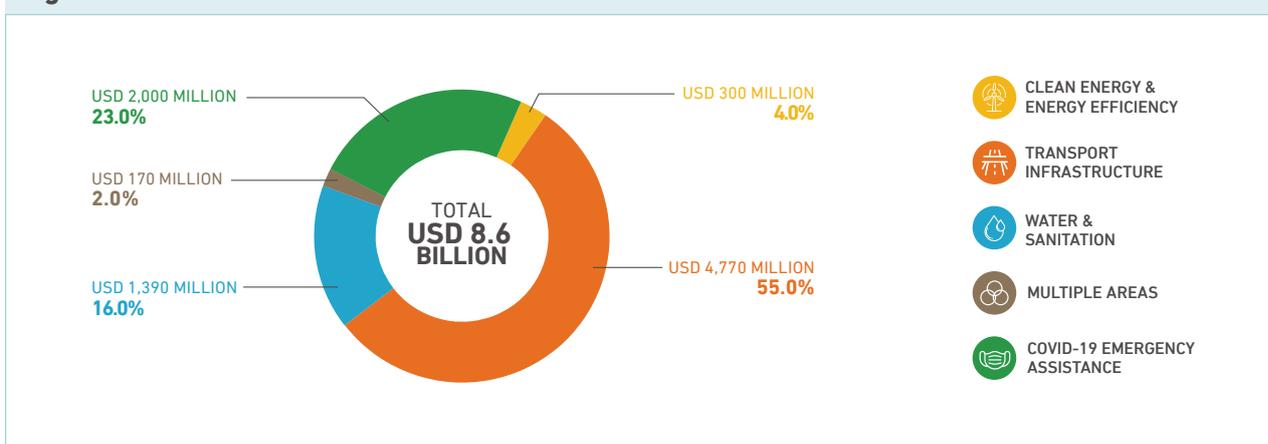


Source: NDB loan dashboard.

**49.** The majority of NDB's investment in the country is focused on developing transport infrastructure which includes financing the building of roads, bridges and metro systems to aid urban mobility.

By the end of 2023, a total of USD 4.7 billion, (55% of total approved projects by volume of investment) had been approved to expand India's transport infrastructure.<sup>13</sup>

**Figure 2: Total investment across sectors**



Source: NDB loan dashboard.

13 Not including the loan amount for the cancelled project.

50. The second largest investment, totalling USD 2 billion, was allocated towards emergency assistance for the challenges posed by COVID-19. The two COVID-19 projects accounted for 23% of the total approved loan amount. The water and sanitation sector received an investment of USD 1.39 billion, spread across seven projects (16% of total approved loans).
51. **Geographical distribution.** By the end of 2023, NDB had approved four projects with nationwide scope. The remaining 22 projects are spread across 13 out of India's 36 states and union territories. Amongst these, Madhya Pradesh has the highest number of approved projects with five.

**Table 4: Distribution of projects by states in India** (as at December 2023)

| State  | No. of projects |
|--|-----------------|
| Nationwide   | 4               |
|   Madhya Pradesh | 5               |
|  Manipur  | 3               |
|  Andhra Pradesh   | 2               |
|  Bihar  | 2               |
|  Maharashtra  | 2               |
|  Assam  | 1               |
|  Delhi  | 1               |
|  Gujarat  | 1               |
|  Himachal Pradesh   | 1               |
|  Meghalaya  | 1               |
|  Nagaland   | 1               |
|  Rajasthan  | 1               |
|  Tamil Nadu   | 1               |
| <b>Total</b>   | <b>26</b>       |

Source: NDB loan dashboard.

52. **Disbursement ratio.** As of the end of 2023, the Bank had disbursed approximately 44% of the total approved amount for 26 projects. Three of these projects have already received 100% disbursements: the REC Renewable Energy Sector Development Project, the Emergency Assistance Program in Combatting COVID-19 and the Emergency Program for Supporting India's Recovery from COVID-19. Additionally, three projects – the Bihar Rural Roads Project, the Madhya Pradesh Bridges Project, and the Rajasthan Water Sector Restructuring Project – are multi-tranche projects and have also reached 100% disbursements for tranche 1.
53. Sixteen projects are at various stages of implementation, while six have been approved by the NDB Board, but their loan/financing agreements have not yet been signed (as of end December 2023).

**Table 5: Disbursement status of NDB loan amounts and number of projects**

| Disbursement range (%)      | Number of projects |
|-----------------------------|--------------------|
| No disbursements (thus far) | 7                  |
| Between 0 and 20            | 4                  |
| Between 20 and 50           | 6                  |
| Between 50 and 80           | 4                  |
| Between 80 and 90           | 2                  |
| Fully disbursed             | 3*                 |

Source: NDB loan dashboard.

\* In addition to these three projects, 100% disbursement has been done for the first tranche of three multi-tranche projects.



# 03

## EVALUATION OBJECTIVES, METHODOLOGY AND PROCESS

- A. Objective of the evaluation
- B. Methodology and ratings
- C. Key evaluation phases and process
- D. Limitations

## 03 Evaluation objectives, methodology and process

54. This CPE aims to provide an overarching, broad understanding of the Bank's engagement in supporting India in its efforts to promote sustainable economic and social development. The evaluation results, including the Management Response, were presented to the NDB Board in the last quarter of 2024.
55. It is important to clarify that, in light of time and resource limitations, the CPE did not involve conducting in-depth/individual evaluations of all 26 projects. While all projects funded by NDB in

India were indeed assessed as part of the CPE, IEO analysed a selected number of operations in more detail. In particular, a differentiated approach was taken to assessing projects at different stages of implementation. For instance, projects that were recently approved or in their initial stages of implementation were only assessed in terms of their relevance and design quality. However, those that have disbursed 100% of the funding were fully assessed for results and impact. This is further discussed below in section B, "methodology and ratings".

### A. OBJECTIVE OF THE EVALUATION

56. The main objectives of the evaluation were to:
- (i) Assess the results of the India-NDB partnership; and
  - (ii) Generate lessons and recommendations for strengthening the partnership moving forward. In addition, a secondary objective was to draw lessons and insights for future CPEs that IEO will conduct from 2025 onwards.



#### Assess results:

Evaluate the results of India and NDB partnership.



#### Generate recommendations:

Provide actionable insights to improve ongoing and future activities.



#### Improve future CPEs:

Learn from this evaluation to improve the design and methodology of future CPEs.

### B. METHODOLOGY AND RATINGS

57. **Assessment of operations.** The evaluation process was conducted in accordance with the NDB Evaluation Policy and Evaluation Strategy 2024–2026 approved by the Board. The evaluation used internationally recognised evaluation criteria and processes adopted by the Evaluation Cooperation Group (ECG) of the Multilateral Development Banks. However, the evaluation criteria and processes were customised to suit the NDB, the Government of India, and project contexts as required. The definition of all evaluation criteria may be

seen in annex 3. The evaluation methodology involved a combination of quantitative and qualitative data collection to provide a reliable and evidence-based assessment of the country's portfolio and overall partnership.

58. Projects or tranches that have received 100% disbursements as of December 2023 have been evaluated against all five criteria. Table 6 details the four projects that qualify for assessment and the evaluation criteria used.

**Table 6: Projects/tranches with 100% disbursements by December 2023**

| Project name   | Type               | Approval date | Signing date | Closing date | Disbursement | Relevance | Effectiveness | Efficiency | Impact | Sustainability |
|--|--------------------|---------------|--------------|--------------|--------------|-----------|---------------|------------|--------|----------------|
| Bihar Rural Roads Project – Tranche 1                    | Sovereign loan     | 28-05-18      | 20-11-18     | 19-11-23     | 100%         | ✓         | ✓             | ✓          | ✓      | ✓              |
| Madhya Pradesh Bridges Project – Tranche 1               | Sovereign loan     | 18-09-18      | 05-10-18     | 04-10-23     | 100%         | ✓         | ✓             | ✓          | ✓      | ✓              |
| REC Renewable Energy Sector Development Project          | Non-sovereign loan | 14-10-19      | 26-05-20     | 02-06-22     | 100%         | ✓         | ✓             | ✓          | ✓      | ✓              |
| Rajasthan Water Sector Restructuring Project – Tranche 1 | Sovereign loan     | 20-11-17      | 13-02-18     | 12-08-23     | 100%         | ✓         | ✓             | ✓          | ✓      | ✓              |

Source: Evaluation authors and NDB loan dashboard.

59. Projects with disbursements below 40% were evaluated for relevance only (i.e. an assessment of the relevance of objectives and design). This is because it is methodologically inappropriate to assess effectiveness, efficiency, impact and sustainability in projects with less than 40% disbursements, given that a large part of the implementation and activities have still to be completed.
60. Projects that were in more advanced stages of implementation and have disbursed more than 40% but less than 100% were evaluated for relevance, effectiveness and efficiency. Given these projects have not yet been completed, in their case too, it would not have been methodologically appropriate to assess their impact and sustainability. The CPE assessment thus discusses impact and sustainability primarily from a design perspective. While such projects were assessed for effectiveness and efficiency, the CPE recognises that such projects' performance in these two criteria may change at the time of project completion. Hence, it is important to clarify that, in conducting its assessment, the CPE determined the project effectiveness and efficiency at the time of this evaluation.
61. In 2022, IEO conducted a detailed evaluation of one completed project in India, the Madhya Pradesh Major Districts Roads Project, a sovereign operation. As such, this project was not assessed again by this CPE, but the findings, lessons and ratings captured in the final evaluation report<sup>14</sup> have informed the CPE's analysis. In addition, the two COVID-19 emergency projects relating to India were assessed as part of the wider IEO Evaluation of NDB'S Fast-track Support to the COVID-19 Emergency, which was published in 2023.<sup>15</sup>

14 See <https://www.ndb.int/wp-content/uploads/2023/02/Project-Performance-Evaluation-full-report.pdf>.

15 See [https://www.ndb.int/wp-content/uploads/2024/02/COVID-19\\_Evaluation-Report\\_Feb20\\_final.pdf](https://www.ndb.int/wp-content/uploads/2024/02/COVID-19_Evaluation-Report_Feb20_final.pdf).

**Table 7: Evaluation criteria for projects**

| No. | Project name   | Approval date | Signing date | Closing date | Disbursement |
|-----|--|---------------|--------------|--------------|--------------|
| 1   | Canara Renewable Energy Financing Scheme                                 | 13-04-16      | -            | -            | 0%           |
| 2   | Madhya Pradesh Major District Roads Project                              | 22-11-16      | 30-03-17     | 31-03-22     | 94%          |
| 3   | Madhya Pradesh Multi Village Water Supply Project                        | 30-08-17      | 20-08-18     | 19-08-22     | 52%          |
| 4   | Rajasthan Water Sector Restructuring Project                             | 20-11-17      |              |              | 49%          |
| 4a  | Rajasthan Water Sector Restructuring Project – Tranche 1                 | 20-11-17      | 13-02-18     | 12-08-23     | 100%         |
| 4b  | Rajasthan Water Sector Restructuring Project – Tranche 2                 | 10-06-22      | 29-07-22     | 28-07-26     | 28%          |
| 5   | Bihar Rural Roads Project  | 28-05-18      |              |              | 32%          |
| 5a  | Bihar Rural Roads Project – Tranche 1                                    | 28-05-18      | 20-11-18     | 19-11-23     | 100%         |
| 5b  | Bihar Rural Roads Project – Tranche 2                                    | 09-08-22      | 09-11-22     | 08-11-25     | 42%          |
| 6   | Madhya Pradesh Major District Roads II Project                           | 18-09-18      | 05-10-18     | 04-10-23     | 85%          |
| 7   | Madhya Pradesh Bridges Project   | 18-09-18      |              |              | 60%          |
| 7a  | Madhya Pradesh Bridges Project – Tranche 1                               | 18-09-18      | 05-10-18     | 04-10-23     | 100%         |
| 8   | Mumbai Metro Rail (Line 2&7) Project                                     | 16-11-18      | 26-12-18     | 25-12-23     | 38%          |
| 9   | Assam Bridge Project   | 08-07-19      | 08-08-19     | 07-08-24     | 69%          |
| 10  | Andhra Pradesh Road Sector Project (Highway)                             | 12-09-19      | 06-01-21     | 05-01-26     | 5%           |
| 11  | Andhra Pradesh Road Sector Project (Distr. Road)                         | 12-09-19      | 06-01-21     | 05-01-26     | 5%           |
| 12  | REC Renewable Energy Sector Development Project                          | 14-10-19      | 26-05-20     | 02-06-22     | 100%         |
| 13  | Manipur Water Supply Project   | 02-12-19      | 03-06-20     | 02-06-25     | 56%          |
| 14  | Indore Metro Rail Project  | 02-12-19      | 10-07-23     | 09-07-28     | 0%           |
| 15  | National Investment and Infrastructure Fund: Fund of Funds – I           | 25-03-20      | 10-02-21     |              | 44%          |
| 16  | Emergency Assistance Program in Combating COVID-19                       | 30-04-20      | 05-05-20     | 31-03-21     | 100%         |
| 17  | Mumbai Metro Rail II (Line 6) Project                                    | 29-09-20      |              |              | 0%           |
| 18  | Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project             | 29-09-20      | 19-11-20     | 31-08-27     | 42%          |
| 19  | Emergency Program for Supporting India's Economic Recovery from COVID-19 | 11-12-20      | 16-12-20     | 15-06-22     | 100%         |
| 20  | Himachal Pradesh Rural Water Supply Project                              | 08-12-21      | 22-12-21     | 21-08-25     | 22%          |
| 21  | Meghalaya Ecotourism Infrastructure Development Project                  | 18-07-22      | 10-07-23     | 09-07-28     | 6%           |
| 22  | Lampelpat Waterbody Rejuvenation Project                                 | 18-07-22      | Not signed   |              | 0%           |
| 23  | Corridor 4 of Phase II of Chennai Metro Rail Project                     | 13-12-22      | 14-07-23     | 13-07-28     | 1%           |
| 24  | Kohima Town Water Supply Augmentation Project                            | 16-08-23      | Not signed   |              | 0%           |
| 25  | Integrated Sewerage System for City of Imphal (Phase II) Project         | 26-10-23      | Not signed   |              | 0%           |
| 26  | Gujarat Rural Road Program   | 28-11-23      | Not signed   |              | 0%           |
| 27  | Bihar Rural Roads Project (Phase 2)                                      | 28-11-23      | Not signed   |              | 0%           |

Source: Evaluation authors and NDB loan dashboard.



- 62. NDB and borrower performance.** Furthermore, the evaluation also assesses and rates, respectively, NDB and borrower performance. Borrower performance includes the central and state governments' performance in India.
- 63. Assessment of non-lending activities.** Beyond evaluating NDB operations, the CPE also assessed the India-NDB partnership concerning non-lending activities, in particular: partnerships, knowledge management, capacity-building, and technical assistance, as these are some of the aspects mentioned in both general strategies of the Bank thus far. Under partnerships, the CPE reviewed the partnerships promoted with national and international institutions at the project level and beyond. In assessing knowledge management, the CPE examined the documentation, outreach, and communication of results, lessons, good practices, and related matters. Finally, on technical assistance, including capacity-building, the CPE analysed the extent to which NDB provided technical support to project partners and other stakeholders and how, if at all, it contributed to building local technical, operational or management capacity.
- 64. India-NDB partnership.** Based on the assessment of the project portfolio, as well as the non-lending activities, the CPE determines and assigns a rating for the overall India-NDB partnership.
- 65. The rating scale:** IEO evaluated and rated each of the criterion mentioned above using a six-point scale, based on the evidence collected using triangulation techniques. The key questions that formed the basis of the CPE's analysis may be seen in the Evaluation Framework in annex 3.

**Table 8: Six-point scale for evaluation**

| Rating scale |                         |
|--------------|-------------------------|
| 6            | Highly successful       |
| 5            | Successful              |
| 4            | Moderately successful   |
| 3            | Moderately unsuccessful |
| 2            | Unsuccessful            |
| 1            | Highly unsuccessful     |

## C. KEY EVALUATION PHASES AND PROCESS

- 66. Preparation of the approach paper.** The first step of the CPE was preparing the approach paper that defined the objectives, methodology and process for the evaluation. The approach paper was prepared between January and February 2024.
- 67. Preparatory mission.** A preparatory mission to India, which included the Director General of IEO, took place in February 2024 to discuss and inform key government stakeholders about the CPE and explain the aims and objectives, as well as to capture their feedback and expectations for the evaluation.
- 68. Online seminar with project implementation teams.** Based on the draft approach paper, a CPE seminar was organised in March 2024 for all the project implementation partners of the 26 projects in India to present the approach paper and get feedback from the teams.
- 69. Desk review.** After the finalisation of the approach paper, the evaluation team initiated the data and information collection process with a desk review of the available project documents and a literature review of the secondary sources. Numerous documents and databases were analysed including NDB policy and strategy documents, project documents to the Board, project design documents, loan agreements, project progress reports (PPRs) project agreements, central and state policy documents, reports by other development partners, and other relevant study reports.
- 70. Field visits.** The evaluation team thereafter conducted extensive field visits to three states in March-April 2024 to assess the project activities and hold interactions with various stakeholders on the ground in: Assam, for the Assam Bridge Project; Himachal Pradesh, for the Himachal Pradesh Rural Water Supply Project; and Manipur, for the Manipur Water Supply Project.
- 71. Selection rationale.** The choice of these specific projects for field visits was guided by several key factors:
- **Variety of implementation stages:** The projects represented various stages of implementation, allowing

for a comprehensive understanding of implementation challenges and successes at different junctures.

- **Sectoral expansion:** Given that IEO evaluators had already visited a road building project for the completed 2022 evaluation of the Madhya Pradesh Major Districts Roads Project, the inclusion of the major Assam Bridge Project expanded the evidence base to encompass significant bridge infrastructure.
- **Project scope variation:** Although both the Himachal Pradesh and Manipur projects focused on water supply, they diverged in scope and complexity. This enabled the team to assess varied approaches within the same sector, from localised rural schemes to expansive water treatment and distribution networks.
- **Geographical balance:** The selected projects were distributed across India, contributing to a more balanced representation of NDB-funded projects and regional contexts.

72. In addition to the above-mentioned projects, IEO was also able to hold discussions with the project teams of the Lamphelpat Waterbody Rejuvenation Project and the Integrated Sewerage System for City of Imphal (Phase II) Project, since both are being implemented in the State of Manipur. This proved to be very insightful and helped expand the number of projects covered by the CPE.

73. **Interviews and survey (April–July 2024).**

In addition to conducting desk reviews and field visits, the evaluation team held virtual interviews and calls with project implementing units (PIUs) across various projects in India. The process included having structured discussions with a diverse range of stakeholders, such as government officials, project teams, civil society organisations (CSOs), NGOs, and research institutions, to gather in-depth insights. These interactions were essential for obtaining consistent feedback on project status, challenges, and NDB's role and comparative advantage. To further ensure systematic feedback, a structured questionnaire was distributed to all project partners, capturing detailed

responses on project relevance, effectiveness, efficiency, impact and sustainability.

74. **Visit to the NDB Indian Regional Office (IRO).**

Complementing these efforts, the evaluation team also visited Gift City in Gujarat, where they held dedicated discussions with the Director General and staff at the IRO, focusing on identifying areas for improvement in NDB's operations in India. This comprehensive approach allowed the evaluation team to integrate insights from both direct engagements and remote communications, providing a thorough assessment of the projects.

75. **Impact surveys.**

To collect and analyse primary data and expand the CPE's evidence base, IEO commissioned two dedicated "impact" surveys to be carried out on two NDB-financed projects. This included one project in the water and sanitation sector and one in the transport infrastructure sector (see below). Sambodhi, a reputed national institution with extensive expertise and experience in impact evaluations, conducted the impact surveys. The projects that were selected for the impact surveys were:

- **Rajasthan Water Sector Restructuring Project:** The project aims to rehabilitate the "Indira Gandhi Canal" system to prevent seepage, conserve water, and enhance water usage efficiency. NDB has financed USD 345 million in two loan tranches under a multi-tranche financing facility. Tranche 1 has been fully disbursed while 28% of tranche 2 has been disbursed.
- **Mumbai Metro Rail (Line 2&7) Project:** Approved in 2018, the USD 2.5 billion project aims to enhance Mumbai's transport infrastructure by constructing three metro lines (Lines 2A, 2B, and 7), totalling 58 km. This addresses the urgent need for efficient urban transport due to rapid urbanisation and economic growth. The project, financed by an NDB loan and implemented by the Government of Maharashtra, includes measures to mitigate environmental and social impacts. Benefits include reduced travel time, lower vehicle operating costs, decreased emissions, and improved commuter safety and comfort. Currently, lines 2A and 7 are operational. At the time of this evaluation, disbursement stood at 38% for this project.

**76. Rationale for projects to be surveyed.**

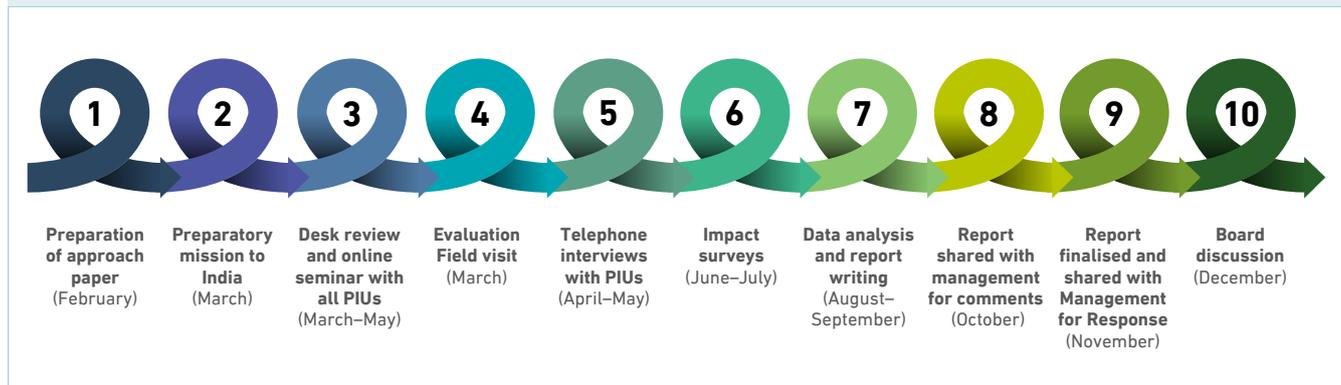
The Rajasthan Water Project and the Mumbai Metro Rail (Line 2&7) Project were chosen for the impact surveys due to good level of implementation, as outlined above, and therefore their suitability for assessing impact. Additionally, selecting a water system renovation project and a metro infrastructure project allowed the CPE to gather diverse evidence across different sectors in different states that were not covered by field visits undertaken by the CPE team. The impact surveys, conducted in the states of Rajasthan and Maharashtra, and the visit to the IRO in the state of Gujarat, therefore brought up to six the number of states visited during the CPE missions.

**77. Project evaluation briefs.** Based on the triangulation of information and data received from the various sources outlined above, individual project evaluation briefs were prepared by IEO for all 26 projects. These

briefs included an analysis of project progress and performance including ratings across the various evaluation criteria used in the CPE. The project evaluation briefs then informed the overall portfolio-level findings and supported the analysis provided in chapters 04, 05 and 06.

**78.** Between August and September 2024, the data collected through interviews and surveys was thoroughly analysed, and the CPE report was drafted. During late September, the draft report underwent a peer review process, with inputs from IEO staff as well as the external reviewer, Mr. Luciano Lavizzari. Based on the feedback received, the report was revised and shared with NDB Management for further review and comments. By the end of October, the draft was updated to reflect Management's feedback, and the revised version was submitted to NDB Management for their formal response. In December 2024, the final report was discussed during the Board of Directors meeting.

**Figure 3: Timeline of CPE development in 2024**



Source: Evaluation authors.

**79.** The sources of information used to build evidence for each of the 26 projects in India are outlined in table 9.

**Table 9: Details of evidence-building for each project**

| Legend                                   |              |  |                  |   |                               |                        |                                       |              |  |
|--|--------------|--|------------------|---|-------------------------------|------------------------|---------------------------------------|--------------|--|
| Yes ●                                    |              |  |                  |   |                               |                        |                                       |              |  |
| Partly yes ●                             |              |  |                  |   |                               |                        |                                       |              |  |
| No ●                                     |              |  |                  |   |                               |                        |                                       |              |  |
| Sr. no.                                  | Project code | Title of project   | Date of approval | Review of project document to the Board | Review of PPRs, aide memoires | Questionnaire response | Discussions with project counterparts | Field visits |  |
| <b>Transport infrastructure projects</b> |              |  |                  |   |                               |                        |                                       |              |  |
| 1  | 16IN02       | Madhya Pradesh Major Districts Roads Project                     | 22-11-16         | Previously evaluated by IEO in 2022.    |                               |                        |                                       |              |  |
| 2  | 18IN01       | Bihar Rural Roads Project  | 28-05-18         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 3  | 18IN02       | Madhya Pradesh Major District Roads II Project                   | 18-09-18         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 4  | 18IN03       | Madhya Pradesh Bridges Project                                   | 18-09-18         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 5  | 18IN04       | Mumbai Metro Rail (Line 2&7) Project                             | 16-11-18         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 6  | 19IN01       | Assam Bridge Project   | 08-07-19         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 7  | 19IN02       | Andhra Pradesh Road Sector Project (Highway)                     | 12-09-19         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 8  | 19IN03       | Andhra Pradesh Road Sector Project (District Road)               | 12-09-19         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 9  | 19IN06       | Indore Metro Rail Project  | 02-12-19         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 10                                       | 20IN04       | Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project     | 29-09-20         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 11                                       | 20IN01       | Mumbai Metro Rail II (Line 6) Project                            | 29-09-20         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 12                                       | 22IN03       | Corridor 4 of Phase II of Chennai Metro Rail Project             | 13-12-22         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 13                                       | 00102        | Gujarat Rural Road Program                                       | 28-11-23         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 14                                       | 00106        | Bihar Rural Roads Project (Phase 2)                              | 28-11-23         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| <b>Water and sanitation projects</b>     |              |  |                  |   |                               |                        |                                       |              |  |
| 15                                       | 17IN02       | Madhya Pradesh Multi Village Water Supply Project                | 30-08-17         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 16                                       | 17IN01       | Rajasthan Water Sector Restructuring Project                     | 20-11-17         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 17                                       | 19IN05       | Manipur Water Supply Project                                     | 02-12-19         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 18                                       | 21IN02       | Himachal Pradesh Rural Water Supply Project                      | 08-12-21         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 19                                       | 22IN02       | Lamphelpat Waterbody Rejuvenation Project                        | 18-07-22         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 20                                       | 00113        | Kohima Town Water Supply Augmentation Project                    | 16-08-23         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |
| 21                                       | 00098        | Integrated Sewerage System for City of Imphal (Phase II) Project | 26-10-23         | ●                                       | ●                             | ●                      | ●                                     | ●            |  |

| Sr. no.                           | Project code | Title of project   | Date of approval | Review of project document to the Board | Review of PPRs, aide memoires | Questionnaire response | Discussions with project counterparts | Field visits |
|-----------------------------------|--------------|--|------------------|---|-------------------------------|------------------------|---------------------------------------|--------------|
| <b>Renewable energy projects</b>  |              |  |                  |   |                               |                        |                                       |              |
| 22                                | 19IN04       | REC Renewable Energy Sector Development Project                          | 14–10–19         | ●                                       | ●                             | ●                      | ●                                     | ●            |
| <b>Cross-cutting projects</b>     |              |  |                  |   |                               |                        |                                       |              |
| 23                                | 20IN02       | National Investment and Infrastructure Fund: Fund of Funds – I           | 25–03–20         | ●                                       | ●                             | ●                      | ●                                     | ●            |
| 24                                | 22IN01       | Meghalaya Ecotourism Infrastructure Development Project                  | 18–07–22         | ●                                       | ●                             | ●                      | ●                                     | ●            |
| <b>Emergency support projects</b> |              |  |                  |   |                               |                        |                                       |              |
| 25                                | 20IN03       | Emergency Assistance Program in Combating COVID-19                       | 30–04–20         | Previously evaluated by IEO in 2023     |                               |                        |                                       |              |
| 26                                | 20IN05       | Emergency Program for Supporting India's Economic Recovery from COVID-19 | 11–12–20         | Previously evaluated by IEO in 2023     |                               |                        |                                       |              |

Source: Evaluation authors and NDB loan dashboard.

