Country Assistance Program Evaluation

India, 2007–2015
Country Assistance Program Evaluation
May 2017

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NOTES

(i) In this report, “$” refers to US dollars.
(ii) The fiscal year (FY) of the Government of India begins on 1 April. FY before a calendar year denotes the year in which the fiscal year begins, e.g., FY2012 begins on 1 April 2012 and ends on 31 March 2013.

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### Abbreviations

<table>
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<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
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<tr>
<td>ANR</td>
<td>agriculture, natural resources, and rural development</td>
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<td>CAPE</td>
<td>country assistance program evaluation</td>
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<td>CDRC</td>
<td>Capacity Development Resource Centre</td>
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<td>CO₂</td>
<td>carbon dioxide</td>
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<td>CPS</td>
<td>country partnership strategy</td>
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<td>CPSU</td>
<td>country strategy and program update</td>
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<td>EIRR</td>
<td>economic internal rate of return</td>
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<td>ESG</td>
<td>environmentally sustainable growth</td>
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<td>GAP</td>
<td>gender action plan</td>
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<td>GCD</td>
<td>governance and capacity development</td>
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<td>GDP</td>
<td>gross domestic product</td>
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<td>GEM</td>
<td>gender equity and mainstreaming</td>
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<td>GHG</td>
<td>greenhouse gas</td>
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<td>IED</td>
<td>Independent Evaluation Department</td>
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<td>IEG</td>
<td>inclusive economic growth</td>
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<td>IIFCL</td>
<td>India Infrastructure Finance Company Limited</td>
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<td>km</td>
<td>kilometer</td>
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<td>KMAP</td>
<td>knowledge management action plan</td>
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<td>MFF</td>
<td>multitranche financing facility</td>
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<td>MOF</td>
<td>Ministry of Finance</td>
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<td>MSMEs</td>
<td>micro, small, and medium-sized enterprises</td>
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<td>MW</td>
<td>megawatt</td>
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<td>NSO</td>
<td>nonsovereign operations</td>
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<td