## D. LIMITATIONS

- 80. Assessing impact.** The CPE faced some limitations and challenges. One challenge was the assessment of impact, given that only three full projects and three first tranches of other projects have been completed. This limitation was addressed by not rating projects for impact that had not been completed at the time of this evaluation, as well as by undertaking two dedicated impact surveys, as previously mentioned, in projects at advanced stages of implementation.
- 81. Data availability and quality.** Another challenge was the availability and quality of data, as well as the difficulties in acquiring project-related information from within NDB. To overcome this, the evaluation team actively engaged with key stakeholders and project teams to validate and supplement the available data. Where gaps existed, additional interviews and follow-up discussions were conducted to gather the necessary information, ensuring that the evaluation was based on the most accurate and comprehensive data possible.
- 82. Access to internal documents.** Obtaining internal documents for the projects within the Bank proved challenging due to the absence of a document repository that is shared openly with NDB staff. The lack of a centralised and efficient system for managing project documents and data hindered the evaluation process, making it challenging to access historical information and project details. To address this, the evaluation team worked closely with NDB staff to manually locate and retrieve the necessary documents. Collaborative efforts were made to compile the required information from various departments, ensuring that critical project details were included in the evaluation despite the absence of an efficient document management system.

A photograph of a construction site. In the foreground, a grid of steel reinforcement bars (rebar) is laid out on a concrete slab. Several workers wearing hard hats and work clothes are visible. One worker in a white shirt and yellow hard hat is standing and looking towards the camera. Another worker in a red shirt and yellow hard hat is working on a vertical rebar column. A third worker in a yellow shirt and yellow hard hat is also working on the vertical rebar. In the background, there is a large body of water, possibly a reservoir or lake, and a hilly landscape under a clear blue sky.

# 04

## PROJECT PORTFOLIO PERFORMANCE

- A. Strategic focus of lending activities
- B. Relevance
- C. Effectiveness
- D. Efficiency
- E. Impact
- F. Sustainability
- G. Overall portfolio achievement

## 04 Project portfolio performance

### A. STRATEGIC FOCUS OF LENDING ACTIVITIES

83. NDB's lending activities, as outlined in both general strategies, primarily target significant infrastructure projects that cater to essential development needs in member countries. The General Strategy for 2017–2021 focused on financing sectors such as clean energy, transport, water and sanitation, and urban development, aiming to address infrastructure gaps and promote long-term sustainable development. This strategy also emphasised a blend of sovereign and non-sovereign lending to encourage public-private partnerships (PPPs) and attract additional resources and expertise. The subsequent General Strategy for

2022–2026 builds on these principles with an increased focus on sustainable infrastructure development, including digital and social infrastructure, and a stronger emphasis on climate and disaster resilience. This strategy also aims to expand private sector operations, particularly through non-sovereign lending and also sets the ambition to use instruments like blended finance mechanisms to attract private investment while reducing project risk. Prioritising local currency financing remains crucial. A detailed description of these strategic objectives and priorities, plus page references in the general strategies, is presented in table 10 below (and see links to both strategies above in this paragraph).

**Table 10: Details of strategic objectives and imperatives related to lending activities of the Bank as outlined in the general strategies**

| Strategic focus (lending activities)       | General Strategy for 2017–2021   | General Strategy for 2022–2026  |
|--|--|---|
| <b>Infrastructure financing</b>            | <p>Focuses on financing large-scale infrastructure projects in key sectors such as <b>clean energy</b> (i.e. renewable energy), transport (highways, railways, urban transit), <b>water and sanitation</b> (water supply, wastewater management), and <b>urban development</b> (affordable housing, smart cities). The strategy aims for the Bank to address critical infrastructure gaps while promoting long-term sustainable development.</p> <p><i>See: pages 19–20.</i></p>   | <p>Builds on the previous focus areas but strongly emphasises sustainable infrastructure development. This includes specific sectors like <b>transport, energy, water and sanitation, digital infrastructure, and social infrastructure</b>. The strategy highlights the need for climate and disaster resilience and the integration of advanced technologies, aligning infrastructure projects with the <b>SDGs and climate goals</b> for sustainable and inclusive growth.</p> <p><i>See: pages 3 and 15–16.</i></p> |
| <b>Sovereign and non-sovereign lending</b> | <p>Supports a <b>mix of sovereign</b> (government) and <b>non-sovereign</b> (private sector, state-owned enterprises) lending to address diverse financing needs. The strategy encourages <b>public-private partnerships</b> to leverage additional resources and expertise, thereby scaling up infrastructure investments. Sovereign lending targets large-scale national projects, while non-sovereign lending involves private sector participation in key sectors like energy and transport.</p> <p><i>See: page 20.</i></p> | <p>Increases the focus on scaling up private sector operations through <b>non-sovereign lending</b>. It aims to <b>mobilise private capital</b>, particularly in renewable energy and digital infrastructure, using <b>blended finance</b> mechanisms to combine public and private funds. The goal is to de-risk projects and attract private investment, enhancing the efficiency and impact of NDB's interventions.</p> <p><i>See: pages 3 and 18.</i></p>   |

| Strategic focus (lending activities)               | General Strategy for 2017–2021  | General Strategy for 2022–2026  |
|--|---|---|
| <b>Local currency financing and thematic bonds</b> | Introduces <b>local currency financing</b> to mitigate foreign exchange risks for borrowers in member countries. This supports the development of local financial markets by issuing bonds and providing loans in the currencies of member countries, enhancing financial stability and reducing vulnerabilities to currency fluctuations.  | <b>Enhancing local currency financing</b> is a key priority. This approach focuses on issuing <b>thematic bonds</b> (e.g. green bonds, social bonds) in local currencies to fund projects aligned with sustainability goals. It aims to promote financial resilience, reduce dependency on global markets, and support sustainable economic development within member countries.  |
|  | <i>See: page 25.</i>  | <i>See: pages 3 and 30.</i>   |
| <b>Climate change, SDGs and inclusivity</b>        | Aligns NDB's activities with global climate and sustainability goals. It prioritises investments in <b>renewable energy projects</b> (e.g. solar, wind), <b>energy efficiency</b> (e.g. infrastructure upgrades), and <b>climate adaptation</b> (e.g. flood defences). The strategy also supports projects that <b>contribute to SDGs</b> , particularly those focused on clean water (SDG 6), clean energy (SDG 7), and sustainable cities (SDG 11). The strategy indirectly addresses inclusiveness by emphasising infrastructure's role in promoting inclusive growth and focusing on projects in underserved areas. | Commits to fostering sustainability by ensuring that at least 40% of total project approvals directly contribute to climate action and the SDGs. It prioritises <b>green and climate-resilient infrastructure, renewable energy, and projects that advance the SDG agenda</b> , emphasising sustainability at all stages of project development to create long-term positive impacts on the environment and society. The strategy explicitly identifies <b>inclusiveness</b> as a <b>key project consideration</b> . The Bank aims to ensure that its investments do not exacerbate inequalities and instead contribute to a more equitable distribution of benefits. |
|  | <i>See: pages 13–14.</i>  | <i>See: pages 3, 4–5 and 20–21.</i>   |

## B. RELEVANCE

**Rating:** Moderately successful

**The relevance of NDB's portfolio in India is rated as “moderately successful”,** reflecting its strong alignment with key national priorities but also highlighting areas for broader strategic engagement. Individual projects are well-aligned with the Government of India's objectives and the SDGs, particularly in sectors such as transport, water and sanitation. Projects like the Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project advance multiple SDGs, including SDG 6 (clean water and sanitation), SDG 9 (industry, innovation, and infrastructure), and SDG 11 (sustainable cities and communities), while supporting India's goals for sustainable urban mobility and infrastructure. However, the portfolio's concentration in water, sanitation and transport, while relevant, does not fully address India's broader development needs, such as social and digital infrastructure, particularly in rural areas. Additionally, the portfolio's alignment with NDB's broader strategies, such as local currency financing, capacity-building, and partnerships with national development banks, remains limited, which affects its overall strategic depth. This selective focus can be understood as a result of India's demand-driven project financing and the absence of a more targeted India-specific partnership plan.

84. The relevance of the NDB's India portfolio is evaluated based on the alignment of project objectives with India's development priorities and the main “strategic imperatives” and “building blocks” outlined in the NDB's general

strategies (see table 10 above). Under relevance, the CPE also assesses the overall quality of project design. The CPE has analysed relevance both with regard to lending and non-lending activities.

| <b>Table 11: Assessment of relevance of individual projects</b> |  |                  |                       |
|---|--|------------------|-----------------------|
| No.   | Title of project   | Date of approval | Relevance rating      |
| <b>Assessment of transport infrastructure projects</b>          |  |                  |                       |
| 1   | Madhya Pradesh Major Districts Roads Project                             | 22-11-16         | Successful            |
| 2   | Bihar Rural Roads Project  | 28-05-18         | Moderately Successful |
| 3   | Madhya Pradesh Major District Roads II Project                           | 18-09-18         | Successful            |
| 4   | Madhya Pradesh Bridges Project   | 18-09-18         | Moderately Successful |
| 5   | Mumbai Metro Rail (Line 2&7) Project                                     | 16-11-18         | Highly Successful     |
| 6   | Assam Bridge Project   | 08-07-19         | Successful            |
| 7   | Andhra Pradesh Road Sector Project (Highway)                             | 12-09-19         | Moderately Successful |
| 8   | Andhra Pradesh Road Sector Project (District Roads)                      | 12-09-19         | Moderately Successful |
| 9   | Indore Metro Rail Project  | 02-12-19         | Moderately Successful |
| 10  | Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project             | 29-09-20         | Highly Successful     |
| 11  | Mumbai Metro Rail II (Line 6) Project                                    | 29-09-20         | Highly Successful     |
| 12  | Corridor 4 of Phase II of Chennai Metro Rail Project                     | 13-12-22         | Successful            |
| 13  | Gujarat Rural Road Program   | 28-11-23         | Successful            |
| 14  | Bihar Rural Roads Project (Phase 2)                                      | 28-11-23         | Moderately Successful |
| <b>Assessment of water and sanitation projects</b>              |  |                  |                       |
| 15  | Madhya Pradesh Multi Village Water Supply Project                        | 30-08-17         | Moderately Successful |
| 16  | Rajasthan Water Sector Restructuring Project                             | 20-11-17         | Successful            |
| 17  | Manipur Water Supply Project   | 02-12-19         | Successful            |
| 18  | Himachal Pradesh Rural Water Supply Project                              | 08-12-21         | Successful            |
| 19  | Lamphelpat Waterbody Rejuvenation Project                                | 18-07-22         | Successful            |
| 20  | Kohima Town Water Supply Augmentation Project                            | 16-08-23         | Moderately Successful |
| 21  | Integrated Sewerage System for City of Imphal (Phase II) Project         | 26-10-23         | Successful            |
| <b>Assessment of renewable energy projects</b>                  |  |                  |                       |
| 22  | REC Renewable Energy Sector Development Project                          | 14-10-19         | Successful            |
| <b>Assessment of cross-cutting projects</b>                     |  |                  |                       |
| 23  | National Investment and Infrastructure Fund: Fund of Funds – I           | 25-03-20         | Successful            |
| 24  | Meghalaya Ecotourism Infrastructure Development Project                  | 18-07-22         | Moderately Successful |
| <b>Assessment of emergency support projects</b>                 |  |                  |                       |
| 25  | Emergency Assistance Program in Combating COVID-19                       | 30-04-20         | Moderately Successful |
| 26  | Emergency Program for Supporting India's Economic Recovery from COVID-19 | 11-12-20         | Moderately Successful |

Source: Evaluation authors and NDB loan dashboard.

85. The NDB-funded projects strongly align with national and state-level priorities, effectively targeting investment gaps in the water and urban transport sectors. For example, the Himachal Pradesh Rural Water Supply Project and the Manipur Water Supply Project complement national initiatives like the Jal Jeevan Mission (see paras. 22 and 26 for more information) and state-specific schemes like Madhya Pradesh's *Nal-Jal Yojana*. These projects tackle significant challenges, such as providing sustainable water infrastructure in difficult terrains and improving access to clean drinking water in underserved regions. Similarly, NDB-funded urban transport projects like the Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project and Mumbai Metro Rail (Line 2&7) Project align with national priorities to enhance urban mobility and reduce congestion. These projects support India's urban and rural infrastructure goals and contribute to socio-economic development by improving connectivity and access to essential services in both rural and urban areas. The synergy between NDB funding and government schemes significantly enhances the impact and sustainability of these infrastructure projects.
86. NDB's India portfolio spans 13 of India's 28 states: Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Himachal Pradesh, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Rajasthan and Tamil Nadu; and there is a notable concentration of projects in Madhya Pradesh and Bihar, particularly in infrastructure development. This regional focus reflects the targeted response to specific socio-economic needs but raises concerns about the portfolio's overall efficiency and sustainability given the broad geographical spread. While project selection aligns with demand and state-led proposals, this distribution underscores the need for a more structured approach.
87. While the NDB portfolio has significantly contributed to India's developmental priorities in transport infrastructure and water and sanitation, its alignment with other critical areas, such as social infrastructure, including schools and hospitals, environmental protection, and digital infrastructure has been limited – despite these areas being major priorities to the government and NDB. Furthermore, limited evidence of using diverse financing instruments, knowledge management and technical assistance was found.
- Infrastructure financing**
88. The India portfolio's focus on large-scale infrastructure projects is well-aligned with NDB's strategic priorities, exemplified by the Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project, the Mumbai Metro Rail Projects, the Himachal Pradesh Rural Water Supply Project, and the Manipur Water Supply Project. These initiatives underscore NDB's commitment to sustainable urban transit systems and water infrastructure, directly supporting the Bank's goals of fostering sustainable cities (SDG 11), promoting industry, innovation, and infrastructure (SDG 9), and enhancing access to clean water and sanitation (SDG 6). The emphasis on poorer states (such as Himachal Pradesh and Manipur) reflects NDB's strategic intent to address regional disparities and support inclusive development, as outlined in its general strategies (see table 10 for more information).
89. However, the portfolio's concentration on transport and water infrastructure suggests there is potential to diversify investments into other strategic areas emphasised in general strategies. While concentration in these two sectors may have been appropriate in the initial phases of the Bank's operations given, for example, its limited resources and capacities, opportunities in supporting the country in other priority sectors such as digital infrastructure and social infrastructure have not been pursued. Therefore, even if the projects funded so far are well aligned with India's infrastructure needs in two important sectors, the overall relevance of the NDB portfolio with India's broader development needs, as outlined in chapter 01, is therefore somewhat limited.

**Table 12: No. of projects in NDB focus areas**

| Focus areas                        | Number of projects |
|------------------------------------|--------------------|
| Clean energy and energy efficiency | 1                  |
| Emergency assistance               | 2                  |
| Multiple areas                     | 2                  |
| Transport infrastructure           | 14                 |
| Water and sanitation               | 7                  |
| Digital infrastructure             | 0                  |
| Social infrastructure              | 0                  |
| Environmental protection           | 0                  |

Source: NDB loan dashboard.

### Sovereign and non-sovereign lending

90. The performance of the NDB India portfolio in sovereign lending is strongly aligned with the Bank's strategic priorities. Since its establishment, the NDB portfolio in India has seen commendable growth. By the end of 2023, the portfolio comprised 24 sovereign lending operations spread across the country. For instance, the Madhya Pradesh Major District Roads Projects I and II, and the Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project illustrate NDB's commitment to enhancing infrastructure through large-scale government-led projects. These projects significantly contribute to national development objectives by improving regional connectivity and promoting sustainable urban transit, thereby supporting NDB's goals of fostering sustainable cities (SDG 11) and promoting industry, innovation, and infrastructure (SDG 9) as outlined in the general strategies (see table 10).
91. However, the portfolio's performance in non-sovereign lending does not fully align with NDB's strategic objectives, which emphasise scaling up private sector operations. The India portfolio currently includes only two non-sovereign projects, indicating limited engagement with the private sector in India. This gap is particularly evident in sectors like social and digital infrastructure, which are critical for India's future growth (please see paras. 9–22 above) and are highlighted as key areas in the General Strategy for 2022–2026 (see table 10). The limited focus on non-sovereign lending suggests that the portfolio has not fully embraced NDB's strategic intent to diversify its investments and leverage private capital for greater impact.

### Local currency financing

92. While NDB's general strategies emphasise mitigating foreign exchange risks and fostering local financial market development through local currency financing, actual implementation in India remains minimal. The General Strategy for 2017–2021 underscores the importance of issuing bonds and providing loans in member

countries' currencies to enhance financial stability (see table 10), and the General Strategy for 2022–2026 further highlights thematic bonds – such as green and social bonds issued in local currencies – to support sustainability goals. Yet, despite these strategic priorities, only one NDB project in India, the National Investment and Infrastructure Fund: Fund of Funds – I, has utilised local currency financing, highlighting a gap between the Bank's stated objectives and its operational approach in the country.

93. However, there are promising steps underway. The Bank has initiated discussions with the Government of India regarding the issuance of Indian rupee-denominated bonds, similar to Maharaja Bonds, which are structured to attract international investors while mitigating currency risks for Indian issuers. This potential move reflects a positive shift toward aligning NDB's financing model with its strategic goals of fostering financial resilience and stability, where exchange rate fluctuations can impact the long-term sustainability of infrastructure projects.

### Climate change and the Sustainable Development Goals<sup>16</sup>

94. The NDB India portfolio strongly aligns with the SDGs and an evolving focus on climate change mitigation and adaptation. Both of NDB's general strategies to date have emphasised the integration of sustainability, climate resilience, and contributions to the SDGs as key priorities for the Bank's operations (see table 10). This strategic focus is reflected in several key projects within the India portfolio, although there is room for further strengthening the integration of these principles across all sectors.
95. The NDB India portfolio aligns with key SDGs, including sustainable cities (SDG 11), industry and infrastructure (SDG 9), and clean water and sanitation (SDG 6). Projects like the Delhi-Ghaziabad-Meerut Regional Rapid Transit System and the Mumbai Metro Rail Projects support efficient, climate-resilient urban transit systems. In the water sector, initiatives like the Himachal Pradesh Rural Water Supply

16 These are further discussed in the "impact" section of the assessment of lending operations.

Project and the Manipur Water Supply Project improve access to clean water and sanitation in underserved regions, addressing regional disparities and promoting inclusive development.

96. The NDB India portfolio demonstrates meaningful progress in integrating climate change mitigation and adaptation measures, with notable examples like the REC Renewable Energy Sector Development Project, which reduces reliance on fossil fuels through solar and wind power, contributing to India's nationally determined contributions under the Paris Agreement at the 21<sup>st</sup> Conference of the Parties (COP21) meeting. Additionally, the Madhya Pradesh Major District Roads Project and the Assam Bridge Project incorporate climate-resilient designs to withstand extreme weather, ensuring infrastructure durability. Urban transit projects like the Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project and both Mumbai Metro Rail Projects can potentially further contribute to climate mitigation by reducing greenhouse gas emissions through eco-friendly public transportation options, aligned with NDB's goals of sustainable urban development outlined in the General Strategy for 2022–2026.
97. While these efforts are commendable, there is room for a more consistent and comprehensive integration of climate resilience across the entire portfolio. The use of technical support can be instrumental in developing climate-informed project designs that consider India's susceptibility to future climate changes and challenges. Some projects, such as the Manipur Water Supply Project, could benefit from more thorough climate risk assessments, including long-term sustainability considerations to avoid vulnerabilities under future climate scenarios. A systematic approach to embedding climate change considerations in all project designs, as outlined in the General Strategy for 2022–2026, could further strengthen the portfolio's contribution to climate resilience and sustainability goals.
98. The evaluation of NDB's operations in India noted a concerted effort toward fostering inclusive development, though with mixed results in terms of implementation. While projects like the Manipur Water Supply Project have extended coverage to peri-urban and rural areas, improving access to clean water for marginalised populations, other aspects of inclusiveness, particularly early-stage community involvement, have seen delays. Similarly, the Bihar Rural Roads Project (which aligns with the national government's Mukhya Mantri Gram Sampark Yojana [MMGSY]) has enhanced connectivity for remote settlements, though the benefits of improved access to services such as markets, healthcare, and education may take time to fully materialise. Community engagement has been a central focus, with the establishment of village water and sanitation committees, including 50% women members, facilitating local participation in project planning and management. However, capacity-building activities for local institutions and water user associations have been delayed, limiting the potential for early community involvement and ownership. While gender inclusion has been advanced through training women in water quality testing, there remains a need for more consistent integration of marginalised groups, including women and indigenous communities, into project designs. Overall, while NDB's operations demonstrate a clear commitment to addressing regional disparities and promoting inclusiveness, there are challenges in ensuring timely and comprehensive community participation and in achieving the full scope of gender and social equity objectives.
- Technical assistance<sup>17</sup>**
99. The NDB India portfolio's performance in technical assistance shows moderate alignment with the Bank's strategic objectives, with both strengths and areas for improvement. NDB's general strategies emphasise the role of technical assistance in enhancing project design, ensuring financial viability, and preparing projects for private

17 A more detailed assessment of this is found in chapter 05.

sector participation. The General Strategy for 2017–2021 focuses on making projects financially and environmentally sustainable, while the General Strategy for 2022–2026 highlights the need to make projects “bankable” and ready for private sector involvement, integrating high environmental and social standards and advanced technologies (see table 10 for more information). Within the India portfolio, technical assistance has generally been effectively employed at the initial design phase of projects, while limited assistance is evident during the implementation phase. This is true of projects like the Manipur Water Supply Project, which facilitated the adoption of advanced technologies, and the Madhya Pradesh Major District Roads II Project, which improved road construction practices.

100. However, a significant challenge is the limited in-house technical expertise at NDB, which relies on external consultants. This approach often focuses on the early stages of project preparation, with less emphasis on ongoing support, particularly in states with limited local technical capacity. A more systematic approach to technical assistance is needed to align the portfolio with NDB’s strategic priorities, ensuring continuous support throughout the project lifecycle and integrating climate resilience and blended finance opportunities. Addressing these gaps could enhance the portfolio’s contribution to sustainable development and long-term success.

### Capacity-building

101. The focus on capacity-building in the projects has primarily been on training and workshops for the implementing agencies and the communities. The projects have included components for training the staff of implementing agencies in areas such as project management, procurement, and technical skills related to water and sanitation. Similarly, capacity-building efforts have also targeted communities and water user groups, providing them with training on operation and

maintenance of water infrastructure, water conservation practices, and hygiene and sanitation awareness.

102. However, capacity-building initiatives often lack a structured and systematic approach and are not adequately integrated into the project design and implementation process. There is a lack of comprehensive needs assessments to identify specific capacity gaps and to tailor training programmes accordingly. Moreover, the capacity-building efforts are often fragmented and lack continuity, failing to ensure sustained knowledge transfer and skill development. For instance, in the Madhya Pradesh Multi Village Water Supply Project, the capacity-building component focused on training the staff of the implementing agency but did not include any provisions for community-level capacity-building or the establishment of sustainable water management practices. Similarly, in the Himachal Pradesh Rural Water Supply Project, although capacity-building was included in the project design, it was not explicitly linked to the disbursement-linked indicators or the project’s outcome indicators, raising concerns about its effective implementation and monitoring.

### Knowledge management and partnership development<sup>18</sup>

103. The contribution of the NDB India portfolio to the Bank’s strategic goal of developing and disseminating knowledge has been limited, particularly when measured against the ambitious targets outlined in the general strategies. The General Strategy for 2017–2021 emphasised the importance of fostering innovation and sharing best practices across member countries to establish NDB as a knowledge hub in sustainable development; and the General Strategy for 2022–2026 builds on this by explicitly focusing on knowledge dissemination through strategic partnerships and networks that promote the exchange of expertise and lessons learned across projects and sectors (see table 10).

18 A more detailed assessment of this is found in chapter 05.

104. In practice, however, the India portfolio's contribution to these knowledge-related objectives appears limited. While the portfolio includes several impactful infrastructure and development projects, such as the Manipur Water Supply Project and the Madhya Pradesh Major District Roads II Project, there is little evidence that these projects have significantly contributed to the broader dissemination of knowledge or positioned NDB as a knowledge hub. The systematic sharing of insights across projects or regions remains underdeveloped.
105. NDB has made commendable strides in forming partnerships with, for example, other MDBs in its India portfolio, though these partnerships have varied in scope and impact. Notably, there are four major infrastructure projects in India where NDB has engaged in co-financing arrangements with other MDBs such as the Asian Development Bank (ADB) and the Asian Infrastructure Investment Bank (AIIB). These projects include the Indore Metro Rail Project, the Mumbai Metro Rail (Line 2&7) Project, Corridor 4 of Phase II of the Chennai Metro Rail Project, and the Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project. More details on this are available in the assessment of non-lending activities in chapter 05.
- Use of country systems**
106. NDB's strategy of relying on country systems in its India portfolio has shown strengths and challenges, when measured against the Bank's two general strategies to date. While this approach ensures projects are well-integrated into national frameworks, enhancing relevance to local needs, its effectiveness has varied across states due to differing institutional capacities. Established local systems in states like Madhya Pradesh have facilitated close alignment with national and state-level priorities. For instance, the Madhya Pradesh Major District Roads II Project supports India's rural connectivity goals under the *Pradhan Mantri Gram Sadak Yojana* (see para. 11 for more information), directly addressing critical infrastructure gaps.
107. However, challenges have arisen in states with weaker systems, which have relatively thin capacity. Several projects have experienced delays due to such difficulties. For instance, in the Andhra Pradesh Road Sector Projects (Highway and District Roads) the phase-2 designs for the construction of 1,270 km of roads in 13 districts are ready but delayed as the government of Andhra Pradesh is yet to grant approval for the tender. Only USD 16 million of the NDB loan has been disbursed to each of the projects, representing just 5% of the total loan value. In the Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project the design and procurement of civil works for the stabling yard, operations buildings, operations control centre and associated facilities was delayed and later removed from NDB funding, resulting in a partial loan cancellation of USD 82 million.
108. During discussions with some of the states, the project implementation teams expressed that in situations where there is a lack of experience in developing large infrastructure projects, more active support from NDB would be welcomed to enhance operational and technical capacities for these teams to formulate and implement such large projects.
109. In 2024 NDB published the "India Country Procurement Systems Assessment for NDB-Financed Projects 2024"<sup>19</sup> which also highlights that while India's procurement systems, both at the national and sub-national levels, are broadly compatible with NDB's procurement policies, there are areas that require significant improvement. The absence of a centralised public procurement law at the federal level, reliance on guidelines like the government's General Financial Rules 2017, and the varying frameworks across states present challenges to standardisation and efficiency. Key recommendations include enhancing the quality of bidding documents, adopting international best practices, improving the use of electronic procurement systems, and establishing independent complaint resolution mechanisms.

19 See <https://www.ndb.int/wp-content/uploads/2024/03/ndb-india-country-procurement-systems-assessment-2024.pdf>.

110. The varied experiences across states underscore regional disparities. While projects in more developed states like Maharashtra, such as the Mumbai Metro Rail Projects, benefit from robust local systems and align well with NDB's objectives, less developed states face significant implementation challenges. For example, the Himachal Pradesh Rural Water Supply Project struggled with challenging topography and less advanced infrastructure, complicating the reliance on state systems without additional capacity-building support. These mixed results indicate that while using country systems can enhance project relevance, it requires careful assessment of local capacities. Without targeted capacity-building, relying solely on these systems may not fully support NDB's broader strategic objectives, particularly in sustainability and inclusive development (see pages 14–16 of the General Strategy for 2022–2026).

### Conclusion

111. The relevance of the India project portfolio overall is rated as “moderately successful”. This is based on the ratings of individual projects, three of which are rated as highly successful, 12 as successful, and 11 as moderately successful. While generally the objectives of projects are aligned with relevant government and NDB priorities, some alignment and design issues stand out. These include, for instance: little investment being provided to finance some key priority areas of the NDB general strategies (e.g. environment and digital infrastructure); wide-spread geographical coverage of projects in different regions and states, constraining sustainability and the promotion of a country programme approach; limited private sector lending and local currency financing; and insufficient attention in design to provision of technical assistance and capacity-building especially in weaker states during implementation.

## C. EFFECTIVENESS

*Rating: Successful*

**The effectiveness of the NDB portfolio in India is rated as “successful”.** The NDB-financed projects in India have demonstrated strong progress in achieving their objectives, with substantial outcomes in key sectors such as transport, water and renewable energy. Notable projects like the Delhi-Ghaziabad-Meerut Regional Rapid Transit System and REC Renewable Energy Sector Development Project have significantly contributed to improving urban mobility and expanding renewable energy capacity, aligning with India's national priorities. Overall, the portfolio shows a high level of effectiveness, particularly in enhancing connectivity and socio-economic development through transport infrastructure projects. However, challenges remain in areas such as project supervision and design, which is variable and not providing the level and intensity of implementation-support during execution to ensure enhanced effectiveness. This is partly attributable to the limited human resource capacity in the Indian Regional Office. NDB's efforts to engage with non-sovereign projects have been limited, with the REC Renewable Energy Sector Development Project being one of the few successful examples. Despite these constraints, the majority of projects are on track to meet their targets, and the NDB portfolio in India is largely rated as successful for its effectiveness.

112. The effectiveness criteria assess the extent to which projects have realised their objectives or are likely to achieve such objectives at completion. Table 13 presents a summary of the CPE's assessment of the effectiveness of NDB-financed projects in India.

### Achievement of project outcomes

113. Overall, at the project level, NDB-financed projects have made progress in realising their objectives. Projects such as the Delhi-Ghaziabad-Meerut Regional Rapid

Transit System Project, Assam Bridge Project, the Himachal Pradesh Rural Water Supply Project and Manipur Water Supply Project, amongst others, have made substantial progress and are on track to improving connectivity and urban mobility across India as well as expanding access to water in many parts of the country. The REC Renewable Energy Project is another example of a project that has provided a much-needed boost to India's renewable energy sector, contributing to the country's goals under the National Solar Mission.

**Table 13: Summary assessment of effectiveness for all projects funded by NDB in India**

| No.  | Title of project   | Date of approval | Effectiveness rating  |
|--|--|------------------|-----------------------|
| <b>Assessment of transport infrastructure projects</b> |  |                  |                       |
| 1  | Madhya Pradesh Major Districts Roads Project                             | 22-11-16         | Successful            |
| 2  | Bihar Rural Roads Project  | 28-05-18         | Successful            |
| 3  | Madhya Pradesh Major District Roads II Project                           | 18-09-18         | Successful            |
| 4  | Madhya Pradesh Bridges Project   | 18-09-18         | Successful            |
| 5  | Mumbai Metro Rail (Line 2&7) Project                                     | 16-11-18         | Successful            |
| 6  | Assam Bridge Project   | 08-07-19         | Successful            |
| 7  | Andhra Pradesh Road Sector Project (Highway)                             | 12-09-19         | -                     |
| 8  | Andhra Pradesh Road Sector Project (District Roads)                      | 12-09-19         | -                     |
| 9  | Indore Metro Rail Project  | 02-12-19         | -                     |
| 10   | Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project             | 29-09-20         | Successful            |
| 11   | Mumbai Metro Rail II (Line 6) Project                                    | 29-09-20         | -                     |
| 12   | Corridor 4 of Phase II of Chennai Metro Rail Project                     | 13-12-22         | -                     |
| 13   | Gujarat Rural Road Program   | 28-11-23         | -                     |
| 14   | Bihar Rural Roads Project (Phase 2)                                      | 28-11-23         | -                     |
| <b>Assessment of water and sanitation projects</b>     |  |                  |                       |
| 15   | Madhya Pradesh Multi Village Water Supply Project                        | 30-08-17         | Moderately Successful |
| 16   | Rajasthan Water Sector Restructuring Project – Tranche I                 | 20-11-17         | Moderately Successful |
|  | Rajasthan Water Sector Restructuring Project – Tranche II                |                  | -                     |
| 17   | Manipur Water Supply Project   | 02-12-19         | Moderately Successful |
| 18   | Himachal Pradesh Rural Water Supply Project                              | 08-12-21         | -                     |
| 19   | Lamphelpat Waterbody Rejuvenation Project                                | 18-07-22         | -                     |
| 20   | Kohima Town Water Supply Augmentation Project                            | 16-08-23         | -                     |
| 21   | Integrated Sewerage System for City of Imphal (Phase II) Project         | 26-10-23         | -                     |
| <b>Assessment of renewable energy projects</b>         |  |                  |                       |
| 22   | REC Renewable Energy Sector Development Project                          | 14-10-19         | Successful            |
| <b>Assessment of cross-cutting projects</b>            |  |                  |                       |
| 23   | National Investment and Infrastructure Fund: Fund of Funds – I           | 25-03-20         | Successful            |
| 24   | Meghalaya Ecotourism Infrastructure Development Project                  | 18-07-22         | -                     |
| <b>Assessment of emergency support projects</b>        |  |                  |                       |
| 25   | Emergency Assistance Program in Combating COVID-19                       | 30-04-20         | Successful            |
| 26   | Emergency Program for Supporting India's Economic Recovery from COVID-19 | 11-12-20         | Successful            |

Source: Evaluation authors and NDB loan dashboard.

Note: Only projects with a more than 40% disbursement rate have been assessed for effectiveness.

114. The Bihar Rural Roads Project – Tranche 1, for instance, has achieved 90% implementation as of April 2024 and is set to improve connectivity in rural areas, reduce travel times, and boost transportation frequency, which should facilitate economic activities and businesses along the roads. The Madhya Pradesh Bridges Project and the Assam Bridge Project have similarly enhanced transportation connectivity, promoting economic and social development in their regions.
115. The Madhya Pradesh Bridges Project exemplifies the potential of transport projects to improve connectivity and foster economic and social transformation significantly. This project is well-positioned to meet its objectives by enhancing connectivity of communities living on both sides of the bridge, contributing to better access to essential services and economic opportunities. Similarly, the Assam Bridge Project is expected to greatly improve transportation connectivity and support the socio-economic transformation of Greater Guwahati area, particularly the northern bank of the Brahmaputra River. Once operational, the bridge will save commuters time, improve connectivity, promote inclusive urban development, and provide numerous socio-economic benefits, including better access to social services, education, healthcare, employment opportunities and markets, as well as increased real estate prices in the area.
116. The project performance evaluation of the Madhya Pradesh Major District Roads Project, completed in December 2022 by IEO, found that the project successfully achieved its objectives. The project surpassed its original targets by upgrading 1,551 km of major district roads – over 50 km more than the 1,500 km initially planned. This led to significant positive outcomes, including a 45% increase in traffic volume, a 55% reduction in travel times, a 40% decrease in fatal road accidents, and a 35% reduction in vehicle operating costs. The evaluation also highlighted the successful elimination of 130 road accident blackspots, greatly improving road safety. Additionally, the project contributed to a notable increase in the average monthly income of beneficiaries by approximately 55%, from INR 13,500 to INR 21,000. These findings from the evaluation underscore the effectiveness of the project in enhancing connectivity and supporting socio-economic transformation in the region.
117. The Mumbai Metro Rail (Line 2&7) Project, to construct three lines, demonstrates effective utilisation of NDB funds to enhance urban mobility. Funds were efficiently used for the purchase and installation of equipment for Lines 2A and 7, which are now successfully operating (while Line 2B is still under construction). As of September 2023, the total monthly ridership for Lines 2A and 7 is approximately 5.8 million passengers, but 650 million passengers are expected to use the lines when all three are completed and fully operational – illustrating the project’s impact on improving urban transportation and connectivity.
118. **Non-sovereign projects.** The portfolio’s effectiveness in engaging the private sector has been limited, reflecting a gap in meeting NDB’s strategic objective of scaling up private sector operations. Most projects in the India portfolio are sovereign loans, with the National Investment and Infrastructure Fund: Fund of Funds – I, and REC Renewable Energy Sector Development Project being the only two non-sovereign projects.
119. This latter project has proven highly effective in achieving its objectives. It surpassed its target of constructing 615.6 megawatts (MW) of renewable energy capacity, reaching 655.6 MW across five sub-projects. The project also exceeded expectations in reducing coal consumption and carbon emissions, while generating a substantial amount of clean energy. This success can be attributed to several factors, including REC Limited’s strong financial performance and experienced management, timely disbursement of funds, a favourable regulatory environment, and the project’s financial viability, as demonstrated by the financial internal rate of return exceeding the weighted average cost of capital for all sub-projects. Additionally, the project adhered to high environmental and social impact management standards, further showcasing its commitment to sustainability.
120. The selection of appropriate institutional partners as executing agencies is helping enhance project effectiveness. In the water sector, the collaboration with state agencies responsible for water resource management and implementation of government schemes ensured alignment with national and state priorities. For instance, the synergy between NDB funding and the government-sponsored

Jal Jeevan Mission facilitated the achievement of shared objectives in providing safe drinking water to rural areas. In the transport sector, partnering with experienced agencies like the Madhya Pradesh Road Development Corporation (MPRDC) and the Madhya Pradesh Public Works Department (MPPWD), which had prior experience working with MDBs, contributed to smoother project implementation and better outcomes. The Mumbai Metro Rail (Line 2&7) Project also benefited from the expertise of the Delhi Metro Rail Corporation (DMRC) as the general consultant, enabling expertise transfer and efficient project execution. The choice of institutional partners with relevant experience and capacity has contributed to the overall effectiveness of the projects.

121. The Bank has also shown flexibility and has expanded project scopes when necessary to maximise impact. For instance, the Manipur Water Supply Project initially focused on urban water supply for the city of Imphal, but after consultations with NDB, the project's scope was expanded to include peri-urban and rural areas. This decision significantly increased the project's reach, enhancing public health outcomes across a wider population. Additionally, NDB's integration of advanced technology such as supervisory control and data acquisition (SCADA) systems and geographic information systems (GIS) across several projects, including the aforementioned Manipur project and the Himachal Pradesh Rural Water Supply Project, has improved operational efficiency by enabling real-time monitoring and management of water distribution. In these projects, SCADA systems are contributing to reduced water wastage, streamlined operations, and better resource management, thereby enhancing the effectiveness of the projects.
122. There are some factors that have constrained their effectiveness. Quality of supervision and implementation support is a challenge and is due to the reliance on external consultants and the lack of in-house sectoral experts, resulting in a lack of specialised expertise during project supervision and implementation. Also, limited human resource capacity in the NDB Indian Regional Office is also making it challenging to provide adequate supervision.<sup>20</sup> For example, in the Himachal Pradesh Rural Water Supply Project, limitations in design and implementation constrained its effectiveness. The project encountered difficulties during implementation due to NDB's recommendation to use ductile iron pipes, despite concerns raised by the project team about their suitability for the mountainous terrain and extreme temperature fluctuations in the state. This led to problems during implementation, necessitating a change to galvanised iron pipes after consultation with local engineering institutes. The lack of well-defined action plans in supervision mission reports further limited NDB's ability to provide timely and effective support to project teams. Another critical factor affecting project effectiveness is the design of project monitoring and evaluation systems. For example, the Andhra Pradesh Road Sector Project has also seen challenges due to inadequate monitoring and implementation support from NDB, causing delays in counterpart funding. By March 2024, according to the Andhra Roads and Buildings Department, NDB was not involved in monitoring and technical guidance during the project's implementation phase, even after a delay of more than 18 months. However, it should be noted that in several cases, that delay was due to procurement and the state government requirements. For example, for the Andhra Pradesh Road Sector Project, the cause was attributed to the delay of the government of Andhra Pradesh in granting approval for the tendering process.

20 More on this is discussed under the section on NDB performance in chapter 06.

### Sectoral effectiveness

123. The NDB portfolio is effectively supporting some of Government of India's development priorities, particularly in the transport and water sectors. The Mumbai Metro Rail (Line 2&7) Project, for instance, demonstrates effective utilisation of NDB funds to enhance urban mobility. The project has made significant progress: as of September 2023, the fully operational Lines 2A and 7 already carried approximately 5.8 million passengers per month, and an expected ridership of 650 million passengers per year as the third line becomes operational. This demonstrates the project's impact on improving urban transportation and connectivity, which aligns with the Government of India's focus on developing sustainable urban transit systems.
124. Similarly, the Manipur Water Supply Project and the Himachal Pradesh Rural Water Supply Project align with the government sponsored Jal Jeevan Mission, aiming to provide clean drinking water to underserved regions. The Manipur Water Supply Project is particularly significant, as it aims to improve basic water supply infrastructure in a state that has historically faced challenges in accessing clean drinking water. By providing functional taps in the Imphal Planning Area, 25 other towns and 1,731 rural habitations, the project is set to increase the water supply service level and ensure a reliable water source for beneficiaries. The success of this project in aligning with national missions like Jal Jeevan Mission underscores its effectiveness in addressing critical development needs in India's northeastern region.
125. **Multi-tranche financing.** A notable aspect are the positive outcomes achieved through the multi-tranche financing facility, which has proven effective in ensuring the successful implementation and progression of three projects in the India portfolio (see para. 52) which have used this facility – all three have 100% disbursement for tranche 1. The use of a multi-tranche financing facility, as seen for example in the Rajasthan Water Sector Restructuring Project, has been effective

in managing large-scale infrastructure projects. This approach allows for phased implementation, enabling better management of resources and adaptation to emerging challenges. The Rajasthan project aims to enhance the water conveyance efficiency of the Indira Gandhi Nahar Pariyojana canal system, helping Rajasthan receive its full water quota, enhance water use efficiency, and prevent wastage and leakage from irrigation canals, thereby supporting sustainable water management and agricultural productivity.

### Role of the Indian Regional Office

126. Establishing a regional office in India so early in NDB's life has been commendable. The IRO has played a crucial role in enhancing the effectiveness of NDB's operations in India. Under the leadership of an experienced Director General, the IRO has provided essential support in project implementation through technical assistance and coordination with headquarters. This local presence has allowed for more responsive and adaptive project management, addressing challenges promptly and leveraging regional insights to tailor interventions effectively. This is further discussed in chapter 06 under "NDB performance".

### Conclusion

127. The NDB project portfolio in India is rated "successful" for effectiveness. Completed projects have largely met their objectives, whereas those under implementation generally appear on track to meeting their objectives at completion. Nevertheless, there are areas that are constraining effectiveness at completion, including insufficient quality and intensity of project supervision and implementation-support, inadequate technical assistance especially in states with weaker capacities, and limited capacities and resources in the IRO.

## D. EFFICIENCY

**Rating:** *Moderately Successful*

**The efficiency of NDB's portfolio in India is rated “moderately successful”.** Key transport infrastructure projects like the Madhya Pradesh Roads Project II, Madhya Pradesh Bridges Project, Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project and Mumbai Metro Rail (Line 2&7) Project have demonstrated effective processing and disbursement, leading to timely implementation. The Delhi-Ghaziabad-Meerut Project exemplifies the efficient cooperation between the Government of India and NDB. However, challenges such as misalignment of disbursements with appraisal estimates, delays and disruptions caused by the COVID-19 pandemic, and natural disasters have affected the timelines and costs of some projects. The lack of a streamlined framework for extending or amending projects through formal restructuring has hindered swift decision-making, exacerbating these delays. Additionally, the limited use of advanced technologies, inadequate technical support, insufficient investment in capacity-building, and lack of sector expertise have constrained project efficiency.

128. In line with internationally agreed definitions, efficiency assesses the extent to which the outputs and outcomes of a project or programme are achieved with the optimal use of resources. In this country portfolio evaluation, IEO examined how well the portfolio of projects utilised financial, human, and material resources to achieve the intended results. More specifically, the evaluation involved assessing the rates of disbursements, timeliness of implementation, time-overruns, and approval-to-effectiveness lag by project. The process included analysing and reviewing project timelines, and comparing the actual outputs to the planned objectives. Additionally, it involved evaluating the use of innovative approaches to resource management, and the effectiveness of coordination among stakeholders. Continuous improvement mechanisms were also reviewed to ensure that lessons learned are integrated into future project planning and implementation. Only projects with a disbursement rate of more than 40% have been assessed for efficiency. Therefore, excluding the two project loans for the COVID-19 emergency response – both of which had disbursement rates of 100% – the CPE rated efficiency in 12 projects in the India portfolio.
129. The efficiency of NDB-financed projects in India has generally shown positive results, with most projects rated “moderately successful” or “successful”, and only one project rated as “moderately unsuccessful”. Most transport infrastructure projects, including those mentioned in the box above, have been successful.

**Table 14: Summary assessment of efficiency for all projects funded by NDB in India**

| No.  | Title of project   | Date of approval | Effectiveness rating    |
|--|--|------------------|-------------------------|
| <b>Assessment of transport infrastructure projects</b> |  |                  |                         |
| 1  | Madhya Pradesh Major Districts Roads Project                             | 22-11-16         | Moderately Successful   |
| 2  | Bihar Rural Roads Project  | 28-05-18         | Moderately Successful   |
| 3  | Madhya Pradesh Major District Roads II Project                           | 18-09-18         | Successful              |
| 4  | Madhya Pradesh Bridges Project   | 18-09-18         | Successful              |
| 5  | Mumbai Metro Rail (Line 2&7) Project                                     | 16-11-18         | Successful              |
| 6  | Assam Bridge Project   | 08-07-19         | Moderately Successful   |
| 7  | Andhra Pradesh Road Sector Project (Highway)                             | 12-09-19         | -                       |
| 8  | Andhra Pradesh Road Sector Project (District Road)                       | 12-09-19         | -                       |
| 9  | Indore Metro Rail Project  | 02-12-19         | -                       |
| 10   | Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project             | 29-09-20         | Successful              |
| 11   | Mumbai Metro Rail II (Line 6) Project                                    | 29-09-20         | -                       |
| 12   | Corridor 4 of Phase II of Chennai Metro Rail Project                     | 13-12-22         | -                       |
| 13   | Gujarat Rural Road Program   | 28-11-23         | -                       |
| 14   | Bihar Rural Roads Project (Phase 2)                                      | 28-11-23         | -                       |
| <b>Assessment of water and sanitation projects</b>     |  |                  |                         |
| 15   | Madhya Pradesh Multi Village Water Supply Project                        | 30-08-17         | Moderately Unsuccessful |
| 16   | Rajasthan Water Sector Restructuring Project – Tranche I                 | 20-11-17         | Moderately Successful   |
|  | Rajasthan Water Sector Restructuring Project – Tranche II                |                  | -                       |
| 17   | Manipur Water Supply Project   | 02-12-19         | Moderately Successful   |
| 18   | Himachal Pradesh Rural Water Supply Project                              | 08-12-21         | -                       |
| 19   | Lamphelpat Waterbody Rejuvenation Project                                | 18-07-22         | -                       |
| 20   | Kohima Town Water Supply Augmentation Project                            | 16-08-23         | -                       |
| 21   | Integrated Sewerage System for city of Imphal (Phase II) Project         | 26-10-23         | -                       |
| <b>Assessment of renewable energy projects</b>         |  |                  |                         |
| 22   | REC Renewable Energy   | 14-10-19         | Moderately Successful   |
| <b>Assessment of cross-cutting projects</b>            |  |                  |                         |
| 23   | National Investment and Infrastructure Fund: Fund of Funds – I           | 25-03-20         | Successful              |
| 24   | Meghalaya Ecotourism Infrastructure Development Project                  | 18-07-22         | -                       |
| <b>Assessment of emergency support projects</b>        |  |                  |                         |
| 25   | Emergency Assistance Program in Combating COVID-19                       | 30-04-20         | Moderately Successful   |
| 26   | Emergency Program for Supporting India's Economic Recovery from COVID-19 | 11-12-20         | Moderately Successful   |

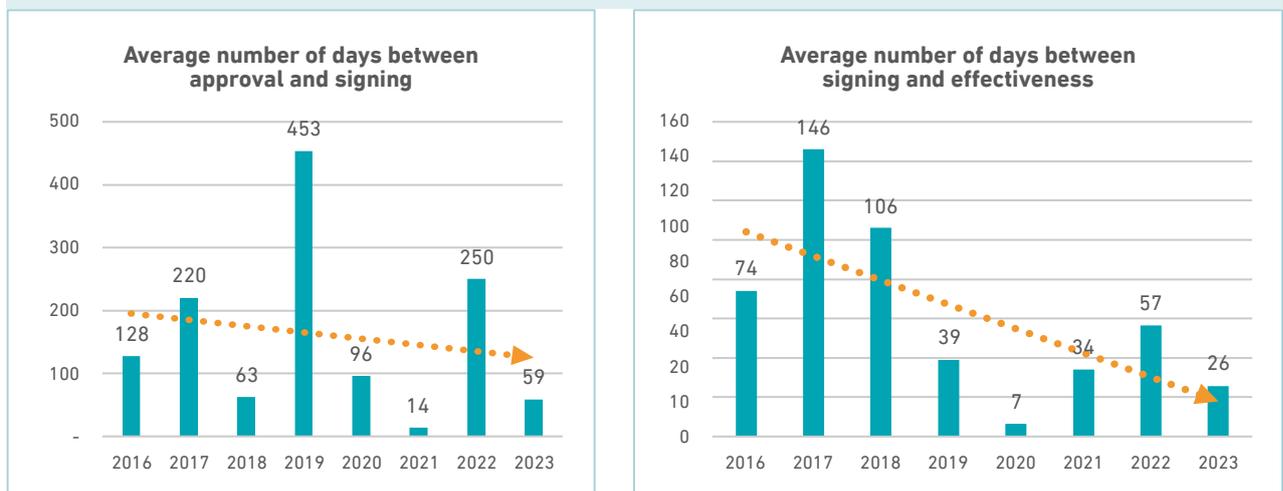
Source: Evaluation authors and NDB loan dashboard.

Note: Only projects with a disbursement rate of more than 40% have been assessed for efficiency.

130. The lag between Board approval and loan signing has been a notable aspect of NDB-financed projects. Most projects have efficiently navigated from loan approval to agreement signing (see figure 4 below). Over the years, the time taken between approval and signing has gone down barring during 2019–2020 due to COVID-19 related reasons. A notable example is the Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project, where the time taken from NDB Board's loan approval to finalising the financing agreement took less than three months, showcasing the agility of both the Government of India and the NDB operations team as well

as the benefits of engaging in parallel-financed projects (in this case ADB and AIIB). In the transport sector, loan signing typically occurs within eight months following approval. Over the nine years of operations in India, the average number of days between approval and signing of projects has decreased. Similarly, the average number of days between the signing of the project and the project being effective has also reduced, indicating an increase in the efficiency of approval and signing of projects. The use of country systems for environmental, social, governance, and procurement practices has simplified processes, aiding project efficiency.

**Figure 4: Average numbers of days between approval and signing of document (left) and signing and effective date of projects (right)**



Source: Evaluation authors.

131. NDB's advice and flexibility in reallocating unutilised funds have led to significant efficiency gains in several projects. In the Rajasthan Water Sector Restructuring Project, inputs from the NDB team prompted a reassessment of the water diversion plan for the Ghaggar Depression, reallocating unutilised funds and improving project outcomes. This strategic approach aligns with NDB's focus on integrating speed and innovative technology into its activities, ensuring timely and efficient project completion. Moreover, the project's investment plan underwent revisions, consolidating three tranches into two due to the readiness of components initially slated for later phases.

132. The timeliness of project implementation has been a mixed success across NDB's India portfolio. While transport initiatives like the Mumbai Metro Rail (Line 2&7) Project progressed largely on schedule, other projects, particularly in the water sector, experienced delays. The Himachal Pradesh Rural Water Supply Project, for example, was severely impacted by natural disasters such as heavy flooding and landslides in 2023, leading to extended timelines and increased costs. A significant challenge impacting efficiency is the misalignment of project disbursements with appraisal estimates. This misalignment is often due to unforeseen challenges during project implementation, such as the COVID-19 pandemic, natural disasters, and local conflicts but also issues related to procurement and counterpart funding, which in India is through the respective state governments.

### Implementation time-overruns

133. Project delays were a common challenge across the portfolio, stemming from a variety of factors, both external and internal to the projects. Of the 26 approved projects, at least nine were officially delayed or have exhibited very low disbursement rates, suggesting potential delays in completion (see tables 15 and 16). Notably, two projects, the Andhra Pradesh Roads Sector Projects for District Roads and Highways, respectively, which were approved in 2019, had only seen 5% disbursement at the time of this evaluation.
134. Ten projects (including three tranches of projects) were expected to close by the end of 2023. Out of these, 6 projects experienced delays, primarily due to the COVID-19 pandemic, cost deviations, and challenges with official permissions. For instance, initiatives like the Madhya Pradesh Roads Project-II, the Madhya Pradesh Multi Village Water Supply Project, and the Madhya Pradesh Bridges Project faced disruptions, resulting in new closing dates in 2024. Notably, the Mumbai Metro Rail (Line 2&7) Project, despite operational progress, also saw delays in certain sections, leading to an extension until mid-2025. However, four projects, including the Emergency Assistance Program in Combating COVID-19 and the REC Renewable Energy Sector Development Project were completed on time and officially closed. Some projects, such as the Rajasthan Water Sector Restructuring Project and the Bihar Rural Roads Project, remain on track, achieving significant milestones like 100% loan disbursement and infrastructure completion. Overall, the findings reveal a mix of successful completions and ongoing delays.
135. Table 16 shows the projects expected to close over the next two years, with completion dates extending up to 2026. Out of the seven projects listed, only one – Assam Bridge Project – has officially requested an extension for its closing date until December 2024, due to delays in its progress. The two Andhra Pradesh Road Sector Projects (Highway and District Road) have not been officially delayed but show very low disbursement rates, with only 5% of the loan disbursed so far. These projects have faced severe setbacks due to COVID-19, heavy rains, and logistical challenges, pushing construction timelines far beyond initial estimates. Despite these issues, the remaining four projects, including the Manipur Water Supply Project and Rajasthan Water Sector Restructuring Project – Tranche 2, are on track and expected to meet their scheduled closing dates. This indicates that while some projects are encountering significant delays, others are proceeding according to plan, reflecting a mixed performance across sectors. Projects expected to close after 2026 are still in the early stages of implementation and, therefore, are not suitable for assessment regarding delays at this time (see table 16).
136. Other factors also contributed to project delays. These included delays in counterpart funding, project design errors, procurement challenges, and weak institutional capacities in some states. The Andhra Pradesh Roads and Bridges Projects faced significant delays due to a combination of factors, including design errors and delays in counterpart funding from the government. The Indore Metro Rail Project experienced a considerable delay of four years between loan approval and signing, primarily due to procedural issues and delays in counterpart compliance.
137. In some cases, the choice of technology or design also led to delays, as seen in the Himachal Pradesh Rural Water Supply Project, where the initial recommendation to use ductile iron pipes proved unsuitable for the local conditions, necessitating a change in design and causing delays.

**Table 15: Status of projects expected to be completed by December 31, 2023**

| Project name   | Approval date | Closing date | Delayed  | Revised closing dates | Comment   |
|--|---------------|--------------|----------|-----------------------|---|
| Madhya Pradesh Major Districts Roads Project                             | 22-11-16      | 30-03-21     | Yes      | 30-03-22              | Officially closed and evaluated by IEO in 2022  |
| Emergency Assistance Program in Combating COVID-19                       | 30-04-20      | 31-03-21     | No       | N/A                   | Officially closed and evaluated by IEO in 2023  |
| REC Renewable Energy Sector Development Project                          | 14-10-19      | 02-06-22     | No       | N/A                   | Officially closed   |
| Emergency Program for Supporting India's Economic Recovery from COVID-19 | 11-12-20      | 15-06-22     | No       | N/A                   | Officially closed and evaluated by IEO in 2023  |
| Madhya Pradesh Multi Village Water Supply Project                        | 30-08-17      | 20-08-22     | Yes      | 20-12-22              | The COVID-19 pandemic, lockdowns, and delays in permissions from line ministries caused project delays, preventing completion as scheduled. As a result, NDB disbursed USD 246.216 million (52.39% of the loan), while USD 223.783 million (47.61%) was cancelled.  |
| Rajasthan Sector Restructuring Project – Tranche 1                       | 20-11-17      | 12-08-23     | On track | N/A                   | –   |
| Madhya Pradesh Major District Roads II Project                           | 18-09-18      | 04-10-23     | Yes      | 05-10-24              | The project implementation agency has requested an extension until October 5, 2024, which is currently under review by NDB.   |
| Madhya Pradesh Bridges Project – Tranche 1                               | 18-09-18      | 04-10-23     | Yes      | 05-10-24              | The project was delayed due to COVID-19 and cost deviations from construction needs. The full Tranche I loan of USD 105 million has been utilised, but some construction contracts remain incomplete. The project implementing authority (PIA) has requested an extension until October 25, 2024, which is under consideration. |
| Bihar Rural Roads Project – Tranche 1                                    | 28-05-18      | 19-11-23     | On track | N/A                   | According to the project progress report for the quarter ending September 2023, the Tranche I target of NDB was achieved with the construction of 798 km of roads and 100% disbursement of the NDB loan of USD 45 million.  |
| Mumbai Metro Rail (Line 2&7) Project                                     | 16-11-18      | 25-12-23     | Yes      | 30-06-25              | As of September 2023, Metro Lines 2A and 7 are operational, with a monthly ridership of nearly 6 million passengers. Metro Line 2B is delayed, with 49% of construction completed, and the project has been extended to June 30, 2025, at the Department of Economic Affairs' (DEA) request.                                    |

Source: Evaluation authors and NDB loan dashboard.

Note: The dates and reasons for the delay is based on discussion with and reported by the PIAs in the respective states.

**Table 16: Status of project expected to close between 2024 and 2026**

| Project name   | Approval date | Closing date | Delayed                                     | Comment  |
|--|---------------|--------------|---|--|
| Assam Bridge Project                                     | 08-07-19      | 07-08-24     | Yes   | The PIA has officially asked for an extension until December 31, 2024  |
| Manipur Water Supply Project                             | 02-12-19      | 02-06-25     | No  | –  |
| Himachal Pradesh Rural Water Supply Project              | 08-12-21      | 21-08-25     | No  | –  |
| Bihar Rural Roads Project – Tranche 2                    | 09-08-22      | 08-11-25     | No  | –  |
| Andhra Pradesh Road Sector Project (Highway)             | 12-09-19      | 05-01-26     | Not officially but disbursement is very low | The project has faced severe delays. Phase 1 tenders for 13 districts (1,200+ km) were awarded in April 2021, with an original 24-month construction period extended by 18 months due to COVID-19, heavy rains, and logistical challenges. Phase 2 designs (1,270 km) are ready but await procurement approval from the state government. Only 5% of the NDB loan (USD 16 million) has been disbursed, with delays in counterpart fund disbursement by the state government. |
| Andhra Pradesh Road Sector Project (District Road)       | 12-09-19      | 05-01-26     | Not officially but disbursement is very low |  |
| Rajasthan Water Sector Restructuring Project – Tranche 2 | 10-06-22      | 28-07-26     | No  |  |

Source: Evaluation authors and NDB loan dashboard.

Note: The dates and reasons for delay is based on discussion with and reported by the PIAs in the respective states.

### Use of advanced technologies

138. Integrating advanced technologies has contributed to improving project efficiency in some NDB-financed projects. For example, the Manipur Water Supply Project utilised the geographic information systems (GIS), supervisory control and data acquisition systems, and management information systems to enhance operational efficiency, reliability and sustainability. These technologies have automated operations and monitoring, significantly improving resource management and reducing operational costs. Similarly, the Himachal Pradesh Rural Water Supply Project and the Lamphelpat Waterbody Rejuvenation Project incorporated SCADA systems for efficient water management, demonstrating the potential of technology to enhance project outcomes. However, the use of advanced technologies across the portfolio has been inconsistent. While some projects have successfully integrated these technologies, others, particularly in the earlier phases, have lagged, missing opportunities for efficiency gains.

139. The ratio of operating costs to the total NDB loan amount is a useful indicator of how effectively project resources are managed. In the case of NDB projects, the efficiency is generally strong, as evidenced by operating cost-to-loan ratios ranging from 3% (for the Assam Bridge Project) to 6% (for the Madhya Pradesh Major District Roads II Project). Furthermore, for most metro and regional rapid transit system projects, NDB loans are specifically allocated for components such as civil works, rolling stock, signalling, train control, telecommunications, and platform screen doors. In contrast, administrative and consulting charges are typically covered by counterpart funding. For instance, in the Delhi-Ghaziabad-Meerut Regional Rapid Transport System Project, consulting costs totalling USD 52.8 million were shared between various sources, with USD 5.2 million covered by the ADB, AIIB and the Japan Fund for Poverty Reduction, while the Government of India contributed USD 47.6 million. This cost-sharing arrangement enhances the financial efficiency of these projects.

### Conclusion

140. The efficiency of NDB's India portfolio is rated as moderately successful. Though the time from project approval to signing to effectiveness appears positive, disbursement performance is mixed. Over-estimation in some projects of the required NDB loan at appraisal, resulting in partial loan cancellation, is another concerning

area. Likewise, weak implementation capacities in some states have not been sufficiently factored into design, to ensure timely implementation. While implementation delays caused by emergencies and natural disasters are out of NDB's control, more thorough ex-ante risk analysis and integration of mitigation measures could have been foreseen.

## E. IMPACT

**Rating:** *Successful*

**The expected impact of NDB's project portfolio in India is rated "successful".** Given that most of the projects are currently under implementation, the CPE assessed the "expected impact" of the projects based on how well the projects and the portfolio at large are designed and implemented for impact. From an immediate impact perspective, NDB-financed projects promise to positively impact the country's roads and transport infrastructure and expand and upgrade water access infrastructure. Projects like the Madhya Pradesh Major District Roads Project and the Gujarat Rural Road Program demonstrate significant economic benefits and robust environmental safeguards. However, challenges remain in areas such as self-monitoring and evaluation frameworks, stakeholder engagement, and integration of climate resilience measures. Furthermore, the lack of logical and explicit theories of change (ToCs) and long-term impact indicators and their integration into the Design and Monitoring Frameworks (DMFs) affects the assessment of the long-term impact of NDB projects.

141. The impact of NDB-financed projects in India evaluates how much the portfolio has contributed to social, environmental, and economic impacts in targeted communities and regions. The assessment of impact of the

portfolio is however constrained by the fact that only a few projects have been fully completed at the time of this evaluation, and therefore a more thorough assessment would be warranted in the future.

**Table 17: Summary assessment of impact for projects funded by NDB in India**

| No.  | Title of project   | Date of approval | Expected impact rating                         |
|--|--|------------------|--|
| <b>Assessment of transport infrastructure projects</b> |  |                  |  |
| 1  | Madhya Pradesh Major Districts Roads Project                             | 22-11-16         | Successful                                     |
| 2  | Bihar Rural Roads Project  | 28-05-18         | Successful                                     |
| 3  | Madhya Pradesh Major District Roads II Project                           | 18-09-18         | -  |
| 4  | Madhya Pradesh Bridges Project   | 18-09-18         | Successful                                     |
| 5  | Mumbai Metro Rail (Line 2&7) Project                                     | 16-11-18         | Successful*                                    |
| 6  | Assam Bridge Project   | 08-07-19         | -  |
| 7  | Andhra Pradesh Road Sector Project (Highway)                             | 12-09-19         | -  |
| 8  | Andhra Pradesh Road Sector Project (District Road)                       | 12-09-19         | -  |
| 9  | Indore Metro Rail Project  | 02-12-19         | -  |
| 10   | Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project             | 29-09-20         | -  |
| 11   | Mumbai Metro Rail II (Line 6) Project                                    | 29-09-20         | -  |
| 12   | Corridor 4 of Phase II of Chennai Metro Rail Project                     | 13-12-22         | -  |
| 13   | Gujarat Rural Road Program   | 28-11-23         | -  |
| 14   | Bihar Rural Roads Project (Phase 2)                                      | 28-11-23         | -  |
| <b>Assessment of water and sanitation projects</b>     |  |                  |  |
| 15   | Madhya Pradesh Multi Village Water Supply Project                        | 30-08-17         | -  |
| 16   | Rajasthan Water Sector Restructuring Project – Tranche I                 | 20-11-17         | Successful*                                    |
|  | Rajasthan Water Sector Restructuring Project – Tranche II                |                  | -  |
| 17   | Manipur Water Supply Project   | 02-12-19         | -  |
| 18   | Himachal Pradesh Rural Water Supply Project                              | 08-12-21         | -  |
| 19   | Lamphelpat Waterbody Rejuvenation Project                                | 18-07-22         | -  |
| 20   | Kohima Town Water Supply Augmentation Project                            | 16-08-23         | -  |
| 21   | Integrated Sewerage System for City of Imphal (Phase II) Project         | 26-10-23         | -  |
| <b>Assessment of renewable energy projects</b>         |  |                  |  |
| 22   | REC Renewable Energy Sector Development Project                          | 14-10-19         | Successful                                     |
| <b>Assessment of cross-cutting projects</b>            |  |                  |  |
| 23   | National Investment and Infrastructure Fund: Fund of Funds – I           | 25-03-20         | -  |
| 24   | Meghalaya Ecotourism Infrastructure Development Project                  | 18-07-22         | -  |
| <b>Assessment of emergency support projects</b>        |  |                  |  |
| 25   | Emergency Assistance Program in Combating COVID-19                       | 30-04-20         | Between Moderately Successful and Successful** |
| 26   | Emergency Program for Supporting India's Economic Recovery from COVID-19 | 11-12-20         | Successful**                                   |

Source: Evaluation authors and NDB loan dashboard.

Note: Only projects or tranches with a disbursement rate of 100% have been assessed for impact.

\* The rating is based on the impact surveys conducted as part of this evaluation.

\*\* Given the emergency response nature of this support, the evaluation conducted by IEO in 2023 on NDB's overall COVID-19 support was based on secondary documentation and data available. The evaluation noted some positive impacts and its judgement was that the impact of the loans is between moderately successful (4) and successful (5).

142. The impact of the portfolio is based on the assessment of seven completed projects/ tranches of projects, representing close to 25% of the overall size of the current project portfolio. Only fully disbursed projects or tranches were evaluated, as assessing those under implementation would be inappropriate. Of the seven projects assessed: one is a fully disbursed non-sovereign project; one project was already evaluated by IEO in 2022; and three have fully disbursed project tranches (with disbursement still to come of other tranches). Additionally, IEO commissioned separate impact surveys in two projects namely the Rajasthan Water Sector Restructuring Project and the Mumbai Metro Rail (Line 2&7) Project, both of which were chosen due to their advanced implementation stages. Tranche 1 of the Rajasthan Water Sector Restructuring Project was fully disbursed, while the Mumbai Metro Rail (Line 2&7) Project, though not fully disbursed, had operational lines. Both were suitable for real-world impact assessment. Selecting a water and a metro project allowed for diverse evidence across sectors, strengthening the evaluation and complementing projects visited during fieldwork. However, beyond the actual assessment of impact, the CPE also included an analysis of how well impact-oriented thinking is embedded in project designs.
143. Overall, individual NDB-financed projects promise to positively impact India's roads, transport infrastructure, and water supply infrastructure. The impact assessment of NDB's portfolio in India reveals a strong potential for positive social, environmental and economic impacts, particularly in the transport and water sectors. Projects like the Madhya Pradesh Major District Roads Project and the Gujarat Rural Road Program are expected to deliver significant economic benefits by improving access to markets, education and healthcare, thereby fostering regional economic growth and improving the quality of life for millions. The Gujarat Rural Road Program, for instance, aims to construct or rehabilitate 13,500 km of rural roads, potentially benefiting approximately 12.65 million people. Such infrastructure projects are critical in reducing travel time and transportation costs, which directly contribute to boosting local economies and enhancing living standards in rural populations.
144. The projects are well suited and designed to advance economic and social benefits: enhanced road connectivity, improved water supply systems, expansion of renewable energy and rejuvenation of water systems are all project themes that are pivotal in improving access to markets, education, and healthcare, fostering economic growth, and improving the quality of life for millions. The Mumbai Metro Rail (Line 2&7) Project, for example, has significantly improved urban mobility and safety, reducing travel times and enhancing commuter comfort. Surveys conducted in June 2024 revealed that the metro's introduction increased the percentage of trips taking under 30 minutes from 31% to 51%, highlighting the project's efficiency in reducing commute times.
- Enhanced road connectivity**
145. NDB's India portfolio places a strong emphasis on enhancing road connectivity, which is crucial for driving economic growth and improving access to essential services. The Madhya Pradesh Major District Roads Project serves as a key example, with the upgrade of 1,500 km of district roads expected to reduce vehicle operating costs and travel time, thereby facilitating more efficient transportation of goods to markets. This improved connectivity not only supports agricultural productivity but also enhances access to schools, healthcare facilities, and employment opportunities. The project's economic internal rate of return of 15.91% underscores its potential to significantly boost regional economic development and improve the quality of life in rural areas.
146. The road construction projects within NDB's India portfolio, such as the Bihar Rural Roads Project (Phase II), Madhya Pradesh District Roads II Project, and Gujarat Rural Road Program, demonstrate a concerted effort to enhance rural connectivity and drive socio-economic development. These projects are designed not only to improve physical access to markets, education, and healthcare but also to address critical challenges such as climate resilience and road safety. For instance, the Bihar Rural Roads Project incorporates climate-resilient designs to mitigate the impact of frequent flooding, while also integrating road safety features to reduce accidents in a state with a rapidly growing number of vehicles. Similarly, the Gujarat

Rural Road Program's focus on constructing all-weather roads in tribal and rural areas is expected to benefit approximately 33 million people, directly contributing to the economic uplift and social integration of historically underserved communities.

147. Collectively, these projects highlight NDB's commitment to fostering long-term socio-economic impacts through strategic infrastructure investments. The improved road connectivity is expected to reduce travel times and transportation costs, which will enhance agricultural productivity and facilitate better access to essential services, thereby improving the quality of life in rural and remote areas. The emphasis on environmental sustainability, as seen in the Gujarat Rural Road Program's comprehensive environmental and social management framework, ensures that these developments are not only economically beneficial but also environmentally responsible. These overarching findings suggest that NDB's road projects are well-positioned to deliver substantial and lasting impacts, aligning with broader development goals of reducing regional disparities and promoting inclusive growth.

#### Urban infrastructure projects

148. Urban infrastructure projects within the NDB's India portfolio, such as the Mumbai Metro Rail Projects, demonstrate the Bank's commitment to enhancing urban mobility and fostering

economic growth; and projects like the Corridor 4 of Phase II of Chennai Metro Rail Project contribute to environmental sustainability by reducing greenhouse gas emissions and traffic congestion, thereby improving air quality and public health. These urban infrastructure investments are pivotal in stimulating economic activity and improving the overall quality of life in rapidly growing cities.

149. The Mumbai Metro Rail (Line 2&7) Project has also, for example, improved urban mobility and safety, demonstrating the positive impact of NDB-funded infrastructure projects. The key findings from the surveys conducted with metro users in June 2024 are outlined in the following paragraphs.
150. **Commuters experienced a notable reduction in last-mile transfers.** Last-mile transfers in a metro project refer to transportation solutions that help passengers reach their final destination from the metro station, ensuring seamless connectivity. Before the metro's introduction, only 12% of commuters had zero last-mile transfers, which increased to 18% post-metro opening. The percentage of commuters requiring just one last-mile transfer rose from 73% to 77%, while those needing more than two last-mile transfers dropped significantly from 14.5% to 3.7%. This indicates the metro has made commuting more direct and convenient, minimising the need for multiple transfers.

**Table 18: Changes in last-mile transfers**

| Last-mile transfers     | Before metro | After metro opened |
|-------------------------|--------------|--------------------|
| Zero transfers          | 12%          | 18%                |
| One transfer            | 73%          | 77%                |
| More than two transfers | 14.5%        | 3.7%               |

Source: Primary data collected through impact surveys.

151. **There is a high level of satisfaction with reduced travel time among commuters.** The survey revealed a significant correlation (p-value: 0.010) between reduced travel time and commuter satisfaction. Notably, travel times under 30 minutes saw substantial

improvements. The percentage of trips under 30 minutes increased from 31% to 51% post-metro opening, while trips between 1.0–1.5 hours dropped from 26% to 8%, highlighting the metro's efficiency in reducing commute times.

**Figure 5: Impact of the metro on travel times**

Source: Primary data collected through impact surveys.

- 152. The metro has enhanced overall travel comfort for commuters.** Respondents reported high satisfaction levels with various aspects of the metro. Positive feedback was given for the metro's location (coefficient: 2.083, p-value: 0.0000), seat availability (coefficient: 0.95,

p-value: 0.022), cleanliness (coefficient: 1.37, p-value: 0.002), and temperature control (coefficient: 0.84, p-value: 0.043). These factors collectively contribute to a more comfortable and pleasant commuting experience.

**Table 19: Correlation between availability and location of metro with passenger comfort**

| Comfort aspect      | Coefficient | P-Value |
|---------------------|-------------|---------|
| Location of metro   | 2.083       | 0.0000  |
| Seat availability   | 0.95        | 0.022   |
| Cleanliness         | 1.37        | 0.002   |
| Temperature control | 0.84        | 0.043   |

Source: Primary data collected through impact surveys.

- 153. There has been a significant reduction in the use of private vehicles.** The metro's efficiency and comfort have led to a decrease in private vehicle usage. A statistically significant reduction (p-value: 0.0000) was observed,

with 53% of commuters reporting reduced travel times and 40% reducing their reliance on private vehicles. This shift not only alleviates road congestion but also promotes the use of public transportation.

**Table 20: Changes in mode of transport due to availability of metro**

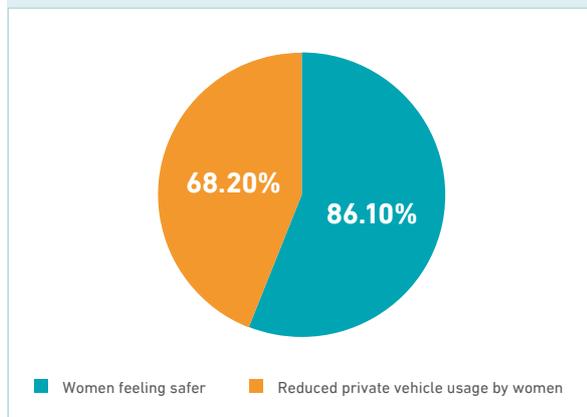
| Change in commute mode        | Percentage of commuters |
|-------------------------------|-------------------------|
| Reduced commute time          | 53%                     |
| Reduced private vehicle usage | 40%                     |

Source: Primary data collected through impact surveys.

**154. Women feel safer using the metro, which has reduced their use of private vehicles.**

The survey highlighted that 86.1% of female commuters felt safer using the metro compared to other modes of transport. This enhanced sense of safety was linked to a significant reduction in private vehicle usage among women (p-value: 0.023), with 68.2% of women who felt safer in the metro reducing their use of private vehicles. This underscores the metro's role in providing a secure commuting option, particularly for women.

**Figure 6: Share of women who feel safer and have reduced use of private vehicles because of the metro**



Source: Primary data collected through impact surveys.

**Improved water supply systems and other critical infrastructure**

- 155.** NDB's investment in water supply projects is designed to deliver substantial social and economic benefits, particularly in underserved rural areas. The Madhya Pradesh Multi Village Water Supply Project aims to provide safe drinking water to multiple villages, reducing the incidence of water-borne diseases and the time spent collecting water. This, in turn, enhances public health and frees up time for education and economic activities; and, with the project's economic internal rate of return of 13.63% this reflects its strong potential to improve both economic productivity and social well-being. Additionally, projects like the Lamphelpat Waterbody Rejuvenation Project are expected to have significant environmental and social impacts by improving water management and reducing flood risks, which are crucial for sustainable urban development. Similarly, renewable energy projects such as the REC

Renewable Energy Sector Development Project are set to contribute to energy security and environmental sustainability by expanding renewable energy capacity, thereby supporting India's transition to a low-carbon economy.

- 156.** The impact surveys conducted for the Rajasthan Water Sector Restructuring Project and the Mumbai Metro Rail (Line 2&7) Project provide valuable insights into the real-world outcomes and effectiveness of NDB projects. These surveys were selected due to the significant roles these projects play in addressing critical infrastructure and development challenges in India. The Rajasthan Water Sector Restructuring Project focuses on improving water use efficiency and reducing water losses in a region where water scarcity is a major concern. By enhancing the capacity of the Indira Gandhi Nahar Pariyojana canal system, this project aims to support sustainable agricultural practices and improve the livelihoods of farmers. The Mumbai Metro Rail (Line 2&7) Project, on the other hand, aims to transform urban mobility in one of the world's most densely populated cities by reducing travel time, decongesting roads, and improving commuter safety. The evaluation used a concurrent mixed-methods design, combining quantitative household surveys with qualitative data from key informant interviews and focus group discussions, ensuring a thorough analysis of project impacts.

- 157.** The survey also revealed that the Rajasthan Water Sector Restructuring Project has improved water availability for cultivation, particularly in the middle region of the canal, where a statistically significant improvement in water availability was observed (p-value: 0.003). The project has also led to an increase in the number of rabi and kharif crops grown by farmers, particularly among small-scale farmers. Improved water availability has correlated with increased yields, with 55% of respondents reporting an improvement in yields after 2022. Additionally, the project improved the frequency of allocated turns for water, with regions experiencing fair water distribution seeing greater improvements in water availability. Active water user associations contributed to higher adoption of water-efficient measures, with regions having active associations reporting higher rates of practices such as water scheduling and monitoring water usage.

**Table 21: Perception of changes in availability of water due to the project**

| Region | Much improvement | Slight improvement | No change | Slight decrease | Much decrease |
|--------|------------------|--------------------|-----------|-----------------|---------------|
| Head   | 29%              | 38%                | 21%       | 7%              | 5%            |
| Middle | 22%              | 66%                | 9%        | 4%              | 0%            |
| Tail   | 20%              | 54%                | 16%       | 11%             | 0%            |

Source: Primary data collected through impact surveys.

158. The project has led to an increase in the number of crops grown by farmers in both rabi and kharif growing seasons. There was a statistically significant increase in the number of crops grown, particularly among small-scale farmers.

The mean number of crops increased from 2.17 to 2.21 in the kharif season and from 2.02 to 2.05 in the rabi season (p-value for kharif: 0.0040; rabi: 0.0141).

**Table 22: Changes in the number of crops grown by farmers**

| No. of crops (kharif) | Pre-2022 | Post-2022 |
|-----------------------|----------|-----------|
| 1 Crop                | 5        | 1         |
| 2 Crops               | 44       | 1         |
| 3 Crops               | 0        | 8         |

Source: Primary data collected through impact surveys.

159. Farmers reported an improvement in yield due to better water availability. A significant correlation exists between improved water availability and increased yield, particularly for marginal, small, semi-medium, and medium farmers. About 55%

of respondents reported an improvement in yield after 2022, with timely access to water and adequate water availability being key factors (p-values: 0.007 and 0.000, respectively).

**Table 23: Changes in yield due to changes in the availability of water**

| Farmer category | Much improved | Slightly improved | No change | Slightly decreased | Significantly decreased |
|-----------------|---------------|-------------------|-----------|--------------------|-------------------------|
| Tenant          | 11            | 22                | 0         | 0                  | 0                       |
| Marginal        | 21            | 32                | 16        | 5                  | 0                       |
| Small           | 24            | 31                | 2         | 2                  | 0                       |
| Semi-medium     | 11            | 37                | 4         | 0                  | 0                       |
| Medium          | 18            | 26                | 5         | 10                 | 3                       |
| Large           | 23            | 30                | 10        | 3                  | 0                       |

Source: Primary data collected through impact surveys.

160. The project improved the frequency of allocated turns for water. Increased allocated turns for water significantly enhanced water availability (p-value: 0.0008). Regions with a fair water distribution saw greater improvements, indicating that equitable water allocation is crucial for the success of such projects.

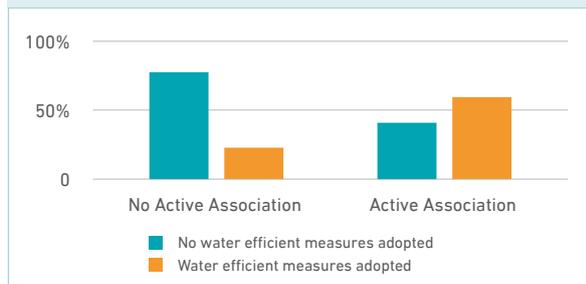
**Table 24: Distribution of water to farms at different locations**

| Region | Fair distribution | Not fair distribution |
|--------|-------------------|-----------------------|
| Head   | 73%               | 27%                   |
| Middle | 81%               | 19%                   |
| Tail   | 72%               | 28%                   |

Source: Primary data collected through impact surveys.

161. Active water user associations contributed to higher adoption of water-efficient measures. There is a significant correlation (p-value: 0.001) between active water user associations and the adoption of water-efficient practices. Regions with active associations reported higher rates of practices such as water scheduling and monitoring water usage.

**Figure 7: Relation between the presence of active water association and uptake of water efficiency methods**



Source: Primary data collected through impact surveys.

### Project design documents have improved, but there is scope for better outcome and impact indicators

162. The quality of project design documents within NDB's India portfolio has shown marked improvement, particularly in developing Design and Monitoring Frameworks. Early projects, such as the Madhya Pradesh Major District Roads Project, featured more basic DMFs that

primarily focused on physical outputs, such as the number of kilometres of roads constructed or rehabilitated. However, more recent projects, like the Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project and the Mumbai Metro Rail II (Line 6) Project, demonstrate a significant enhancement in DMF quality, with a stronger emphasis on linking project outputs to broader development outcomes and impacts.

163. This positive trend indicates that NDB is increasingly aligning its project designs with best practices in results-based management. The inclusion of more detailed and structured DMFs is a step in the right direction, reflecting a deeper understanding of the importance of comprehensive project planning and monitoring. For instance, recent project designs have begun to incorporate more outcome-oriented indicators, which are crucial for tracking not just immediate outputs but also the longer-term effects of the projects on social and economic development.

164. One challenge in the NDB India portfolio is the absence of a clearly defined theory of change in several project designs. A ToC is crucial for linking project activities and outputs to broader long-term outcomes and impacts. Without a well-articulated ToC, projects risk focusing too narrowly on immediate outputs, such as kilometres of roads built or the number of water supply systems installed, without adequately addressing how these outputs translate into broader socio-economic benefits like poverty reduction, enhanced livelihoods, or improved health outcomes. For instance, in the Madhya Pradesh Major District Roads Project, the lack of a clear ToC led to difficulties in linking the upgrading of 1,551 km of roads to broader socio-economic impacts, such as local economic growth or poverty reduction. This gap is compounded by DMFs that primarily emphasise short-term outputs rather than long-term impacts. Similarly, the Bihar Rural Roads Project – Tranche 2 and the Gujarat Rural Road Program both highlight the challenges posed by the absence of a ToC. While these projects are expected to significantly improve connectivity and access to essential services, the lack of a clear impact pathway makes it difficult to assess their contribution to long-term development goals, such as regional economic development or improved living standards.

165. The DMF is a vital tool for tracking project progress, and while it effectively captures the sequence of activities, outputs, and immediate outcomes, there is an opportunity to enhance its focus on long-term impacts. In several NDB projects, similar to the point made about the theories of change in the previous paragraph, the DMF tends to emphasise quantitative metrics – such as the kilometres of roads built or the number of water systems installed – without fully integrating indicators that measure broader developmental outcomes. For instance, in the Bihar Rural Roads Project – Tranche 2, the DMF successfully tracks the construction of 8,200 km of rural roads, but it could be strengthened by incorporating indicators that assess the long-term impact on economic development, such as improved market access and increased agricultural productivity. To address this, the DMF could include metrics like the percentage increase in agricultural produce reaching markets or the reduction in transportation costs for farmers, providing a more comprehensive view of the project's contribution to the region's socio-economic growth.
166. However, there is still room for improvement to maximise the effectiveness of these projects. While the DMFs have become more detailed, they often fall short in incorporating Specific, Measurable, Achievable, Relevant and Time-bound (SMART) indicators that fully capture the projects' broader socio-economic and environmental impacts. For example, despite the improvements, many DMFs still lack indicators that measure long-term sustainability, such as the resilience of infrastructure to climate change or the socio-economic benefits of improved connectivity for local communities. These gaps can limit the ability to assess the true impact of NDB's investments and to demonstrate their alignment with NDB's strategic objectives.
167. Similarly, in the Madhya Pradesh District Roads II Project, the DMF focuses on monitoring the rehabilitation of 2,000 km of major district roads. While this is crucial for ensuring the project meets its physical targets, there is potential to enhance the DMF by including indicators that measure broader outcomes, such as reduced transportation costs, improved access to essential services, and the overall economic upliftment of the region. For example, the DMF could have incorporated metrics like the percentage decrease in travel time for accessing healthcare and educational facilities or the increase in income levels due to better market access. These additions would allow for a more nuanced understanding of the project's impact on local communities and better align the project's goals with broader development outcomes.
168. In projects like the Gujarat Rural Road Program, where the DMF tracks the construction of all-weather roads in tribal and rural areas, there is a similar opportunity to integrate impact-oriented indicators. To fully capture the socio-economic benefits, the DMF could include metrics such as the increase in school enrolment rates due to improved accessibility or the number of new businesses established in previously isolated areas. By refining the DMF to balance output and impact indicators, NDB projects can more effectively demonstrate their contribution to long-term, sustainable development. This approach enhances project accountability and ensures that the full benefits of infrastructure investments are realised and communicated to stakeholders.
- Stakeholder engagement and feedback loops**
169. Effective stakeholder engagement and feedback loops are critical components for the success and sustainability of development projects, yet they present significant challenges in the NDB India portfolio. While stakeholder involvement is acknowledged in project documents, the depth and consistency of engagement throughout the project lifecycle are often insufficient. For instance, in the Madhya Pradesh Major District Roads Project, initial consultations with stakeholders were conducted during the planning phase. However, there is limited evidence of ongoing stakeholder engagement during the implementation phase, which has resulted in missed opportunities to address emerging challenges or capitalise on unforeseen opportunities. Such gaps highlight the need for continuous and meaningful dialogue with stakeholders to ensure that projects remain responsive to local needs and conditions throughout their implementation.
170. NDB projects could benefit from integrating more structured and continuous feedback mechanisms to strengthen stakeholder engagement. For example, the Indore Metro Rail Project demonstrates an effort to engage stakeholders through public consultations and

ongoing information disclosure, but the impact of these engagements could be enhanced by incorporating regular feedback loops that capture the evolving concerns and inputs of affected communities during construction and operation phases. By establishing channels for ongoing communication, such as community advisory groups or periodic surveys, projects could better adapt to stakeholder needs, improve project outcomes, and mitigate potential conflicts or delays.

### **Evaluability of NDB projects**

171. Evaluability refers to the extent to which a project is structured and designed to allow for effective evaluation of its outcomes and impacts. In the NDB India portfolio, the evaluability of projects is a critical factor that determines how well the projects can be assessed for their contributions to long-term development goals. However, a review of the project documents to the Board reveals that many projects lack comprehensive provisions for data collection, which is essential for rigorous evaluation. For instance, the Madhya Pradesh Major District Roads Project includes metrics for tracking the number of kilometres of roads constructed but does not have a robust plan for collecting data on the socio-economic impacts of these roads, such as improved market access or reduced travel times for rural populations. Without this data, it becomes challenging to evaluate the broader impact of the project, limiting the ability to understand its contribution to sustainable development.
172. Similarly, the Bihar Rural Roads Project – Tranche 2 demonstrates a gap in evaluability due to its limited focus on output metrics rather than outcome and impact indicators. While the project tracks the construction and upgrading of rural roads, it does not adequately plan for the collection of data on how these infrastructure improvements affect economic activity, access to services, or quality of life in the targeted regions. This lack of data collection provisions hinders the Bank's ability to conduct a comprehensive evaluation of the project's effectiveness in achieving its long-term goals. For a project to be fully evaluable, it should include mechanisms for ongoing data collection that cover not only the immediate outputs but also the broader socio-economic outcomes.

173. The Manipur Water Supply Project provides another example where the project's evaluability is limited by its design. Although the project includes environmental monitoring to assess the impact of construction activities, it does not have a detailed plan for collecting data on the long-term benefits, such as improved public health outcomes or enhanced economic productivity due to better water access. The absence of these provisions for systematic data collection undermines the project's evaluability and, consequently, its ability to demonstrate its impact. Ensuring that projects are designed with evaluability in mind – including clear provisions for data collection – is crucial for understanding their true effectiveness and for making informed decisions that can enhance future project planning and implementation.

### **Conclusion**

174. Evaluating the impact criteria across the portfolio of seven projects reveals a commitment to generating positive social, environmental and economic outcomes in targeted regions. The projects assessed, particularly those that are fully disbursed, such as the Rajasthan Water Sector Restructuring Project and the Mumbai Metro Rail (Line 2&7) Project, demonstrate significant contributions to infrastructure development, improved service access, and enhanced quality of life for millions of people. All seven projects evaluated received a "successful" impact rating, which also reflects their effectiveness in meeting intended goals. However, the evaluation highlights areas needing further attention, particularly in integrating comprehensive impact assessment frameworks, developing robust theories of change, and needing more nuanced, context-specific evaluation methodologies. By addressing these gaps, future projects can better capture and amplify their long-term impacts, ensuring that both intended benefits and potential risks are systematically identified and managed, as per pages 33–35 of the NDB General Strategy for 2022–2026.

## F. SUSTAINABILITY

**Rating:** *Moderately Successful*

**The sustainability of the NDB-financed project portfolio in India is rated as “moderately successful”.**

However, it is important to note that assessing sustainability at this stage presents challenges since most of NDB-financed projects in India are still ongoing or have only recently entered the operational phase. Sustainability in this context refers to the likelihood that project benefits will continue after the completion of NDB financing, ensuring long-term social, economic, and environmental impacts. Positively, projects like the Madhya Pradesh Roads II Project demonstrate strong foresight in planning, with provisions for post-construction maintenance funded by the state government; and comprehensive environmental and social impact assessments, as seen in the Kohima Town Water Supply Augmentation Project, which enhance long-term project viability. However, challenges remain, such as the inconsistent integration of sustainability elements across all project components, particularly in the transport sector, and the absence of clearly defined exit strategies, which raises concerns about the continuity of benefits once NDB’s involvement concludes.

175. The sustainability of the portfolio is informed by five projects. This is because only those projects or tranches of projects that have been fully disbursed were evaluated for sustainability.<sup>21</sup> It would have been inappropriate to assess projects or tranches still under implementation

for sustainability. This assessment of sustainability includes one project that was already evaluated in 2022, three tranches of projects that have been fully disbursed and one fully disbursed non-sovereign project – as shown in the table 25.

<sup>21</sup> The selection of projects for assessment of impact is different from the assessment of sustainability. This is because, in addition to the five fully disbursed projects which are included both in assessment of sustainability and impact, the impact assessment also included the Mumbai Metro Rail (Line 2&7) Project. Although not fully disbursed, the metro is already functional and was considered suitable for assessing the impact. However, the sustainability of the metro will be evaluated at a later stage when the project has been fully disbursed.

**Table 25: Rating for individual projects for sustainability criteria**

| No.  | Title of project   | Date of approval | Sustainability rating |
|--|--|------------------|-----------------------|
| <b>Assessment of Transport Infrastructure Projects</b> |  |                  |                       |
| 1  | Madhya Pradesh Major Districts Roads Project                             | 22-11-16         | Successful            |
| 2  | Bihar Rural Roads Project – Tranche 1                                    | 28-05-18         | Moderately Successful |
| 3  | Madhya Pradesh Major District Roads II Project                           | 18-09-18         | -                     |
| 4  | Madhya Pradesh Bridges Project   | 18-09-18         | Moderately Successful |
| 5  | Mumbai Metro Rail (Line 2&7) Project                                     | 16-11-18         | -                     |
| 6  | Assam Bridge Project   | 08-07-19         | -                     |
| 7  | Andhra Pradesh Road Sector Project (Highway)                             | 12-09-19         | -                     |
| 8  | Andhra Pradesh Road Sector Project (District Road)                       | 12-09-19         | -                     |
| 9  | Indore Metro Rail Project  | 02-12-19         | -                     |
| 10   | Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project             | 29-09-20         | -                     |
| 11   | Mumbai Metro Rail II (Line 6) Project                                    | 29-09-20         | -                     |
| 12   | Corridor 4 of Phase II of Chennai Metro Rail Project                     | 13-12-22         | -                     |
| 13   | Gujarat Rural Road Program   | 28-11-23         | -                     |
| 14   | Bihar Rural Roads Project (Phase 2)                                      | 28-11-23         | -                     |
| <b>Assessment of Water and Sanitation Projects</b>     |  |                  |                       |
| 15   | Madhya Pradesh Multi Village Water Supply Project                        | 30-08-17         | -                     |
| 16   | Rajasthan Water Sector Restructuring Project – Tranche I                 | 20-11-17         | Moderately Successful |
|  | Rajasthan Water Sector Restructuring Project – Tranche II                |                  | -                     |
| 17   | Manipur Water Supply Project   | 02-12-19         | -                     |
| 18   | Himachal Pradesh Rural Water Supply Project                              | 08-12-21         | -                     |
| 19   | Lamphelpat Waterbody Rejuvenation Project                                | 18-07-22         | -                     |
| 20   | Kohima Town Water Supply Augmentation Project                            | 16-08-23         | -                     |
| 21   | Integrated Sewerage System for city of Imphal (Phase II) Project         | 26-10-23         | -                     |
| <b>Assessment of Renewable Energy Projects</b>         |  |                  |                       |
| 22   | REC Renewable Energy Sector Development Project                          | 14-10-19         | Moderately Successful |
| <b>Assessment of Cross-cutting projects</b>            |  |                  |                       |
| 23   | National Investment and Infrastructure Fund: Fund of Funds – I           | 25-03-20         | -                     |
| 24   | Meghalaya Ecotourism Infrastructure Development Project                  | 18-07-22         | -                     |
| <b>Assessment of Emergency Support Projects</b>        |  |                  |                       |
| 25   | Emergency Assistance Program in Combating COVID-19                       | 30-04-20         | -                     |
| 26   | Emergency Program for Supporting India's Economic Recovery from COVID-19 | 11-12-20         | -                     |

Source: Evaluation authors and NDB loan dashboard.

Note: Only projects or tranches with a disbursement rate of 100% have been assessed for sustainability.

176. Overall, sustainability has been incorporated into most NDB-financed projects in India, but its integration into project design and implementation remains partial and could benefit from a more systematic approach. Elements such as technical operation, maintenance, financial viability, and environmental impact are generally assessed during project appraisal and are outlined in the project documents to the Board. For instance, the Kohima Town Water Supply Augmentation Project includes comprehensive environmental and social impact assessments to mitigate adverse effects and ensure the project's long-term viability. Similarly, the Madhya Pradesh Major District Roads II Project incorporates provisions for a post-construction maintenance period funded by the state government, demonstrating foresight in planning for the project's ongoing sustainability.
177. However, these sustainability elements are not uniformly integrated into all project components, particularly in the transport sector. For example, while the Bihar Rural Roads Project – Tranche 2 and the Gujarat Rural Road Program address immediate infrastructure needs, their designs lack a robust framework for ensuring long-term sustainability through ongoing maintenance and adaptation to changing environmental conditions. Additionally, there is a noticeable absence of comprehensive policy and technical studies that could inform the development of sustainability roadmaps for these sectors. This lack of in-depth studies and strategic planning means that many aspects of sustainability, such as climate resilience and stakeholder engagement, are not fully integrated into project restructuring, mid-term reviews (MTRs), and exit strategy agreements.
178. The limited integration of sustainability considerations into these critical phases of project management indicates that, while NDB-financed projects in India are designed with sustainability in mind, there is significant potential to enhance their long-term benefits by embedding these elements more thoroughly across all stages of the project lifecycle. This approach would not only ensure the enduring benefits of these projects but also align them more closely with NDB's broader goals of fostering sustainable development.
- Government commitment and institutional support**
179. The sustainability of NDB-financed projects is closely tied to government commitment and institutional support, which are critical for maintaining project outcomes beyond the loan closure. This commitment is evident in projects like the Madhya Pradesh Major District Roads II Project and the Andhra Pradesh Roads Sector Projects, where state governments have committed to funding post-construction maintenance. These projects include detailed provisions for defect liability periods and maintenance contracts that extend several years beyond the completion of construction. For example, the above-mentioned Madhya Pradesh project incorporates a five-year maintenance period post-construction, funded by the Government of Madhya Pradesh, which is designed to ensure that the roads remain in good condition and continue to provide benefits to the local population. Similarly, the Andhra Pradesh projects include a combination of a two-year defect liability period and a three-year performance-based maintenance contract, which is crucial for sustaining the quality and functionality of the infrastructure over time.
180. These examples demonstrate a clear understanding of the need for long-term institutional backing to support the sustainability of project outcomes. The commitment of state governments to provide ongoing financial and institutional support helps to ensure that the benefits of these projects are not short-lived but continue to contribute to regional development long after the NDB's initial investment has ended. However, the sustainability of these projects is not guaranteed solely by these provisions. The absence of clearly defined exit strategies in some projects, such as the Madhya Pradesh Major District Roads Project, raises significant concerns about the continuity of benefits once external support ends. Without a well-structured exit strategy, there is a risk that the maintenance and operational responsibilities may not be effectively transferred to local entities, potentially leading to a decline in the quality and impact of the infrastructure over time.

181. For instance, in the Madhya Pradesh Major District Roads Project, while there is an initial commitment to maintenance, the lack of a detailed plan for transitioning ownership and management to local authorities could result in gaps in the upkeep and further development of the infrastructure. This issue underscores the importance of clear planning for the transition of project ownership and management to local entities as a critical component of sustainability. Ensuring that local governments and institutions are prepared and equipped to take over these responsibilities is essential to maintaining the long-term viability and benefits of the projects. In cases where institutional capacity may be lacking, additional support in the form of capacity-building, technical assistance, or gradual transfer of responsibilities could be crucial for ensuring that the transition is smooth, and the infrastructure remains effective in delivering its intended benefits to the community.

#### **Integration of environmental and social safeguards**

182. NDB-financed projects in India have integrated environmental and social safeguards (ESS) by following country systems, a strategy that presents both opportunities and challenges. Compliance and alignment with country systems, including ESS, is a strategic focus of NDB, as highlighted in both the general strategies to date. For instance, the Himachal Pradesh Rural Water Supply Project includes an environmental and social impact assessment that addresses issues such as soil erosion and community safety risks during construction, ensuring sustainable project implementation. The Integrated Sewerage System for City of Imphal (Phase II) Project includes detailed ESS risk assessments and mitigation measures to manage potential adverse impacts on local communities and ecosystems. This demonstrates NDB's commitment to promoting sustainable development (see General Strategy for 2022–2026, page 18).

183. While the integration of ESS is a significant opportunity for aligning NDB-financed projects with national standards, it also presents challenges. NDB's reliance on country systems for environmental and social compliance is

intended to enhance national ownership and alignment with local regulations. However, this approach can lead to variability in the rigor and effectiveness of safeguards, as the capacity to implement extensive and in-depth environmental and social assessments can vary significantly between states. For instance, while states like Himachal Pradesh may have robust frameworks for environmental management, other states may lack the institutional capacity and resources to fully enforce these safeguards, potentially leading to inconsistencies in the implementation of ESS across different projects. Therefore, while following country systems allows NDB-financed projects to be closely aligned with national priorities, it also necessitates additional oversight and support to ensure that all projects meet the required standards for environmental and social sustainability.

#### **Financial sustainability and innovative approaches**

184. The financial sustainability of projects within the NDB portfolio is generally assured through ongoing government funding and innovative financial models. For instance, the Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project and the Corridor 4 of Phase II of the Chennai Metro Rail Project have adopted outsourced operational models that reduce costs while maintaining efficiency. These projects have also implemented strategies to generate alternative revenue streams, such as transit-oriented development and land monetisation. In contrast, while demonstrating operational sustainability through institutional capacity, the Mumbai Metro Rail (Lines 2&7) Project faces challenges in becoming self-sustaining through revenue generation alone. The reliance on subsidies highlights the need for projects to develop diverse revenue streams to ensure financial sustainability.

#### **Climate resilience and adaptive design**

185. Given India's high vulnerability to climate change, integrating climate resilience is critical for ensuring the sustainability of NDB-financed projects. India faces increasing risks from extreme weather events like floods, droughts, and rising temperatures, which threaten infrastructure and communities. NDB's general

strategies emphasise the importance of climate resilience, focusing on embedding resilience measures into project designs. NDB projects demonstrate varying levels of integration of climate resilience into their design and implementation. The Lamphelpat Waterbody Rejuvenation Project in Manipur directly addresses urban flooding exacerbated by climate change, aligning with the Manipur State Action Plan on Climate Change. By improving water detention capacity and flood management systems, the project not only mitigates immediate risks but also ensures the long-term viability of urban infrastructure. Similarly, the Bihar Rural Roads Project – Tranche 1 incorporates climate-resilient design features, such as elevated embankments and enhanced drainage systems, to withstand extreme weather events. These measures protect critical infrastructure and maintain rural connectivity, crucial for the socio-economic well-being of communities. By embedding climate resilience into project designs, long-term benefits like reliable transportation are safeguarded against India's evolving climate challenges.

186. However, climate resilience integration is inconsistent across NDB's portfolio. A review of project documents to the Board indicates that critical climate resilience elements are not consistently applied across the portfolio. For instance, while the Lamphelpat Waterbody Rejuvenation Project effectively addresses flood risks, other projects, particularly in the water sector, miss opportunities to adopt circular water management and advanced wastewater systems. Such omissions can limit the ability of these projects to adapt to future climate stresses, undermining their sustainability. The Bihar Rural Roads Project – Tranche 2, while incorporating flood risk mitigation, lacks advanced features like permeable materials or smart water management systems that could further enhance resilience. Additionally, limited technical assistance and capacity-building initiatives hinder projects from fully addressing India's dynamic environmental challenges. Ensuring that climate resilience is consistently integrated across all NDB-financed projects is essential to protect the long-term sustainability of the benefits they aim to deliver.

### Absence of clearly defined exit strategies

187. A critical gap identified in NDB-financed project documents is the absence of clearly defined exit strategies, which are essential for ensuring the long-term sustainability of project outcomes. Exit strategies are particularly important for planning the transition of project ownership and management to local entities, yet this aspect appears to be underdeveloped in several projects. For example, the Madhya Pradesh Major District Roads Project does not include a transparent and detailed exit strategy, raising concerns about how the maintenance and operational responsibilities will be managed once NDB's involvement ends. This lack of planning can lead to a situation where the infrastructure deteriorates due to insufficient maintenance, undermining the project's long-term impact.
188. Similarly, the Gujarat Rural Road Program lacks clarity on how state budget funds will be allocated for ongoing maintenance after the initial maintenance period ends. Without a clear plan for securing and allocating resources, there is a risk that the roads may fall into disrepair, negating the benefits of the initial investment. A well-defined exit strategy would ensure a smooth transition of responsibilities to local entities, with adequate training, resources and institutional support in place to sustain the project's outcomes. This would involve not only allocating funds but also establishing monitoring and evaluation mechanisms to ensure that the project continues to deliver its intended benefits over time.

### Conclusion

189. While the India portfolio shows a strong commitment to sustainability through the integration of environmental and social safeguards, financial planning, and climate resilience, there are areas that require further attention. The success of these projects in delivering long-term benefits will depend on consistently applying these sustainability elements across the portfolio, developing clear exit strategies, and enhancing stakeholder engagement. Addressing these areas will ensure that NDB's investments continue to deliver positive impacts well into the future beyond project closures.

## G. OVERALL PORTFOLIO ACHIEVEMENT

190. The overall achievement of the NDB portfolio in India has been positive, with contributions to national development priorities and the SDGs, particularly in sectors like transport, water and sanitation. The portfolio is rated as “successful” in terms of effectiveness and expected impact, reflecting good progress in achieving project objectives. However, challenges remain in relevance, efficiency and sustainability, where the portfolio is rated as “moderately successful”. Taken together, the CPE rates the overall project portfolio performance as “moderately successful”.
191. The moderately successful rating of the portfolio is determined by numerous drivers. These include: limited coverage of some key priority sectors for India, extensive geographical coverage of the portfolio, design and implementation constraints, some efficiency concerns particularly with disbursements rates and some loan cancellations, limited number of non-sovereign operations and local currency financing, insufficient attention to provision of technical assistance and capacity-building, and others.

**Table 26: Summary of project portfolio ratings**

| Evaluation criterion                 | Rating                       |
|--------------------------------------|------------------------------|
| Relevance                            | Moderately Successful        |
| Effectiveness                        | Successful                   |
| Efficiency                           | Moderately Successful        |
| Impact                               | Successful                   |
| Sustainability                       | Moderately Successful        |
| <b>Overall portfolio achievement</b> | <b>Moderately Successful</b> |

Source: Evaluation Authors.



# 05

## PERFORMANCE OF NON-LENDING ACTIVITIES

- A. Strategic focus of non-lending activities
- B. Technical assistance
- C. Capacity-building
- D. Knowledge management
- E. Partnership development
- F. Overall performance of non-lending activities

## 05 Performance of non-lending activities

**Rating:** *Moderately Unsuccessful*

**The evaluation of NDB's non-lending activities in India acknowledges some positive efforts but overall rates them as "moderately unsuccessful".** In terms of non-lending activities, NDB general strategies emphasise the provision of technical assistance, research and knowledge, and capacity development and partnership development. While NDB has provided technical assistance during project design and, in some cases, during project implementation, this support has not been extensive. Similarly, although partnership development has been pursued, it lacks a structured approach. While some examples of knowledge products are available and some efforts have been made to share knowledge, lessons and good practice, these are too few especially considering the size and significance of the portfolio. One of the main reasons for this is that insufficient time, budgets and expertise have been allocated or mobilised for such activities, given also that in the initial period, the Bank has understandably focussed more on developing a robust pipeline of investment projects and ensuring their timely implementation. Moreover, the Indian Regional Office was only established in 2022, and its capacities remain restricted.

### A. STRATEGIC FOCUS OF NON-LENDING ACTIVITIES

192. The non-lending activities aim to support the Bank's overall strategic objectives, complementing its lending operations. The General Strategies for 2017–2021 and 2022–2026 emphasise the importance of capacity-building, knowledge dissemination, and partnership-building as integral components of the Bank's mission. The 2017–2021 strategy focused on strengthening institutional capacity in member countries through technical assistance and knowledge-sharing. The 2022–2026 strategy underlines, *inter alia*, the importance of

institution-building, not only for the member countries but also in terms of enhancing internal capabilities and coordination, i.e. at headquarters and in the regional offices and centres. The 2022–2026 strategy also prioritises partnerships with national development banks, NGOs and other stakeholders, highlighting the significance of establishing NDB as a knowledge hub, particularly on infrastructure and sustainable development issues. The details of the strategic objectives and references in the general strategies related to non-lending activities are provided in table 27.

**Table 27: Details of strategic objectives and imperatives related to non-lending activities of the Bank as outlined in the general strategies**

| Strategic focus (non-lending)         | General Strategy 2017–2021   | General Strategy 2022–2026  |
|---------------------------------------|--|---|
| <b>Technical assistance</b>           | <p>Technical assistance focuses on improving project design and implementation. It supports feasibility studies, project design, and environmental and social safeguards. This assistance aims to make projects financially viable, economically sound and environmentally sustainable. The strategy views technical assistance as crucial for project success, particularly in preparation.</p> <p><i>See: pages 14, 2 and 31</i></p>   | <p>Expands the role of technical assistance, particularly in making projects “bankable” and ready for private sector participation. This includes supporting the integration of advanced technologies and ensuring that projects meet high environmental and social standards following country systems. The strategy sees technical assistance as essential for enhancing the overall impact and sustainability of NDB-funded initiatives as well as addressing any skill or capacity gaps in the countries.</p> <p><i>See: pages 3 and 19–21.</i></p>             |
| <b>Capacity-building</b>              | <p>It emphasises capacity-building for both NDB’s internal teams and member countries. The emphasis is on building strategic partners with shared interest in infrastructure and sustainable development, to create possibilities for knowledge-sharing and capacity-building, enhancing NDB’s overall impact. Capacity-building is seen as a way to sustain the impact of NDB-funded projects and ensure that they align with national development priorities.</p> <p><i>See: page 28</i></p> | <p>It focuses on capacity-building to strengthen member countries’ institutional frameworks following country systems and their own capacity. This involves developing knowledge networks to share best practices. The strategy also emphasises the importance of building institutional resilience and ensuring that member countries have the skills and knowledge to sustain development outcomes over the long term.</p> <p><i>See: pages 3, 16 and 28.</i></p>   |
| <b>Research and knowledge-sharing</b> | <p>Promotes the exchange of knowledge and best practices among member countries to improve project outcomes. It encourages the use of knowledge networks to share lessons learned from NDB-funded projects and apply these lessons to future initiatives. The strategy views knowledge-sharing as essential for fostering innovation and ensuring that the latest developments in infrastructure and sustainable development inform projects.</p> <p><i>See: pages 14 and 31.</i></p>          | <p>Positions NDB as a knowledge hub for its member countries, facilitating the dissemination of expertise and innovative practices across emerging markets and developing countries. The strategy focuses on integrating global best practices into all aspects of NDB’s operations and supporting research initiatives that advance understanding sustainable development challenges and solutions. This knowledge management approach ensures NDB’s projects are at the forefront of innovation and sustainability.</p> <p><i>See: pages 3, 14, 16 and 27</i></p> |
| <b>Partnership development</b>        | <p>Emphasises the development of partnerships with other MDBs, national development banks and financial institutions. It encourages co-financing and risk sharing to leverage additional resources and enhance the impact of NDB operations. Partnerships are crucial for aligning projects with national priorities and ensuring successful implementation.</p> <p><i>See: pages 27 and 31.</i></p>   | <p>Focuses on strengthening partnerships to enhance the impact of NDB’s operations. This includes establishing strategic partnerships with development finance institutions, peer MDBs, private sector entities, and NGOs to co-finance projects, share knowledge, and expand NDB’s influence. The strategy aims to co-finance 20% of projects with peer MDBs. The strategy also emphasises leveraging partnerships for innovation and the dissemination of best practices.</p> <p><i>See: pages 3, 16 and 29.</i></p>  |

## B. TECHNICAL ASSISTANCE

**Rating:** *Moderately Successful*

193. Technical assistance includes support for feasibility studies, advisory services, project preparation and project supervision to enhance the design and implementation of NDB-financed operations. Both of NDB's general strategies state that the Bank aims to boost its technical assistance efforts to ensure that its projects are financially viable, economically sound, socially inclusive, and environmentally sustainable. The strategies highlight the importance of providing technical assistance in making projects attractive for private sector investment and addressing skill or capability gaps. NDB also intends to use its Project Preparation Fund (PPF) and collaborate with member country institutions and the broader marketplace to develop an external talent pool for project assistance. Integrating technical assistance throughout the project lifecycle allows NDB to maintain consistency and quality, thereby maximising development impact.
194. NDB has shown promise in providing technical assistance, but there are significant areas for improvement. For instance, the establishment of PPF in 2017 was a commendable initiative aimed at enhancing NDB's project preparation capabilities, facilitating feasibility studies, and supporting project implementation. Despite this positive development, by the end of 2022, the PPF had received USD 9 million in pledges; and so far the PPF has only been used to fund one technical assistance project in India – the Kohima Town Water Supply Augmentation Project.
195. Technical assistance should not only involve providing PPF funds but also be integrated into all projects throughout their lifecycle. While NDB has hired short-term technical specialists during the design phase of projects in India, only a few projects have benefitted from detailed supervision throughout the implementation period. A significant challenge for NDB has been the lack of in-house sector specialists, which has impacted the integration of sector-specific expertise during project supervision and implementation-support missions. Although NDB has engaged sector-specific consultants or a limited number of in-house experts to provide guidance during the implementation phase, there are not enough in-house sector experts to adequately guide and support short-term consultants.

## C. CAPACITY-BUILDING

**Rating:** *Moderately Unsuccessful*

196. Capacity-building is a crucial aspect of NDB operational-building framework, intended to enhance its projects' long-term sustainability and strengthen its member countries' institutional capacities. As articulated in the NDB General Strategy for 2017–2021 and expanded in the 2022–2026 strategy, the Bank prioritises capacity-building to ensure that state-level agencies and project implementing bodies have the necessary skills and knowledge to effectively manage infrastructure projects. This includes training programmes, institutional strengthening, and technical assistance to improve project execution and sustainability as well as providing thematic and project-based capacity-building for local implementing entities to ensure impactful and sustainable projects. The 2022–2026 strategy highlights the importance of systematic capacity-building efforts, stating that “enhancing the capacity of member countries is essential to ensuring the effective preparation, implementation, and management of projects”. To this end, the Bank currently lacks any thematic knowledge and capacity-building initiatives in focus areas that can support India in developing its capacity in areas such as transport infrastructure or the water and sanitation sector.
197. While NDB has incorporated capacity-building components into some of its projects in India, the integration of these efforts has been inconsistent across the portfolio. Nevertheless, projects such as the Andhra Pradesh Road Sector Project and the Madhya Pradesh Multi Village Water Supply Project feature well-structured capacity-building measures, including training for local staff and institutional strengthening programmes. These initiatives align closely with NDB's strategic goals by ensuring that local implementing agencies can manage projects sustainably and develop the skills needed for future project implementation. For example, the Andhra Pradesh Road Sector Project outlines plans to enhance the technical and operational capacity of the state's Roads and Buildings Department, providing long-term institutional support to ensure the sustainability of the infrastructure being developed. Such efforts reflect the Bank's emphasis on “strengthening institutional capacity at the state level” as outlined in the General Strategy for 2017–2021.

198. Capacity-building, though recognised as critical for the sustainability of infrastructure projects, is often underutilised or delayed, limiting the long-term effectiveness of these initiatives. This issue arises from the absence of structured capacity-building plans within project design documents, which would support implementing agencies in executing their tasks effectively. Across various projects, such as the Manipur Water Supply Project and the Madhya Pradesh Multi Village Water Supply Project, insufficient early engagement with local institutions, reliance on external consultants, and delayed community involvement have resulted in implementation challenges and underperformance. Projects such as the Madhya Pradesh Major District Roads and both Mumbai Metro Rail Projects (I & II) primarily focus on technical assistance related to procurement and project design, with limited emphasis on broader institutional capacity-building. While technical assistance is a key component of project implementation, the absence of structured training programmes or institutional development efforts reduces the potential for long-term sustainability. In the Assam Bridge Project, for example, the project design did not provide for technical support during implementation, such as quality audits, design reviews, documentation of best practices, or training seminars. As outlined in the General Strategy for 2022–2026, capacity-building should extend beyond technical assistance to ensure that member countries can independently manage complex infrastructure projects in the long term.

#### D. KNOWLEDGE MANAGEMENT

**Rating:** *Moderately Unsuccessful*

199. Knowledge management is an essential function for MDBs, driving innovation and sharing insights to promote sustainable development. In its General Strategy for 2022–2026, NDB emphasises its ambition to become a “knowledge hub” for its member countries and other emerging markets. This strategy underscores the importance of leveraging research to deepen the understanding of member countries’ development contexts and economic needs. NDB aims to establish partnerships with academic institutions and think tanks to foster innovation and draw lessons from its

project portfolio, aligning this vision with its goal of delivering practical, cost-effective infrastructure and sustainable development solutions.

200. Although NDB has promoted internal knowledge-sharing initiatives, these efforts remain somewhat fragmented, lacking a formal, overarching strategy. For instance, the Environmental, Social, and Governance (ESG) Department’s “ESG Digest” and the Procurement Division’s quarterly newsletter have fostered internal knowledge exchange. Moreover, the Bank’s India Country Procurement Systems Assessment for NDB-Financed Projects (see footnote 19), published in 2024, provided valuable insights for internal and external stakeholders. However, a structured approach to operational knowledge dissemination, especially at the country level, is still missing.

201. There are some examples of knowledge-sharing across the India portfolio at the country level. On its part, the Indian Ministry of Finance periodically convenes all project management staff along with NDB staff from the Indian Regional Office to discuss implementation issues and exchange experiences. Some wider knowledge seminars have been organised by the Ministry of Finance with all MDB/international financial institutions (IFIs), including NDB, providing an opportunity for cross-fertilisation of experiences and good practices. NDB has organised a seminar on procurement matters and two knowledge-sharing seminars were also organised by IEO to discuss evaluation lessons in India. Similarly, with the support of the Ministry of Finance, project staff were invited to a discussion and knowledge-sharing on NDB compliance-related matters. NDB also participated in several streams of the G20 under the Indian Presidency in 2023, which gave an opportunity for the Bank to showcase its experiences in India and beyond. The IRO had planned a seminar on climate finance in end-August 2024, which had to be deferred to a later date due to an unforeseen clash with NDB’s annual meeting in South Africa. So, some initiatives are underway, but they are not cast within an overarching structured or strategic approach to knowledge-sharing and exchanging of experiences.

202. At the project level, knowledge-sharing efforts remain sporadic, with no systematised mechanism to capture and disseminate operational lessons learned. The absence of

formalised processes is evident in sectors like water and transport infrastructure, where informal exchanges, such as between the Manipur Water Supply Project team and that of the Madhya Pradesh Multi Village Water Supply Project, have occurred without being part of a structured knowledge management strategy. This gap prevents NDB from replicating successful practices and addressing recurring challenges effectively.

203. A core issue in NDB's knowledge management is the absence of a structured mechanism to capture project-specific knowledge, compounded by the lack of in-house technical expertise to codify and internalise these insights. Additionally, there are no incentives to motivate NDB staff and implementing agencies to capture, internalise and disseminate knowledge.<sup>22</sup> Although project completion reports (PCRs) are prepared, they focus on reporting achievements without distilling actionable lessons. This limits the Bank's ability to apply past project experiences to future initiatives, particularly in sectors such as water supply and transportation. For example, despite funding several rural water supply and metro projects across India, no coordinated effort exists to share lessons across these projects.

204. Although NDB's Design and Monitoring Framework provides for project monitoring, it rarely translates into structured knowledge-sharing platforms. The lack of systematic knowledge dissemination forces project teams to operate in silos, leading to missed opportunities for cross-learning and improving project efficiency. For instance, lessons from the Madhya Pradesh Multi Village Water Supply Project could have informed ongoing projects in the states of Himachal Pradesh and Manipur, optimising stakeholder engagement and resource allocation, but fragmented knowledge management has hindered this process. NDB has also not fully capitalised on its partnerships with national institutions and financial intermediaries to enhance knowledge-sharing. Despite

significant investments across sectors, the absence of structured peer-learning platforms, workshops, or knowledge-sharing portals limits opportunities for cross-learning among project teams. As a result, the potential to apply cumulative knowledge, improve efficiency, and enhance development outcomes remains underutilised.

205. In conclusion, while some efforts have been undertaken, these are not part of a structured knowledge management framework with specific timelines. Given the India portfolio is amongst the largest ones financed by the NDB and taking into account the imperatives in the NDB General Strategy for 2022–2026 for the Bank to evolve also as a “knowledge hub”, there is need for deeper attention and resource allocation towards knowledge management activities in general in India.

## E. PARTNERSHIP DEVELOPMENT

*Rating: Moderately Unsuccessful*

206. Partnerships are vital for MDBs to enhance their impact on infrastructure and sustainable development projects by leveraging resources, sharing expertise, and fostering mutual learning. NDB's general strategies underscore the importance of partnerships in achieving its objectives. The strategies highlight NDB's commitment to deepening its cooperation with private enterprises, development finance institutions, think-tanks, and other relevant organisations. NDB aims to enhance its engagement with the international development community through partnerships, focusing on co-financing projects, sharing information on potential initiatives, and jointly monitoring project outcomes. By fostering strategic alliances, NDB seeks to mobilise more resources, enhance project quality, and scale up its development impact, positioning itself as a central player in the global development ecosystem.

22 See, for instance ADB's knowledge management framework: <https://www.adb.org/documents/knowledge-management-adb>; or the World Bank's knowledge management work: <https://documents1.worldbank.org/curated/en/309981617140869469/pdf/Realizing-the-World-Bank-Group-s-Knowledge-Potential-for-Effective-Development-Solutions-A-Strategic-Framework.pdf>.

207. Partnerships with the central government have been a cornerstone of NDB's approach in India, which is crucial in aligning projects with national development priorities. The Department of Economic Affairs (DEA) within the Ministry of Finance has consistently demonstrated proactive leadership, providing valuable insights and guidance throughout project implementation. As mentioned before, this has led to the organisation of the tripartite meetings between NDB, the project implementor and the DEA, facilitating smooth coordination among all stakeholders. Through collaborations with the DEA, NDB has been able to integrate its projects within the broader framework of India's national goals. For example, the Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project benefited from the involvement of the National Capital Region Transport Corporation, facilitating coordination among different stakeholders and ensuring that the project aligns with the national objective of enhancing regional connectivity. However, partnerships with other central government bodies are limited and often are part of the project implementing agency's own efforts rather than NDB's. For example, in the Madhya Pradesh Major Districts Roads Project, NITI Aayog assisted the Madhya Pradesh Road Development Corporation by disseminating good practices and technologies such as building information and modelling technology to monitor and fast-track construction work. Finally, the Ministry of Road Transport and Highways also serves a vital role in standard setting. Its handbooks, circulars, and guidelines serve as tools for effectively implementing best practices.
208. State government partnerships have been equally vital, ensuring that NDB-financed projects are tailored to regional needs and executed effectively on the ground. NDB has developed strong relationships with several state governments, such as the Public Health Engineering Department (PHED) of Himachal Pradesh for the Himachal Pradesh Rural Water Supply Project. These collaborations ensure that NDB's projects are tailored to address specific local challenges, particularly in rural connectivity and public health infrastructure. In northeast India, NDB has also made significant strides in partnering with regional government bodies to address local infrastructure needs. The Manipur Water Supply Project is a notable example, where NDB collaborated with the PHED of Manipur to extend potable water to rural areas. Similarly, the Manipur Urban Development Agency played a key role in the Integrated Sewerage System for City of Imphal (Phase II) Project, focusing on improving sanitation services in the state capital. Additionally, NDB partnered with the Nagaland Public Health Engineering Department for the Kohima Town Water Supply Augmentation Project to enhance water supply in Nagaland's capital. The evaluation of Madhya Pradesh Major Districts Roads Project also highlighted the importance of the Madhya Pradesh Road Development Corporation, the implementing agency and their experience in expertise in the road sector in ensuring the project success. These partnerships highlight NDB's efforts to engage state-level agencies to tackle region-specific issues in India, although there remains potential for more structured knowledge-sharing mechanisms across these initiatives.
209. NDB's strategic focus on partnerships is evident in its general strategies, but the execution of these partnerships in India has been inconsistent except for partnerships with central and state government. The General Strategy for 2017–2021 explicitly mentions that “national development banks and similar institutions of member countries are among the strategic partners of NDB”, and “NDB endeavours to build a relationship of mutual trust and cooperation with NGOs”. Despite strategic intentions, NDB's partnerships with national institutions in India like banks and research organisations are underdeveloped. Although NDB has signed memoranda of understanding (MoUs) with institutions like the Axis Bank and State Bank of India, these collaborations have not fully realised their potential in mobilising domestic resources or leveraging local expertise for project design and implementation. The strategy to engage with national development banks such as the National Bank for Agriculture and Rural Development, and the National Bank for Financing Infrastructure and Development remains largely unfulfilled, which limits the depth of local financial and technical inputs in NDB projects. This gap highlights the need for more robust and active partnerships with key national institutions to enhance project sustainability and impact.

210. NDB's engagement with the private sector has been a vital component of its strategy. Large-scale initiatives such as the Mumbai Metro Rail (Line 2&7) Project and the Madhya Pradesh Major District Roads Projects highlight the importance of these collaborations. In the latter, private contractors like Madhav Infra Projects and Gawar Construction played a key role, successfully upgrading 1,551 km of roads, exceeding the original target of 1,500 km, while also improving connectivity and road safety. Despite these successful contractor partnerships, NDB has not yet formed broader strategic alliances with major private sector entities in India. Partnerships with companies such as Tata Power in renewable energy or Infosys and Tata Consultancy Services in digital infrastructure remain undeveloped. Additionally, collaborations with industry associations like the Confederation of Indian Industry (CII)<sup>23</sup>

have yet to be explored, limiting opportunities for expanding non-sovereign lending and identifying high-impact projects aligned with India's development goals, which could further strengthen NDB's project pipeline.

211. Use of diversified financial instruments and co-financing with other MDBs: NDB has effectively pursued its co-financing strategy, which is a key objective outlined in the General Strategy for 2022–2026, targeting 20% of total project financing in partnership with other MDBs and financial institutions. By the end of 2023, four out of 26 projects in the India portfolio have successfully achieved co-financing (see table 28). However, it is important to note that NDB has engaged in “parallel co-financing” in India, and joint co-financing (*pari passu*) is yet to be pursued.

**Table 28: Parallel co-financing with other MDBs in India** (in millions of USD)

| Project  | NDB contribution | ADB contribution | AIB contribution |
|--|------------------|------------------|------------------|
| Indore Metro Rail Project                                    | 225              | 250              | NA               |
| Mumbai Metro Rail Projects                                   | 260              | 926              | NA               |
| Corridor 4 of Phase II of Chennai Metro Rail Project         | 347              | 467              | 357              |
| Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project | 500              | 1,049            | 500              |

Source: NDB loan dashboard and Programme Documents to the Board.

212. NDB has not fully capitalised on the potential partnerships with international organisations, which could enhance its operations. Collaborations with United Nations agencies such as the International Fund for Agricultural Development (IFAD), the World Health Organisation and the United Nations Development Programme (UNDP) remain largely untapped, despite their capacity to provide specialised technical support and co-financing opportunities (including grant

financing) in areas like rural infrastructure, health and social infrastructure. IFAD is particularly relevant due to its focus on last-mile rural infrastructure, which aligns with NDB's mandate for sustainable development, while UNDP could support projects related to social infrastructure, such as water and health, where its expertise in community-based approaches and inclusive development would be invaluable.

<sup>23</sup> The CII works to create and sustain an environment conducive to the development of India, partnering industry, government, and civil society, through advisory and consultative processes.

213. Although NDB signed a memorandum of understanding (MoU) with the Food and Agriculture Organisation of the United Nations (FAO) in 2019, this partnership has yet to result in any concrete knowledge exchange or co-financing opportunities. Additionally, the International Solar Alliance (ISA), a thematic multilateral alliance based in India, presents an opportunity for NDB to expand its limited involvement in the renewable energy sector in India; likewise with the International Finance Corporation, the private sector arm of the World Bank to enhance its engagement with the private sector in the country. NDB's limited engagement with these international organisations in India has meant that it has not fully leveraged their expertise or resources to enhance its project portfolio. This has also resulted in missed opportunities to align more closely with global development priorities, particularly in critical areas such as climate resilience, digital infrastructure and sustainable development.
214. There has been some engagement with civil society organisations, but more is needed for enhancing community involvement and ensuring long-term project sustainability. NDB's approach to partnerships with CSOs in India has been limited, with a more indirect engagement through community-based groups rather than formal CSO partnerships. For example, the Rajasthan Water Sector Restructuring Project and the Madhya Pradesh Multi Village Water Supply Project have involved local water user associations as key stakeholders to enhance community participation and ensure effective water management. However, despite these engagements, there is no direct mention of formal collaborations with broader CSOs across the portfolio.

## F. OVERALL PERFORMANCE OF NON-LENDING ACTIVITIES

215. The overall performance of NDB's non-lending activities in India has been "moderately unsuccessful". While some activities have been conducted, the focus on project pipeline development and implementation in the initial years, the establishment of the Indian Regional Office only in 2021, and the limited human and financial resources allocated to non-lending activities, have all contributed to the limited success in these core areas of work that are essential to complement NDB lending activities for wider impact.

**Table 29: Summary of ratings for non-lending activities**

| Non-lending activities                           | Rating                         |
|--|--------------------------------|
| Technical assistance                             | Moderately Successful          |
| Capacity-building                                | Moderately Unsuccessful        |
| Knowledge management                             | Moderately Unsuccessful        |
| Partnership development                          | Moderately Unsuccessful        |
| <b>Overall rating for non-lending activities</b> | <b>Moderately Unsuccessful</b> |

Source: Evaluation Authors.

A group of schoolgirls in blue and white uniforms are walking along a paved road. They are carrying backpacks and appear to be in a school setting. A white car is parked on the side of the road, and there are trees and utility poles in the background.

# 06

## NDB AND BORROWER PERFORMANCE

- A. NDB performance
- B. Borrower performance

## 06 NDB and borrower performance

### A. NDB PERFORMANCE

216. NDB's operational performance in India has been notably aligned with national priorities and the SDGs, though several areas require improvements. The Bank has established a significant presence in India, focusing on crucial sectors of national importance such as transport infrastructure, water and sanitation. However, some areas require improvement, particularly in project design, documentation, supervision, and non-lending activities.
217. The establishment of the Indian Regional Office in GIFT City, Gujarat, in 2021, has been a positive development to strengthen NDB performance in India. Until then, the India operations were fully managed from the NDB Headquarters in Shanghai. The IRO has been gradually staffed with a reputed senior executive as Director General, with ample experience and track record in government and MDBs. However, currently the regular, fixed term staff numbers in the IRO – with one DG and four officers – and the occasional hiring of interns, falls considerably short in light of the size of the current portfolio and future ambitions to scale up operations including in the area of non-lending activities. This is likely to prove even more challenging, as the IRO also covers NDB operations in Bangladesh and may also be called upon to cover operations in other neighbouring countries, depending on the speed of NDB membership expansion. Timely support and communication from headquarters on a variety of matters is also constraining activities. In spite of the resource constraints, feedback from all stakeholders has been positive about the opportunities that the IRO – situated in India – allows for enhanced dialogue and exchanges, problem-solving and follow-up.
218. The absence of a country strategy or partnership plan hinders prioritisation of investments and activities, thus impinging on NDB performance in India. As also raised by IEO in the evaluation of the Madhya Pradesh Major Districts Roads Project published in 2022, the lack of such a strategy or partnership plan is constraining decisions on strategic choices, pipeline prioritisation, partnership opportunities, results measurement and evaluation and other aspects. While recognising that NDB is a different MDB in its genesis, this cannot be considered a sufficient reason for not introducing a consolidated, time-bound strategy to guide future directions and priorities. Feedback collected by the CPE from multiple stakeholders at the country level reveals the urgency of putting in place such a document for the India-NDB partnership.
219. The quality of project documents at NDB shows room for improvement, particularly regarding comprehensiveness and clarity. While NDB's documentation generally meets international standards and includes key elements expected to be in a development project, they can be further strengthened. The lack of theories of change is notable. Moreover, incorporating more specific outcome and impact indicators could improve Design and Monitoring Frameworks. Additionally, it would be beneficial to include more detailed indicators related to anticipated risks and assumptions made towards achieving an outcome or output. The absence of these elements makes both self-monitoring and independent evaluation more challenging. Enhancing the quality of project documents by incorporating more detailed and comprehensive frameworks would improve the ability to monitor and evaluate project performance, manage risks, and ensure that projects achieve their intended outcomes efficiently. Robust and well-documented projects are essential for maintaining high standards of project execution and maximising development impact.

**Table 30: Ratings for NDB and borrower performance for individual projects**

| No.  | Title of project   | Date of approval | NDB performance         | Borrower performance  |
|--|--|------------------|-------------------------|-----------------------|
| <b>Assessment of transport infrastructure projects</b> |  |                  |                         |                       |
| 1  | Madhya Pradesh Major Districts Roads Project                             | 22-11-16         | Moderately Unsuccessful | Successful            |
| 2  | Bihar Rural Roads – Tranche 1  | 28-05-18         | Successful              | Successful            |
|  | Bihar Rural Roads – Tranche 2  |                  | Moderately Successful   | Moderately Successful |
| 3  | Madhya Pradesh Major District Roads II Project                           | 18-09-18         | Moderately Successful   | Successful            |
| 4  | Madhya Pradesh Bridges Project – Tranche 1                               | 18-09-18         | Successful              | Successful            |
| 5  | Mumbai Metro Rail (Line 2&7) Project *                                   | 16-11-18         | Successful              | Successful            |
| 6  | Assam Bridge Project   | 08-07-19         | Moderately Successful   | Successful            |
| 7  | Andhra Pradesh Road Sector Project (Highway)                             | 12-09-19         | -                       | -                     |
| 8  | Andhra Pradesh Road Sector Project (District Road)                       | 12-09-19         | -                       | -                     |
| 9  | Indore Metro Rail Project  | 02-12-19         | -                       | -                     |
| 10   | Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project             | 29-09-20         | Successful              | Successful            |
| 11   | Mumbai Metro Rail II (Line 6) Project                                    | 29-09-20         | -                       | -                     |
| 12   | Corridor 4 of Phase II of Chennai Metro Rail Project                     | 13-12-22         | -                       | -                     |
| 13   | Gujarat Rural Road Program   | 28-11-23         | -                       | -                     |
| 14   | Bihar Rural Roads Project (Phase 2)                                      | 28-11-23         | -                       | -                     |
| <b>Assessment of water and sanitation projects</b>     |  |                  |                         |                       |
| 15   | Madhya Pradesh Multi Village Water Supply Project                        | 30-08-17         | Moderately Successful   | Moderately Successful |
| 16   | Rajasthan Water Sector Restructuring Project                             | 20-11-17         | Successful              | Successful            |
| 17   | Manipur Water Supply Project   | 02-12-19         | Moderately Successful   | Successful            |
| 18   | Himachal Pradesh Rural Water Supply Project                              | 08-12-21         | -                       | -                     |
| 19   | Lamphelpat Waterbody Rejuvenation Project                                | 18-07-22         | -                       | -                     |
| 20   | Kohima Town Water Supply Augmentation Project                            | 16-08-23         | -                       | -                     |
| 21   | Integrated Sewerage System for city of Imphal (Phase II) Project         | 26-10-23         | -                       | -                     |
| <b>Assessment of renewable energy projects</b>         |  |                  |                         |                       |
| 22   | REC Renewable Energy Sector Development Project                          | 14-10-19         | Successful              | Successful            |
| <b>Assessment of cross-cutting projects</b>            |  |                  |                         |                       |
| 23   | National Investment and Infrastructure Fund: Fund of Funds – I           | 25-03-20         | Successful              | Successful            |
| 24   | Meghalaya Ecotourism Infrastructure Development Project                  | 18-07-22         | -                       | -                     |
| <b>Assessment of emergency support projects</b>        |  |                  |                         |                       |
| 25   | Emergency Assistance Program in Combating COVID-19                       | 30-04-20         | -                       | -                     |
| 26   | Emergency Program for Supporting India's Economic Recovery from COVID-19 | 11-12-20         | -                       | -                     |

Source: Evaluation authors and NDB loan dashboard.

\* Based on the assessment and information collected and assessed during the impact survey.

220. While documentation processes have improved, gaps remain in integrating a modern and efficient management information system. The current IT infrastructure and lack of such a system is hindering seamless information flow between headquarters and IRO. Despite the existence of a “SharePoint” online filing platform, including the “Transparent Bank” folder for sharing documents and information, it was found that this system is insufficient to meet the demands of complex project oversight as it lacks the possibility of tracking project information efficiently during the entire lifecycle and is dependent of e-mails and other manual procedures. Notably, the IRO did not have access to key project folders for non-sovereign projects in India, limiting its ability to effectively manage and monitor these projects. This lack of access to critical project data between headquarters and the Bank’s regional offices and centres points to a gap in NDB’s current information management infrastructure, which hampers real-time information-sharing and reduces overall efficiency in project coordination and oversight.
221. Project supervision was moderately effective but requires improvement in terms of technical expertise and team specialisation. The Bank currently has a limited number of technical staff, which restricts its ability to fully assess project progress beyond areas like environmental and social safeguards, procurement and financial aspects. There is minimal contribution to technical and institutional capacity-building, which are key needs of the client counterparts. Supervision missions are irregular and often limited to just one technical mission per year. Additionally, there does not appear to be any formal guidelines regarding the required frequency of these missions. Some projects, particularly in the transport sector, have been impacted by high staff turnover. For example, in the Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project, three different NDB officials were involved from the appraisal phase onwards, leading to a lack of continuity, which is not ideal for a project of such high visibility. Furthermore, although USD 82 million of the loan for that project was partially cancelled due to changes in the project scope, it remains unclear whether this adjustment is accurately reflected in the overall portfolio as no restructuring paper or document was available.
222. Further evidence of the lack of monitoring was witnessed in the two Andhra Pradesh Road Sector Projects where no supervision was carried out during the operational phase. Normally, it is observed that supervision missions consist of the project team leader and occasionally one or two experts (for example an environmental and social expert), who are supported remotely from headquarters and NDB’s regional offices and centres. However, for specific projects such as bridge construction in the Assam Bridge Project, the Madhya Pradesh Bridges Project, and the Mumbai and Chennai Metro Rail Projects, there was visible lack of relevant domain expertise. For example, there was no specialised expert in bridges or urban mobility for these complex infrastructure projects, which meant that the supervision reports often lacked in-depth assessments. Although mid-term reviews with documented aide memoires were conducted for some projects, such as the above-mentioned Mumbai Metro and Bridges project in Madhya Pradesh, such documentation is not consistently available for all projects. In addition, some MTRs carried out often fail to record important findings about the project, necessary interim corrections or updates in the form of project restructuring.
223. The project completion reports serve as a comprehensive record of project outcomes and lessons learned. NDB project teams are required to prepare such reports after project completion, aiming to capture results, key insights, lessons and offer recommendations for the future. At the time of this evaluation, three PCRs had been developed in India, namely for the REC Renewable Energy Sector Development Project, Emergency Program for Supporting India’s Economic Recovery from COVID-19, and for Madhya Pradesh Major Districts Roads Project. While the PCRs effectively detailed the project’s outcomes and included a thorough economic and financial analysis, they lacked depth in documenting lessons learned. The lessons learned documented in the Renewable Energy Sector Development Project, for example, primarily focused on the support provided by the borrower and highlighted improvements in India’s regulatory framework – both important aspects but insufficient in terms of providing actionable insights for future renewable energy projects in the country. Furthermore, this PCR offered limited recommendations, with the only suggestion being for the internal Credit and Investment Committee (CIC) to approve the report, stating, “it is recommended that the CIC approve the project completion report”.

### Conclusion

224. NDB's performance in India has been moderately successful. The establishment of the India Regional Office in 2021 has contributed to improved local engagement and is a positive step in the right direction, although the office remains under-resourced in relation to the size of its project portfolio and its potential expansion. The absence of a country strategy or partnership plan has impacted the ability to prioritise investments, partnerships, and activities, which has also been noted in project evaluations. The quality of project documentation, while meeting basic standards, often lacks essential components such as a theory of change and comprehensive indicators for outcomes and risks, complicating both self-monitoring and independent evaluations. The current management information system is insufficient to support seamless project oversight, with significant gaps in information sharing between NDB headquarters and the IRO. Supervision efforts, though present, have been irregular and sometimes insufficiently specialised for complex infrastructure projects, leading to gaps in technical assessments. Furthermore, while conducted for some projects, MTRs and PCRs lack consistency in documentation and depth, particularly in capturing lessons learned and providing comprehensive project insights. Non-lending activities, particularly technical assistance and partnership-building have not fully developed according to expectations. While noting the IRO's resource and capacity constraints, NDB's performance in non-lending activities to date has also fallen short of expectations.

|                        |                              |
|------------------------|------------------------------|
| <b>NDB performance</b> | <b>Moderately successful</b> |
|------------------------|------------------------------|

### B. BORROWER PERFORMANCE

225. The performance of the central government in supporting NDB projects in India has been positive, with active involvement in project planning and execution. The central government, through the Department of Economic Affairs within the Ministry of Finance, has played a pivotal role in facilitating the alignment of NDB-financed projects with national development priorities, ensuring that these initiatives contribute to the broader goals of infrastructure development and economic growth. For instance, in the Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project the central government's strong backing was crucial for coordinating various stakeholders, streamlining approvals, and providing necessary regulatory support. This proactive involvement has helped mitigate potential bureaucratic delays and ensured that projects move forward in a timely manner. Similarly, the central government's support for the Mumbai Metro Rail Projects has been instrumental in securing the necessary funding and approvals, which has been critical for the successful implementation of this large-scale urban infrastructure project. Overall, the central government's engagement has been marked by a commitment to ensuring that NDB-financed projects align with national priorities and deliver tangible benefits to the country.
226. State governments, on the other hand, have demonstrated varying levels of effectiveness in their involvement with NDB projects, often reflecting the diverse challenges and capacities across different regions. In projects like the Himachal Pradesh Rural Water Supply Project and the Rajasthan Water Sector Restructuring Project, state governments have shown strong leadership and coordination, effectively leveraging local knowledge and resources to ensure successful project implementation. These governments have been proactive in addressing region-specific challenges, such as water scarcity in Rajasthan, and have worked closely with NDB to tailor projects to local conditions. Similarly, the IEO evaluation of the Madhya Pradesh Major District Roads Project showed that the state government devoted high levels of attention to the timely implementation of the project in partnership with a reputed implementing agency, the Madhya Pradesh

Roads Development Corporation; and together they ensured thorough internalisation of IEO lessons and recommendations in the design and implementation of new and ongoing operations in the roads sector, financed by NDB, the state government and others. However, in other instances, such as certain components of the Bihar Rural Roads Project, the performance of state governments has been hampered by administrative delays, challenges in land acquisition, and limited capacity to manage large-scale infrastructure projects. This variability highlights the need for continued capacity-building at the state level to ensure that all NDB projects receive the necessary support and oversight for successful execution.

**227. Implementation strengths.** Borrower performance in NDB-funded projects has shown notable strengths in project execution, particularly in urban metro and regional rapid transit system projects. For example, the Mumbai Metro Rail Projects, managed by dedicated institutional setups with their own staff and budgetary resources, have facilitated smoother implementation – the fact that Mumbai Metro lines 2A and 7 are already operational highlights this success. Similarly, the Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project, managed by the National Capital Region Transport Corporation, effectively minimised land acquisition and resettlement impacts, ensuring timely and cost-effective execution. This corporation’s initiatives for financial sustainability, such as property development and innovative maintenance cost management, have further contributed to the project’s success.

**228. Challenges in project delays.** Delays in project implementation have been a recurring issue, particularly due to the COVID-19 pandemic and initial project preparation setbacks. The Bihar Rural Roads Project – Tranche 2, for instance, experienced significant delays, with only 42% of funds disbursed by February 2024 despite a 58% completion rate. The Andhra Pradesh Road Sector Projects also faced significant delays due to a lack of counterpart funding, resulting in delayed contractor payments and minimal disbursement. These delays highlight the need for improved project planning and timely resource allocation.

**229. Contract and procedural inefficiencies.**

Contract terms in complex projects, such as the Assam Bridge Project, could be improved to ensure long-term sustainability. The current contract terms for that project’s Brahmaputra Bridge include a one-year defects liability period and operations and maintenance terms, which may be insufficient for such a complex project. Additionally, inefficiencies in approval and implementation processes have contributed to delays.

**230. Financial and institutional capacity.** Varying levels of financial and institutional capacity among borrowers have impacted project outcomes. While the National Capital Region Transport Corporation has undertaken innovative steps to ensure financial sustainability, other projects, like those in Andhra Pradesh, have struggled due to a lack of counterpart funding. This has resulted in delayed contractor payments and minimal disbursement, exacerbating project delays and hindering overall progress.

**Conclusion**

**231.** Overall, borrower performance in NDB-financed projects in India has shown both strengths and areas for improvement. Strong engagement of the national government is a positive finding, especially the high degree of commitment illustrated by the Ministry of Finance. At the state level, while robust institutional frameworks and effective financial management have facilitated successful project implementation in certain areas, the performance across states has not been uniform, with some states illustrating deeper commitment and capacities for supporting timely implementation. All in all, taken together, the CPE concludes that borrower performance has been successful, with room for improvement in the performance of the borrower in some states.

**Borrower performance**

**Successful**



# 07

OVERALL  
PERFORMANCE  
OF INDIA-NDB  
PARTNERSHIP

## 07 Overall performance of India-NDB partnership

- 232. The overall performance of the India-NDB partnership is rated as “moderately successful”.** This assessment, encompassing lending and non-lending activities, reflects their alignment with national priorities, effectiveness, efficiency and sustainability. NDB-funded projects have strongly aligned with national priorities and SDGs, especially in the transport, roads, and water and sanitation sectors. Effective project implementation has significantly enhanced connectivity and urban mobility, while using advanced technologies has improved efficiency and sustainability.
- 233.** However, the portfolio requires a more strategic focus, particularly in areas like local currency financing, capacity-building, technical assistance, and knowledge management. There is insufficient technical expertise, gaps in project design and monitoring frameworks, and limited knowledge management and partnership development. These limitations highlight the need for improvements to maximise the potential impact of the projects.
- 234.** Despite these challenges, NDB-funded projects in India have and will make contributions to key sectors, such as water supply and transport infrastructure, which are crucial for socio-economic development. Projects like the Manipur Water Supply Project and the Mumbai Metro Rail Projects underscore the Bank’s role in addressing regional development disparities and urban transport challenges. A more comprehensive and integrated approach is essential to enhance their impact, ensuring that projects align with strategic goals and effectively address emerging challenges.

### Assessment of the project portfolio

|                               |                       |
|-------------------------------|-----------------------|
| Overall portfolio achievement | Moderately Successful |
|-------------------------------|-----------------------|

### Assessment of non-lending activities

|                     |                         |
|---------------------|-------------------------|
| Consolidated rating | Moderately Unsuccessful |
|---------------------|-------------------------|

|                                      |                              |
|--------------------------------------|------------------------------|
| <b>Overall India-NDB partnership</b> | <b>Moderately Successful</b> |
|--------------------------------------|------------------------------|

# 08

## CONCLUSIONS



## 08 Conclusions

- 235. Storyline.** In only nine years, NDB has developed a significant investment programme of around USD 9 billion in India that responds well to the country's needs and priorities in critically important sectors, such as the transport, and water and sanitation sectors. This evaluation concludes therefore that, though further improvement is possible, NDB's programme is by-and-large relevant, has been effective in achieving its objectives, and has performed in an acceptably efficient manner. Though the assessment of impact – in particular bottom line impact – is notoriously difficult to assess and attribute, the evaluation concludes that NDB has facilitated progress in connectivity, urban mobility, and access to essential water services across various Indian states and cities. Investments have also contributed to social-economic development such as reduction in travel time, improved safety, access to essential services like schools and hospitals, and others.
- 236.** One key evolution in NDB's business model was the establishment of the Indian Regional Office in 2021, which has bolstered the Bank's presence, enhancing its engagement particularly with national and state governments and project implementing units (see paras. 126, 201 and 217). While NDB has a highly experienced and seasoned Director General leading the IRO, the level of resources and capacities of the IRO do not appear to be commensurate with the office's overall responsibilities. Furthermore, in many cases, the effective use of country systems and support for projects that resonate with India's developmental goals shows the growing nature of the India-NDB partnership.
- 237.** However, the CPE has also found that some limitations are constraining even deeper results from the India-NDB partnership. While the Bank has made notable progress in financing infrastructure in the transport and water sectors, it has not yet adequately addressed India's needs in other priority sectors, such as social and digital infrastructure, which are pressing issues, particularly in rural areas (see paras. 84–98). The extensive geographical coverage of NDB operations, while determined based on country demand, constrains focus, efficiency and sustainability. Furthermore, non-lending activities, including technical assistance, knowledge management and partnership development, have produced limited results (see paras. 192–215). Lastly, the Bank has so far focused predominantly on sovereign lending for public sector projects, with limited engagement in local currency financing or non-sovereign lending (see paras. 90–93 and 210–211).
- 238.** The absence of a dedicated India-NDB country strategy or a country partnership plan, while understandable in the Bank's initial period of engagement has, inter-alia, limited its ability to adopt a broader country partnership approach and create synergies across individual projects and across lending and non-lending activities. The CPE finds that the lack of a documented, explicit country strategy is constraining opportunities for strategic focus, pipeline prioritisation, deeper impact, cross-fertilisation of experiences, and greater efficiency in delivery.
- (A) NDB-SUPPORTED INFRASTRUCTURE DEVELOPMENT IS SHOWING PROMISING RESULTS**
- 239.** The NDB-financed portfolio in India has reached a size of around USD 9 billion in only 9 years of operations and consists of 26 projects. These projects can be considered relevant, because they are well aligned with the country's key national infrastructure policies, initiatives and needs, particularly in the areas of transportation and water supply (see paras. 84–89 and table 12). By investing in these initiatives, NDB supports the Government of India's goal of building world-class transport infrastructure as well as its water security goals, and improves overall public health and sanitation outcomes. These investments also support long-term goals such as achieving the SDGs, particularly SDG 6 on clean water and sanitation (see paras. 94–98).
- 240.** The evaluation also finds generally positive performance, though with areas for improvement. The relevance of the projects is rated as moderately successful (see paras. 84–111), as they align well with NDB and India's strategic priorities in sectors such as transport and renewable energy. However, there are gaps, particularly in the digital infrastructure and

environmental sectors. The performance of “effectiveness” stands out, with projects largely meeting their objectives, particularly in urban transport and renewable energy initiatives like the Delhi-Ghaziabad-Meerut Regional Rapid Transit System and the REC Renewable Energy Sector Development Project (see paras. 112–127). Major district roads infrastructure development projects in some states, such as Madhya Pradesh, have shown encouraging results (based also on findings from previous IEO evaluations). On the other hand, “efficiency” presents challenges, being hampered by delays in disbursements and execution, although resources were generally well-utilised (see paras. 128–140). The impact of these projects has been positive, contributing to socio-economic growth, improved connectivity, and expansion of renewable energy, all of which support poverty reduction and infrastructure development (see paras. 141–174). However, sustainability remains a moderate concern – while environmental and social safeguards are in place, many projects lack clear strategies to ensure long-term maintenance and viability post-completion (see paras. 175–189).

**(B) THE LACK OF A COUNTRY STRATEGY OR COUNTRY PARTNERSHIP PLAN IS LIMITING THE OPPORTUNITIES FOR A MORE SYSTEMATIC AND TRANSPARENT APPROACH TO PRIORITISING SECTORS AND GEOGRAPHICAL AREAS FOR INVESTMENTS**

241. In the initial period of the Bank’s engagement in India, the priority was to put in place a robust pipeline of projects and start operations, with sectoral focus on transport infrastructure and water resources. While NDB has contributed to addressing India’s infrastructure needs in the transport and water sectors, the Bank’s sectoral diversification has been limited (see table 12). There has been limited engagement in other priority focus areas identified in the Bank’s general strategies and India’s development priorities, such as digital infrastructure, social infrastructure (healthcare and education), and environmental sustainability. These areas are critical to India’s long-term economic resilience and human development but remain relatively underexplored in NDB’s portfolio.
242. While this approach is understandable, it now warrants reconsideration to ensure wider alignment with a number of the strategic imperatives outlined in the Bank’s General Strategy for 2022–2026. As such, the CPE concludes that continuing with “business as usual” would not represent an adequate response to the need for further enhancing performance and impact in the future. There is instead a clear need for NDB, together with the Government and other stakeholders in India, to consider a dedicated country strategy or country partnership plan; a strategy that lays out a shared vision between India and the Bank for the future and takes inspiration from the Bank’s General Strategy for 2022–2026 and its strategic imperatives as well as India’s own policies and priorities. The development of such a country strategy would also bring NDB to the same level of other MDBs and United Nations agencies, which all have their activities guided by a dedicated country strategy.
243. With regard to the geographical spread of operations, NDB-financed projects have been implemented in more than 13 states and union territories, from north to south, and east to west. The CPE recognises that this is partly due to the demand-driven nature of NDB’s operating model and genesis, yet at the same time, such extensive spread poses a variety of challenges, including to the efficiency of the portfolio at large, the ability to build a consolidated country programme approach, carrying out project supervision and implementation-support, managing the multiplicity of institutional partnerships that need to be developed and nurtured at different levels, and others. Given also the size of the country, such an extensive spread poses challenges to building synergies across individual operations that would be the basis for building a coherent country programme approach for better impact, rather than having a portfolio that appears to be a compilation of individual stand-alone projects, which is predominantly the current status of the India-NDB cooperation. The preparation of a dedicated country strategy, as mentioned in the previous paragraph, would provide an ideal opportunity to define the criteria for geographical priorities of NDB operations for the foreseeable future.

### (C) THE EVALUABILITY OF PROJECTS IS VARIABLE, AND THE QUALITY AND QUANTITY OF NDB PROJECT SUPERVISION IS INSUFFICIENT

244. A key gap in NDB's project design is the absence of a comprehensive framework that integrates both theories of change and robust Design and Monitoring Frameworks, limiting the Bank's ability to fully assess and demonstrate the long-term impacts of the projects it has financed. The ToC is essential for explaining how a project's activities lead to desired outcomes and impacts, focusing on causal pathways; while the DMF is used to track project outputs, outcomes and impacts through measurable indicators. Without a ToC, evaluating the broader impact of NDB-financed projects becomes difficult, as no documented framework links project outputs to long-term outcomes. For instance, while the Delhi-Ghaziabad-Meerut Regional Rapid Transit System is expected to improve urban mobility, the absence of a ToC means that contributions to broader outcomes – such as reduced traffic congestion, improved air quality, or enhanced economic productivity – are not explicitly articulated. This weakens the Bank's ability to demonstrate the full impact of its investments to stakeholders and limits the evaluability of projects, making it more challenging to assess whether long-term objectives are being met. Additionally, many DMFs in NDB-financed projects focus primarily on outputs – such as kilometres of road constructed or households connected to clean water – without fully capturing the broader societal and economic benefits that infrastructure projects can generate (see paras. 165–167).

245. Project supervision by NDB has been moderately effective: irregular supervision missions and high staff turnover have affected project oversight (see paras. 122, 193–195 and 221–222). Complex infrastructure projects, such as bridges and metro systems, often lack domain-specific expertise as part of supervision missions, and some, like the road projects in Andhra Pradesh, had no technical implementation-support missions during the operational phase. Furthermore, NDB has conducted very few dedicated mid-term reviews, which provide an opportunity to holistically capture project progress at more or less mid-point of implementation and make any required design

and implementation adjustments for better impact at completion. And project completion reports for closed operations prepared by the Bank are lacking in depth, with limited attention to capturing lessons for the future or actionable recommendations (see paras. 203 and 223–224).

### (D) LIMITED IN-HOUSE TECHNICAL EXPERTISE

246. One of the significant challenges faced by NDB is the lack of sufficient in-house technical expertise, which has adversely impacted the quality and consistency of project implementation in India. While short-term technical consultants are employed to provide specialised input during specific phases, the absence of permanent, in-house sector specialists has resulted in challenges in ensuring comprehensive technical supervision throughout the project lifecycle. This issue is evident in the Madhya Pradesh Multi Village Water Supply Project, where reliance on external consultants without continuous internal oversight led to gaps in addressing critical aspects such as environmental and social safeguards. Additionally, the reliance on short-term consultants has limited knowledge retention within the Bank, as these external experts are unable to disseminate technical findings across NDB's operations. This lack of in-house expertise has constrained the Bank's ability to integrate lessons learned and maintain consistent technical oversight across its project portfolio in the country (see paras. 99–100 and 122).

### (E) SOME PROGRESS HAS BEEN MADE IN NON-LENDING ACTIVITIES, BUT STRUCTURAL CHALLENGES REMAIN

247. The Bank has made some progress in providing technical assistance, capacity-building and developing partnerships, but several challenges persist. NDB's technical assistance efforts, such as feasibility studies, advisory services and project preparation support, have been instrumental in shaping project designs, as demonstrated by the successful input during the design phase of the Mumbai Metro Rail (Line 2&7) Project. However, the utilisation of the Project Preparation Fund, established in 2017 with USD 9 million in pledges, has been limited,

with no significant disbursements to date. While the recent expansion of the PPF to include project implementation is a positive step, the absence of continuous technical supervision during the implementation phase remains a concern (see paras. 193–195).

248. NDB's capacity-building efforts have yielded mixed results. In some cases, like the Andhra Pradesh Road Sector Projects, well-structured programmes have helped strengthen local institutions and enhance the technical and operational capacities of state agencies, contributing to long-term sustainability. However, inconsistency in capacity-building measures across the portfolio, coupled with delayed engagement with local institutions and a reliance on external consultants, has limited the overall impact. However, there is clear scope to expand these efforts, especially in procurement, given that the Bank has already published a knowledge product on the differing procurement capacities across Indian states. This resource provides a strong foundation for more targeted and consistent capacity-building programmes, which could help align local procurement practices with NDB's standards and improve project outcomes.
249. Similarly, while the Bank has undertaken some knowledge-sharing activities in India, limited efforts have been made to proactively capture operational knowledge, systematise it into accessible formats, and disseminate it to promote learning and visibility. Although notable initiatives such as seminars on procurement and periodic portfolio reviews have been organised, these efforts are few given the size and significance of NDB's project portfolio in India, which is close to USD 9 billion (see paras. 199–205).
250. In terms of partnerships, NDB has built strong collaborations with central and state governments, but partnerships with other key stakeholders such as civil society organisations, NGOs, international institutions, private sector and national development banks remain underdeveloped. While some co-financing partnerships with multilateral institutions like the ADB and AIIB have been developed, there is potential for further expansion. NDB's engagement with the range of United Nations agencies – like IFAD – present in

India for decades is rather limited. Similarly, while NDB has signed the memoranda of understanding (MoUs) with the State Bank of India and Axis Bank, no specific results or outcomes have been realised from these partnerships thus far (see paras. 206–214).

251. Finally, with regard to non-lending activities, the evaluation acknowledges that the Indian Regional Office is constrained by limited resources, particularly in staffing. Given the pressing demands of project development, monitoring, supervision, and follow-up in both India and Bangladesh, the IRO currently has limited capacity to actively pursue non-lending activities such as partnership development, technical assistance, capacity-building, and knowledge management, something that merits attention by NDB Management.

#### **(F) LOCAL CURRENCY FINANCING AND DIVERSIFYING FINANCIAL INSTRUMENTS: OPPORTUNITIES TO GROW**

252. Despite the strategic objective of using broad range of financing instruments, including guarantees, syndicated loans, and equity investments, NDB has predominantly relied on traditional public sector loans in India (see paras. 210–211). So far, of the 26 projects in India, 24 are sovereign loans for regular investment project financing. In contrast, one project is a non-sovereign project, and another is a contribution to India's infrastructure fund management. This limited use of non-sovereign lending and diverse financial instruments, such as blended finance, reflects a gap in aligning with the Bank's broader strategic goals.
253. Furthermore, there is a noticeable shortfall in the availability of local currency financing in India, which is crucial for mitigating foreign exchange risks and enhancing the financial sustainability of projects (see paras. 92–93). NDB's limited focus on local currency loans constrains its ability to support projects, particularly those with substantial long-term investments, that are vulnerable to currency fluctuations (see paras. 85–87) and developing a structured approach to local currency financing could significantly bolster the resilience of these projects, ensuring their financial stability and long-term success.



# 09 RECOMMENDATIONS

- A. Strategic recommendations
- B. Operational recommendations

## 09 Recommendations

### A. STRATEGIC RECOMMENDATIONS

**Strategic recommendation 1: Develop and introduce a country strategy or country partnership plan for better impact**  
(see paras. 241–243)

254. Following the completion of the CPE, it is recommended that NDB coordinate with the Government of India and others concerned to develop a dedicated country strategy or country partnership plan for its cooperation with India. The CPE urges Management to fully implement this recommendation before the end of 2025. Some elements to consider in the development of such a strategy/plan include the following:

(a) **Diversifying investments across sectors:** While transport infrastructure and water and sanitation remain key, the NDB-funded India portfolio could explore expanding into other sectors vital for sustainable development such as social and digital infrastructure, renewable energy and environmental sustainability. Additionally, in consultation with the government, the Bank may pilot providing support to the agriculture sector, for example, focusing on modern irrigation, cold storage, and warehousing infrastructure to improve productivity and incomes.

(b) **Adopt a more strategic approach to the identification of geographical regions for investments:** Rather than selecting geographical areas for investments merely based on a demand basis, and while consolidating the existing portfolio, NDB should revise its geographical coverage for new investments (at least in the next cycle of funding) in the following areas:

(i) **Further development in the economically lagging regions.** Several states are classified as economically disadvantaged regions due to their remoteness and need increased investments and support. Hence, prioritising such regions would be consistent with government priorities and also strengthen regional integration.

(ii) **Coastal regions.** With climate threats, these regions need resilient infrastructure. NDB can focus on clean energy, energy efficiency, modern ports, fisheries and water management. States and Union Territories in the eastern and south-eastern coastal areas could be prioritised given their generally weaker infrastructure and deeper exposure to climate risks.

(iii) **Strengthen investments at the district levels.** A greater proportion of NDB investments may be provided at the district levels, without neglecting infrastructure financing in large metropolises, to help reduce inequality and promote development of rural areas of the country. A large number of districts are in great need of investments in connectivity, water, health services, schools, sanitation, social infrastructure and agriculture (e.g. irrigation and rural roads), which can improve living standards and prosperity more generally. The government calls these “aspirational districts”. It would also contribute to promoting gender equality by opening up social and economic opportunities to both men and women at the local level.

**Strategic recommendation 2: Deepen strategic and purposeful partnerships for greater impact**  
(see paras. 250–251)

255. Partnerships are essential to ensure co-ordination and complementarity of action and investments and for deeper collective results to advance the SDGs. Taking into account the priorities in the NDB general strategies, the Bank would need to focus its efforts in India on partnerships around generating further project co-financing, local currency financing, private sector lending, knowledge partnerships, partnerships for capacity-building and technical assistance, and others. In light of the strong existing partnerships with the government, the CPE recommends that NDB devote attention to the following actionable steps:

### Actionable steps

- (a) **Partnership with MDBs/IFIs.** Expand project co-financing with ADB and AIIB, and explore similar opportunities with IFAD and the World Bank particularly in the sectors where NDB has not yet provided investments in India and therefore does not have a comparative advantage. This includes, for example, agriculture and fisheries, digital infrastructure, social infrastructure including educational and health care infrastructure as well as environmental protection. Such organisations are the main MDBs/IFIs in India with a track record in such sectors and experience in a variety of geographical areas, and have robust project pipelines that could provide opportunity for NDB to enter into co-financing agreements with them.
- (b) **United Nations organisations.** Deepen partnerships with selected specialised United Nations organisations (such as UNDP in water and sanitation, and digital infrastructure) and the International Solar Alliance, headquartered in India, to collaborate on renewable energy and environmental initiatives, leveraging their technical and policy expertise. Cooperating with such agencies would also provide an opportunity to mobilise their grant funding, particularly for capacity-building and technical assistance, which could help to some extent make NDB loans more “attractive” to the borrower in terms of pricing.
- (c) **Private sector.** Forge partnerships with the International Finance Corporation of the World Bank and the Confederation of Indian Industries to expand private sector lending and mobilise private finance, focusing on healthcare and digital infrastructure. Similarly, grant co-financing may be pursued from the foundations of large multinational Indian companies such as TATA Trust and Infosys.
- (d) **National development banks.** Collaborate with established Indian development banks like the National Bank for Agriculture and Rural Development and National Bank for Financing Infrastructure and Development for local currency co-financing to reduce currency risks and increase engagement with rural and agricultural communities.

### Strategic recommendation 3: Develop a knowledge management framework to capture and share lessons and good practices from the India-NDB partnership (see para. 249)

256. In addition to developing a country strategy/ partnership plan, developing a knowledge management framework in India would be timely. This would facilitate the replication and scaling up of success stories by NDB, the government and others as well as help increase the Bank’s visibility in India. Such a framework will however need to be adequately backed-up with human and financial resources and include performance indicators for assessing and reporting on progress as well as incentives for knowledge capture, storage and dissemination. In particular, the CPE recommends that a dedicated knowledge management/ communication full-time professional staff member be hired based in the IRO for this purpose. The below are some of the actions that could be included as part of the framework.

### Actionable steps

- (a) **Preparation of synthesis papers from experience.** After nearly 10 years of operations in the country, invest in the preparation of a series of short synthesis papers on selected sectoral/thematic topics, capturing lessons and good practices from NDB operations in India. This would not only serve to showcase experience, but also inform future designs and implementation of operations. They would also be useful as wider public goods and help NDB gradually position itself as a “knowledge bank” for emerging markets and other developing countries.
- (b) **Annual national knowledge seminar to exchange experiences.** In addition to the usual project portfolio reviews, it is recommended that NDB organise a national seminar on an annual basis, bringing together all project partners, development organisations, government authorities, think-tanks, and others in India, to exchange knowledge, experiences, good practices and lessons from the portfolio of projects. Such a seminar would help advance the CPE recommendation to promote a country programme approach in India and would give opportunities from enhancing state-to-state exchanges, cooperation and dialogue.

- (c) **Explore partnerships** with premier Indian institutions such as the Indian Institute of Technology, the Energy and Resource Institute, and WaterAid India to access cutting-edge research and expertise. Partnerships with leading academic and research institutions will expand NDB's knowledge networks, providing valuable technical inputs required to strengthen the quality of interventions.
- (d) **Develop and implement capacity-building plans in technical and operational areas:** To ensure the effective execution and sustainability of NDB projects, comprehensive capacity-building plans should be developed for both technical and operational areas, such as procurement, project management, financial management, and environmental and social safeguards. These plans would provide targeted training and resources to project implementation teams, equipping them with the necessary skills and knowledge to manage complex project requirements. By building technical expertise and operational competencies, these capacity-building initiatives would enhance the overall effectiveness and efficiency of NDB-supported projects, aligning with the Bank's long-term goals of fostering self-sufficiency and resilience in local stakeholders.

## B. OPERATIONAL RECOMMENDATIONS

### **Operational recommendation 1: Enhance the operational capacity of the Indian Regional Office** (see paras. 236–237)

257. The IRO faces limitations due to insufficient staffing and infrastructure. With only four professional staff managing 26 projects in India and the Bangladesh operations, the office is understandably challenged to keep up with the growing demands. For instance, this situation hampers NDB's ability to ensure adequate project supervision and implementation-support.

#### **Actionable steps**

- (a) **Conduct a self-assessment.** Conduct a structured self-assessment of the current capacity of the IRO to identify essential gaps that are constraining its ability to be

even more responsive and effective. Such a self-assessment would enable the Bank to accurately determine what additional human, financial, and IT-related resources are needed to consolidate the functioning of the IRO. The findings of the review would inform a time-bound action plan for strengthening the office in the near future, and allow the Bank to make provisions for such needs in its institutional budgets and other processes.

- (b) **Enhancing the IRO's digital infrastructure.** Strengthen the IRO's digital infrastructure to improve project management capabilities, by implementing a dedicated cloud-based project management system. While the current SharePoint system facilitates document sharing, a more robust platform designed for project tracking and coordination is necessary for real-time monitoring of progress, disbursements, and key performance indicators. Systems like Microsoft Project Online, or Primavera P6 – which are widely used by international development banks – could provide the necessary tools for structured project oversight. These platforms allow for seamless integration of task management, resource allocation, timelines and reporting, ensuring better control over large-scale infrastructure projects. Staff should be trained to maximise the potential of the selected tool.
- (c) **Improve coordination and communication.** Explore concrete opportunities to further improve coordination and communication between the IRO and NDB headquarters. This could include outlining regular updates, fixed timely reports, and a defined escalation mechanism for project issues. Joint project management teams, where both IRO and headquarters staff collaborate on high-impact projects, would enhance shared ownership and problem-solving. Both offices should utilise the same integrated project management software, allowing real-time access to project data and fostering collaboration. Moreover, assigning a liaison officer at headquarters for the IRO would help prompter follow-up and resolution of issues.

**Operational Recommendation 2: Strengthen state-specific capacity-building for local implementing agencies to enhance project management and procurement efficiency**  
(see paras. 247–248)

258. Strengthening state-specific capacity-building for local implementing agencies is essential for improving project management and procurement efficiency. Due to varying capacities across states, projects often face delays and inefficiencies. By tailoring capacity-building programmes to the specific needs of each state, informed by the NDB India Country Procurement Systems Assessment 2024, NDB can address these challenges and ensure smoother project implementation.

**Actionable steps**

- (a) **Organise periodic workshops and training sessions for state officials based on the findings of the India Country Procurement Systems Assessment 2024.** These sessions should focus on improving procurement efficiency and addressing infrastructure and governance challenges unique to each state.
- (b) **Establish an apex-level project support and coordination unit.** Explore the feasibility of establishing an apex state-level project support and coordination unit in states with multiple NDB projects. The unit would facilitate coordination and sharing of experiences across executing agencies and government departments, follow and monitor implementation at the aggregate level, and help resolve common challenges faced by individual projects. The unit could also organise thematic workshops to discuss results and lessons that could foster mutual learning and improvement.
- (c) **Procurement training.** Provide targeted training for state procurement officials on procurement guidelines, particularly for high-complexity projects, to align local procurement processes with NDB requirements and minimise delays.

**Operational Recommendation 3: Strengthen the continuum between project design, implementation and completion**  
(see paras. 244–246)

259. Putting in place robust project design and provision of financing is indeed essential, but not sufficient for NDB to play the role of a fully-fledged development bank in India. Notwithstanding the continuous fine-tuning of design, further improvements in project supervision, implementation support, and monitoring and reporting are essential for better outcomes and the integrity of the entire project cycle. Strong completion reporting is also equally important to document results and inform other ongoing and future project designs and implementation. While enhanced attention to this topic will require additional resources, as one option, the IRO could explore mobilising funds from the PPF for the purpose.

**Actionable steps**

- (a) **Project supervision.** Each project financed by NDB in India should have provisions for at least one detailed supervision mission per year, including participation of key technical experts in the relevant domains of the project. Such missions should spend sufficient time in the field undertaking site visits and holding discussions with key partners involved in implementation. Each such mission should be guided by specific terms of reference and concluded with a detailed supervision report documenting progress, lessons and recommendations for the way forward.
- (b) **Mid-term reviews.** Provision should be made for a comprehensive MTR, done once in the lifespan of a project. Similar to supervision missions, an MTR mission would be undertaken and a report produced at the completion of the mission. The MTR would normally be undertaken when around 50% of the NDB loan had been disbursed and/or when the project has reached its mid-point in implementation. A separate supervision mission would not be required for the same project in the year when an MTR is undertaken.

- (c) **Implementation-support.** In addition to supervision missions and the MTR, the IRO could also provide ad-hoc “implementation support” to project implementing authorities, on a case-by-case basis in specific subject matters where the authorities require technical assistance for specific problem-solving. The combination of supervision missions, MTRs and ad-hoc implementation-support would ensure that NDB is thoroughly involved in supporting projects throughout their implementation with the aim of achieving timely delivery and enhanced results.
- (d) **Improvements in the quality of NDB project completion reports.** It is recommended that future PCRs of projects

in India be prepared in a comprehensive manner and, in the absence of PCR guidelines, follow the provisions, methodology and criteria, and structure agreed by the NDB Board as captured in the document Project Completion Report Validation: Methodology and Process.<sup>24</sup> This would ensure that a thorough analysis is conducted at the time of the PCR preparation and support consistency across PCRs in the portfolio. It would also facilitate the PCR validation process by IEO, a requirement in place agreed by the Board for all PCRs for NDB-financed projects. Following the aforementioned guidance is also likely to result in better assessment of the quality of the PCR through the IEO validation process.

**Table 31: Summary of recommendations**

| Recommendation   | Timeframe           | Focus area  |
|--|---------------------|---|
| <b>Strategic Recommendation 1:</b><br>Develop and introduce a country strategy or country partnership plan for better impact   | Medium to long term | Strategic planning, sector diversification          |
| <b>Strategic Recommendation 2:</b><br>Deepen strategic and purposeful partnerships for greater impact  | Medium term         | Partnerships, co-financing, capacity-building       |
| <b>Strategic Recommendation 3:</b><br>Develop a knowledge management framework to capture and share lessons and good practices from the India-NDB partnership                | Medium term         | Knowledge management, visibility, innovation        |
| <b>Operational Recommendation 1:</b><br>Enhance the operational capacity of the Indian Regional Office   | Short term          | Operational capacity, project supervision           |
| <b>Operational Recommendation 2:</b><br>Strengthen state-specific capacity-building for local implementing agencies to enhance project management and procurement efficiency | Medium term         | Capacity-building, procurement, state-level support |
| <b>Operational Recommendation 3:</b><br>Strengthen the continuum between project design, implementation and completion   | Medium to long term | Project design and implementation, evaluability     |

Source: Evaluation Authors.

24 See <https://www.ndb.int/wp-content/uploads/2023/04/PCR-Validation-Methodology-and-Process.pdf>.

# Annexes

Annex 1: List of documents reviewed

Annex 2: List of stakeholders met

Annex 3: Evaluation framework

## Annex 1 List of documents reviewed

### A. GOVERNMENT SOURCES

1. Ministry of Electronics and Information Technology, Government of India. (2023). Annual Report.
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## Annex 2 List of stakeholders met

### NDB Headquarters and Regional offices

| No. | Name                       | Position               | Organisation                         |
|-----|----------------------------|------------------------|--------------------------------------|
| 1   | Dr. D.J Pandian            | Director General       | Indian Regional Office (IRO)         |
| 2   | Mr. Garvit Sah             | Principal Professional | IRO                                  |
| 3   | Mr. Binitesh Kumar         | Senior Professional    | IRO                                  |
| 4   | Dr. Bindu Panda            | Senior Professional    | IRO                                  |
| 5   | Mr. Keerthi Kumar Challa   | Professional           | IRO                                  |
| 6   | Mr. Anand Kumar Srivastava | Chief, Procurement     | Environmental, Social and Governance |
| 7   | Mr. Bala J                 | Principal Professional | Environmental, Social and Governance |

### Central Government, New Delhi

| No. | Name                | Position                       | Organisation   |
|-----|---------------------|--------------------------------|--|
| 1   | Prof. Ramesh Chand  | Member                         | National Institution for Transforming India, NITI Aayog      |
| 2   | Mr. Dammu Ravi      | Secretary (Economic Relations) | Ministry of External Affairs                                 |
| 3   | Ms. Manisha Sinha   | Additional Secretary           | Ministry of Finance and Director to NDB from India           |
| 4   | Mr. Abhishek Singh  | Joint Secretary (ED)           | Ministry of External Affairs                                 |
| 5   | Dr. Prasanna Salián | Director                       | Ministry of Finance and Alternate Director to NDB from India |
| 6   | Dr. Abinash Dash    | Director                       | Development Monitoring and Evaluation Office                 |
| 7   | Mr. Sanjay Kumar    | former Director General        | Development Monitoring and Evaluation Office, NITI Aayog     |

### State Government

| No. | Name                           | Position   | Organisation          |
|-----|--------------------------------|--|-----------------------|
| 1   | Dr. Ravi Kota                  | Chief Secretary  | Government of Assam   |
| 2   | Mr. Chandan Sarma              | Special Commissioner and Special Secretary, Public work Roads Department | Government of Assam   |
| 3   | Mr. Annada Prasad Sarma        | Chief Engineer, PWD (EAP), Assam   | Government of Assam   |
| 4   | Dr. Vineet Joshi               | Chief Secretary  | Government of Manipur |
| 5   | Mr. Hungyo Worshang, IAS       | Secretary (PHED) (New)   | Government of Manipur |
| 6   | Mr. Namojiam Kheda Varta Singh | Secretary (PHED) (Old)   | Government of Manipur |

| No. | Name                        | Position  | Organisation                               |
|-----|-----------------------------|---|--|
| 7   | Mr. Rajesh Kr Sharma        | Deputy Project Director/<br>Superintending Engineer             | Government of Himachal Pradesh             |
| 8   | Mr. Ashok Negi              | Team Lead/PMC (SGS)   | Government of Himachal Pradesh             |
| 9   | Ms. Sheetal Rana            | Social Expert/PMC (SGS)   | Government of Himachal Pradesh             |
| 10  | Mr. Vijay Kr Srivastava     | RE (Contract)   | Government of Himachal Pradesh             |
| 11  | Mr. Ramyash Yadav           | Senior Project Engineer   | Government of Himachal Pradesh             |
| 12  | Mr. Deepak Garg             | Project Director and Chief<br>Engineer, Jal Shakti Vibhag (JSV) | Government of Himachal Pradesh             |
| 13  | Dr. Dharmendra Gill         | Engineer In Chief (Project)                                     | Government of Himachal Pradesh             |
| 14  | Mr. Rajesh Kumar Sharma     | Superintending Engineer   | Government of Himachal Pradesh             |
| 15  | Mr. Onkar Chand Sharma, IAS | Additional Chief Secretary, JSV                                 | Government of Himachal Pradesh             |
| 16  | Mr. Amarjyoti Chetia        | Dy Executive Officer (Technical)                                | Flood and River Erosion Agency of<br>Assam |

### Project Officers

| No. | Name                    | Position  | Organisation  |
|-----|-------------------------|---|---|
| 1   | Mr. Irom Maichal        | Executive Engineer (EE)                         | Water Resources Department (WRD),<br>Manipur            |
| 2   | Mr. Irom Royal          | Superintending Engineer,<br>Irrigation Circle-1 | WRD, Manipur  |
| 3   | Mr. Remmei Alimmei      | Chief Engineer - WRD                            | WRD, Manipur  |
| 4   | Mr. Wotrami Marchong    | EE  | WRD, Manipur  |
| 5   | Mr. Bipul Bhttacharya   | Superintending Engineer,<br>Irrigation Circle-1 | WRD, Manipur  |
| 6   | Mr. Dwipen Kr Sarma     | EE, Ghy, East Division                          | WRD, Manipur  |
| 7   | Mr. Anuj Kumar          | Project Engineer (PE)                           | WAPCOS, Manipur   |
| 8   | Mr. Vimal V Belani      | Expert  | WAPCOS, Manipur   |
| 9   | Mr. Ranjith             | Expert  | WAPCOS, Manipur   |
| 10  | Mr. S.S. Bida           | Expert  | WAPCOS, Manipur   |
| 11  | Mr. Th. Gyaneswar Singh | Senior Section Engineer (SSE)                   | WAPCOS, Manipur   |
| 12  | Mr. Vimal V. Belani     | Expert  | WAPCOS, Manipur   |
| 13  | Mr. Y. Kishore          | Deputy Chief Engineer                           | WAPCOS, Manipur   |
| 14  | Mr. Kholakpam Shaagish  | Assistant Engineer (AE)                         | State Training Centre (STC)                             |
| 15  | Mr. Ashish Kumar Panda  | ML  | RDL, Manipur  |
| 16  | Mr. Sk. Saimul Islam    | PM  | RDL, Manipur  |
| 17  | Mr. A. Boria Singh      | EE/TBL  | Public Health Engineering<br>Department (PHED), Manipur |
| 18  | Mr. A. Pais Marip       | EE/TPL  | PHED, Manipur   |

| No. | Name                        | Position  | Organisation                                      |
|-----|-----------------------------|---|---|
| 19  | Mr. Chandanlung Rongmei     | EE/Karijong                                     | PHED, Manipur                                     |
| 20  | Mr. Dayanand Kh             | AE (Kakchig)                                    | PHED, Manipur                                     |
| 21  | Mr. Dinachandra             | EE/IW   | PHED, Manipur                                     |
| 22  | Mr. Dorendra PK             | Superintending Engineer,<br>Irrigation Circle-1 | PHED, Manipur                                     |
| 23  | Mr. Gainjinlung Thaimai     | EE/JBM  | PHED, Manipur                                     |
| 24  | Ms K. Bideshori             | EE/IE   | PHED, Manipur                                     |
| 25  | Mr. K. Kulachandra          | AE/BPR  | PHED, Manipur                                     |
| 26  | Mr. K. Roshan Singh         | AE (Kakchig)                                    | PHED, Manipur                                     |
| 27  | Mr. Kh. Kabanta Singh       | EE/KAK  | PHED, Manipur                                     |
| 28  | Mr. Kh. Leena Devi          | Director/CCDU                                   | PHED, Manipur                                     |
| 29  | Mr. Kp. Khamba Maring       | EE/CDL  | PHED, Manipur                                     |
| 30  | Mr. L. Roshan Singh         | EE/IW   | PHED, Manipur                                     |
| 31  | Mr. M. Themreishang         | EE/UKL  | PHED, Manipur                                     |
| 32  | Mr. Dorendra                | Superintending Engineer,<br>Irrigation Circle-1 | PHED, Manipur                                     |
| 33  | Mr. Kirankumar Laishram     | OSD to Addl C.E.                                | PHED, Manipur                                     |
| 34  | Mr. L. Irish Singh          | SE/R-II   | PHED, Manipur                                     |
| 35  | Mr. Sangitkumar Singh       | SE/R-I  | PHED, Manipur                                     |
| 36  | Mr. Shangreiphao Vashumwo   | Project Director - CE                           | PHED, Manipur                                     |
| 37  | Mr. O. Somorjit             | AE/IW   | PHED, Manipur                                     |
| 38  | Mr. P. Rambo Singh          | EE/BPR  | PHED, Manipur                                     |
| 39  | Ms. Priya Nongmaithom       | CFO   | PHED, Manipur                                     |
| 40  | Mr. R.K. Surendra           | EE/WSM-II                                       | PHED, Manipur                                     |
| 41  | Mr. S. Lohri Mau            | EE/Senapati                                     | PHED, Manipur                                     |
| 42  | Mr. S. Megharaj             | AE/M-II   | PHED, Manipur                                     |
| 43  | Ms. Th. Bebina Devi         | SE/URBAN  | PHED, Manipur                                     |
| 44  | Ms. Th. Pika Singh          | EE/WSM-I  | PHED, Manipur                                     |
| 45  | Ms. Th. Yogita              | SE/Planning & Management                        | PHED, Manipur                                     |
| 46  | Mr. Anjan Kumar S           | Associate Professor                             | Indian Institute of Technology (IIT),<br>Guwahati |
| 47  | Mr. Sudakhsina K            | Lawyer  | General Public Sector                             |
| 48  | Mr. Ananga Barooah          | Social Expert                                   | EPC Contractor                                    |
| 49  | Mr. B P Saikia              | Environmental Specialist                        | EPC Contractor                                    |
| 50  | Mr. Lokesh Sharma           | Project Director                                | EPC Contractor                                    |
| 51  | Mr. Alfredo Martinho Raposo | Team Leader                                     | Authority Engineer                                |

| No. | Name                        | Position                           | Organisation   |
|-----|-----------------------------|------------------------------------|--|
| 52  | Mr. Jyoti Prakash Deka      | Environmental Expert               | Authority Engineer   |
| 53  | Mr. K Purnachandra Choudhri | Safety Expert                      | Authority Engineer   |
| 54  | Mr. Prafulla H Leo          | Social Expert                      | Authority Engineer   |
| 55  | Mr. Prafulla H Leoa         | Social Expert                      | Authority Engineer   |
| 56  | Mr. Rajesh Soni             | Planning Engineer                  | Authority Engineer   |
| 57  | Mr. Trideep Kalita          | Senior Quantity Surveyor           | Authority Engineer   |
| 58  | Mr. Dilip Das               | Assistant Executive Engineer (EAP) | Assam Public Roads Works Department (APWRD), Assam               |
| 59  | Mr. A P Sarma               | Chief Engineer                     | APWRD, Assam   |
| 60  | Mr. Amlanjyoti Dhing        | Executive Engineer                 | APWRD, Assam   |
| 61  | Mr. B M Choudhury           | OSD                                | APWRD, Assam   |
| 62  | Mr. Bhudeb Sarma            | OSD                                | APWRD, Assam   |
| 63  | Mr. Biswajit Das            | Assistant Engineer                 | APWRD, Assam   |
| 64  | Mr. Debajit Kr Sarma        | Environmental Specialist           | APWRD, Assam   |
| 65  | Mr. Debajit Phukan          | Account Officer                    | APWRD, Assam   |
| 66  | Mr. Gautam Deka             | Assistant Executive Engineer       | APWRD, Assam   |
| 67  | Mr. Kushal Saikia           | Technical Advisor                  | APWRD, Assam   |
| 68  | Mr. Santanu Pathak          | Assistant Engineer                 | APWRD, Assam   |
| 69  | Mr. Simanta Baishya         | Executive Engineer                 | APWRD, Assam   |
| 70  | Mr. Sonit Kr Das            | Executive Engineer                 | APWRD, Assam   |
| 71  | Mr. Soumya Dasgupta         | Assistant Executive Engineer       | APWRD, Assam   |
| 72  | Ms. Hena Chandini Devi      | Assistant Engineer                 | APWRD, Assam   |
| 73  | Ms. Sharadi Borah           | Assistant Engineer                 | APWRD, Assam   |
| 74  | Mr. Dipankar Das            | Project Manager (T)                | Assam Inland Water Transport Development Society (AIWTDS), Assam |
| 75  | Mr. Lakhyajit Bharali       | Junior Engineer                    | AIWTDS, Assam  |
| 76  | Mr. N Dhiraj Singha         | Project officer                    | AIWTDS, Assam  |
| 77  | Mr. Nileem Kalita           | Project Support Engineer           | AIWTDS, Assam  |
| 78  | Mr. R J Borah               | DGM (OPS)                          | Assam Inland Waterways Company Limited (AIWCL), Assam            |
| 79  | Mr. Kushal Kumar Saikia,    | Technical Advisor                  | ABP Projects, Assam  |
| 80  | Mr. Gopal Sana Rajkumar     | Secretary to the Govt. of Assam    | Irrigation Department  |

| Beneficiaries |                             |                             |                  |
|---------------|-----------------------------|-----------------------------|------------------|
| No.           | Name                        | Name of village/panchayat   | State            |
| 1             | Mr. Kartik Kalita           | North Guwahati              | Assam            |
| 2             | Mr. Diganta Das             | North Guwahati              | Assam            |
| 3             | Mr. Pramod Chandra Bania    | North Guwahati              | Assam            |
| 4             | Mr. Jitu Das                | North Guwahati              | Assam            |
| 5             | Mr. Subodh Hazarika         | North Guwahati              | Assam            |
| 6             | Mr. Don Choudhury           | Abhaypur                    | Assam            |
| 7             | Mr. Manika Pathak           | Abhaypur                    | Assam            |
| 8             | Mr. Ramendra Boro           | Gauripur                    | Assam            |
| 9             | Mr. Subungcha Narzary       | Gauripur                    | Assam            |
| 10            | Mr. Gunjanya Kumar Upamanya | Gauripur                    | Assam            |
| 11            | Mr. Chandan Baruah          | North Guwahati Gopal Mandir | Assam            |
| 12            | Mr. Lalit                   | North Guwahati College      | Assam            |
| 1             | Mr. Neeraj Kumar            | Lakhamandal                 | Himachal Pradesh |
| 2             | Mr. Sunil Kumar             | Malan                       | Himachal Pradesh |
| 3             | Mr. Surinder Kumar          | Pathiar                     | Himachal Pradesh |
| 4             | Ms. Indu Bala               | Pathiar                     | Himachal Pradesh |
| 5             | Mr. Chander Kanta           | Pathiar                     | Himachal Pradesh |
| 6             | Ms. Savita Devi             | Pathiar                     | Himachal Pradesh |
| 7             | Ms. Satya Devi              | Pathiar                     | Himachal Pradesh |
| 8             | Ms. Sushma Devi             | Pathiar                     | Himachal Pradesh |
| 9             | Ms. Sunita Kapoor           | Pathiar                     | Himachal Pradesh |
| 10            | Ms. Rama Devi               | Pathiar                     | Himachal Pradesh |
| 11            | Ms. Sita Devi               | Pathiar                     | Himachal Pradesh |
| 12            | Ms. Sumna Devi              | Lakhamandal                 | Himachal Pradesh |
| 13            | Ms. Rita Devi               | Lakhamandal                 | Himachal Pradesh |
| 14            | Ms. Sema Devi               | Lakhamandal                 | Himachal Pradesh |
| 15            | Ms. Sapan Devi              | Lakhamandal                 | Himachal Pradesh |
| 16            | Ms. Veena Devi              | Lakhamandal                 | Himachal Pradesh |
| 17            | Ms. Meera Devi              | Lakhamandal                 | Himachal Pradesh |
| 18            | Ms. Binta Devi              | Lakhamandal                 | Himachal Pradesh |
| 19            | Ms. Indaa Devi              | Lakhamandal                 | Himachal Pradesh |
| 20            | Ms. Sita Devi               | Lakhamandal                 | Himachal Pradesh |

| No. | Name               | Name of village/panchayat | State            |
|-----|--------------------|---------------------------|------------------|
| 21  | Ms. Rasma Devi     | Lakhamandal               | Himachal Pradesh |
| 22  | Ms. Reena Devi     | Lakhamandal               | Himachal Pradesh |
| 23  | Ms. Veena Devi     | Lakhamandal               | Himachal Pradesh |
| 24  | Ms. Raksha Devi    | Lakhamandal               | Himachal Pradesh |
| 25  | Ms. Sukhata Devi   | Lakhamandal               | Himachal Pradesh |
| 26  | Ms. Saloschla Devi | Lakhamandal               | Himachal Pradesh |
| 27  | Ms. Seema Devi     | Punnar                    | Himachal Pradesh |
| 28  | Mr. Suresh Kumar   | Punnar                    | Himachal Pradesh |
| 29  | Mr. Krinder Chand  | Punnar                    | Himachal Pradesh |
| 30  | Ms. Babita Devi    | Punnar                    | Himachal Pradesh |
| 31  | Mr. Amarjeet       | Punnar                    | Himachal Pradesh |
| 32  | Mr. Sanjeev Kumar  | Punnar                    | Himachal Pradesh |
| 33  | Ms. Pritma Devi    | Punnar                    | Himachal Pradesh |
| 34  | Mr. Avinash Mehta  | Punnar                    | Himachal Pradesh |
| 35  | Mr. Sarwan Kumar   | Punnar                    | Himachal Pradesh |
| 36  | Ms. Kavita Devi    | Punnar                    | Himachal Pradesh |
| 37  | Mr. Tilak Raj      | Punnar                    | Himachal Pradesh |

### Community Members

| No. | Name                | Gram Panchayat | Designation  |
|-----|---------------------|----------------|--|
| 1   | Mr. Lekh Ram Thakur | Sium           | Block Development Council (BDC), Himachal Pradesh                          |
| 2   | Ms. Anita           | Padhar         | BDC, Himachal Pradesh  |
| 3   | Ms. Ranjna Devi     | Baggi          | BDC, Himachal Pradesh  |
| 4   | Mr. Sonu            | SNR            | BDC, Himachal Pradesh  |
| 5   | Mr. Avinash Thakur  | Kunnu          | President, Village Water and Sanitation Committee (VWSC), Himachal Pradesh |
| 6   | Ms. Maya Devi       | Bahal          | President VWSC, Himachal Pradesh   |
| 7   | Ms. Kanta Devi      | Sundernagar    | President VWSC, Himachal Pradesh   |
| 8   | Mr. Shakti Chamal   | Sundernagar    | President VWSC, Himachal Pradesh   |
| 9   | Ms. Geeta Sharma    | Kunnu          | VWSC Member, Himachal Pradesh  |
| 10  | Ms. Charu Sharma    | Kunnu          | VWSC Member, Himachal Pradesh  |
| 11  | Mr. Lekh Ram        | Siun           | VWSC Member, Himachal Pradesh  |

|    |                   |           |                                       |
|----|-------------------|-----------|---------------------------------------|
| 12 | Mr. Laleet Kumar  | Bahal     | VWSC Member, Himachal Pradesh         |
| 13 | Ms. Churamani     | Bahal     | VWSC Member, Himachal Pradesh         |
| 14 | Ms. Banita Devi   | Bahal     | VWSC Member, Himachal Pradesh         |
| 15 | Mr. Basant Singh  | Jarol     | VWSC Member, Himachal Pradesh         |
| 16 | Mr. Krishan       | Kapahi    | VWSC Member, Himachal Pradesh         |
| 17 | Mr. Raj Kumar     | Kalahod   | VWSC Member, Himachal Pradesh         |
| 18 | Mr. Rajesh Kumar  | Padhar    | VWSC Member, Himachal Pradesh         |
| 19 | Ms. Ritambar Devi | Bhanwad   | VWSC Vice President, Himachal Pradesh |
| 20 | Mr. Jai Ram       | Bhadidhar | Community Member, Himachal Pradesh    |
| 21 | Mr. Sunilkumar    | Pali      | Community Member, Himachal Pradesh    |
| 22 | Mr. Narayan Singh | Padhar    | Community Member, Himachal Pradesh    |

### Civil society and development organisations

| No. | Name                         | Position   | Organisation   |
|-----|------------------------------|--|--|
| 1   | Mr. Paramjyoti Chattopadhyay | Head RAM and Evaluation                              | World Food Programme (WFP), India                        |
| 2   | Ms. Maaike Bijker            | Chief of Evidence                                    | UNICEF, India  |
| 3   | Mr. Manish Kumar Srivastava  | Senior Fellow and Associate Director, Climate Change | Energy and Resource Institute (TERI), India              |
| 4   | Mr. L. Romeu                 | Secretary  | Public Helping Organisation, Thoubal                     |
| 5   | Mr. Rama Panchanadikar       | Project Manager and Gender Expert                    | NuSocia, India   |
| 6   | Mr. Debajit Goswami          | LA Expert, Scorpion                                  | NGO  |
| 7   | Mr. Surjit Kshetrimayum      | Secretary  | Alliance for Development Alternatives (ADAM), Manipur    |
| 8   | Mr. Jalishwar L              | President  | Village Water and Sanitation Committee (VWSC) - Irayband |
| 9   | Mr. M. Ibosana Singh         | Advisor  | VWSC - Bijoypur  |
| 10  | Mr. Jameson Konthojam        | Team Leader  | ISA (Imphal West)  |
| 11  | Mr. N. Belshan Singh         | Team Leader  | ISA (Imphal East)  |
| 12  | Mr. N. Tarush Singh          | Member   | ISA (Imphal East)  |
| 13  | Mr. M. Rosinkr Singh         | Member   | ISA - Kongpal Laihida                                    |
| 14  | Mr. Mathanmi Hungyo          | Member   | ISA - Kamjong  |
| 15  | Mr. Ksh. Ronel Singh         | Member   | ISA - Kakching   |
| 16  | Mr. S. Bomish Singh          | Member   | ISA - Bishnupur  |

## Annex 3 Evaluation framework

| Criteria                  | Key question   | Main source of data and information   |
|---------------------------|--|---|
| <b>Lending activities</b> |  |   |
| Relevance                 | To what extent is the portfolio aligned with national policies and strategies on the different thematic areas?   | Stated policies and plans; interviews with officials.   |
|                           | To what extent is the portfolio relevant to local development and community needs and interests?   | Stated policies and plans; interviews with community members.   |
|                           | Are the portfolio 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.                                      |
|                           | Are the project designs compatible with the NDB general strategy, and to what extent? Did NDB select the most appropriate sectors for investments?   | Review of country strategy and projects design documents. Interview with NDB staff and government stakeholders.       |
|                           | Were there any expected synergies between and within investment activities, as well as lending and non-lending activities (if any)? Did the assistance provided by NDB constitute a coherent support to the Government of India? | Review of projects documents, and interview with NDB and government stakeholders.                                     |
|                           | How did NDB position itself and its work in partnership with other development partners? Were there appropriate strategies for participating in sector meetings or events, formal partnerships, co-financing, etc.?              | Government's plans and policies, review of other development partners priorities and interview national stakeholders. |
|                           | Is there an appropriate strategy or framework for concentrating or prioritising NDB's efforts?   | Discussions with development partners, government, and other stakeholders.  |

| Criteria      | Key question   | Main source of data and information  |
|---------------|--|--|
| Effectiveness | To what extent did the selected project implementation realise the envisaged objectives? (Preferably one project in each of the NDB focus areas.)  | Evaluations of completed projects, project completion reports, mid-term reviews and supervision reports, country portfolio reviews. Surveys of project beneficiaries and field visits.                     |
|               | Does the Indian Regional Office have adequate capacity to discharge its mandate effectively? Is it well equipped to support the Government of India effectively?   | Discussion with colleagues in the Indian Regional Office and review of the Evaluation Synthesis Report – Preliminary experience in establishing NDB On-The-Ground Presence – the Role of Regional Offices. |
|               | Given that the NDB's India portfolio focusses heavily on transport infrastructure and water and sanitation, has the portfolio supported the government achieving national roads construction and water access targets? | Review of national policy documents relating to transport infrastructure and water and sanitation targets. Interviews with government officials and other stakeholders.                                    |
|               | How effective is the portfolio in terms of contributing to achieving sector specific outcomes and impact considering NDB's and the Government of India's sector specific targets and goals?                            | Discussions with development partners, government, and other stakeholders.   |
|               | Are the results frameworks sound and to what extent are the performance indicators being monitored?  | Evaluations of completed projects, project completion reports, mid-term reviews and supervision reports, country portfolio reviews. Surveys of project beneficiaries and field visits.                     |
| Efficiency    | Is the portfolio's disbursement performance in line with appraisal estimates?  | Review of results framework, implementation and effectiveness of performance indicators.   |
|               | Have the projects been implemented within the timelines estimated at design?   | Perusal of relevant documentation and discussions with financial management staff.   |
|               | Overall, to what extent has the portfolio contributed to socio-economic development in the different NDB focus areas or in the individual targets set by the government in their policy and plans?                     | Perusal of relevant documentation.   |

| Criteria       | Key question  | Main source of data and information  |
|----------------|---|--|
| Impact         | Is there evidence of improved living standards and poverty reduction or environmental sustainability in the project areas as a result of the projects evaluated?  | Review of baseline and collected data, interviews with affected parties. Evidence from similar projects. |
|                | To what extent has the portfolio contributed to social, environmental and economic impact as outlined in NDB's general strategy as well as with the Government of India's targets?  | Review of baseline and collected data, policy and strategy documents, interviews with affected parties.  |
|                | What positive changes or benefits have the projects brought to the targeted communities and regions?  | Review of baseline and collected data, policy and strategy documents, interviews with affected parties.  |
|                | Have there been any unintended negative consequences, and if so, how were they addressed?   | Review of baseline and collected data, policy and strategy documents, interviews with affected parties.  |
|                | How did the project monitor and measure the changes in the level and quality of inclusiveness among the stakeholders and beneficiaries?   | Review of project design document and statistics available.  |
| Sustainability | To what extent has the project design taken into account the financial sustainability of the project? Is funding available for maintenance and capacity-building to operate and maintain the infrastructure?  | Discussions with relevant staff/ management and comparison with international norms.                     |
|                | Was a specific exit strategy or approach prepared and agreed upon by key partners to ensure post project sustainability?  | Review of project design document, and interviews with key stakeholders.                                 |
|                | What are the chances that benefits generated by the project will continue after project closure?  | Review of project design document, and interviews with key stakeholders.                                 |
|                | Is there a clear indication of government commitment after the loan closing date, for example, in terms of provision of funds for selected activities, human resources availability, and institutional support? Did the project design anticipate that such support would be needed after loan closure? | Review of project design document, and interviews with key stakeholders.                                 |
|                | How well have the projects considered environmental and social sustainability aspects?  | Review of project design document, and interviews with key stakeholders.                                 |
|                | What measures have been taken to ensure the long-term viability of project outcomes?  | Review of project design document, and interviews with key stakeholders.                                 |
|                | To what extent have local communities and stakeholders been involved in the sustainability planning?  | Review of project design document, and interviews with key stakeholders.                                 |

**INDEPENDENT EVALUATION OFFICE**  
**New Development Bank**

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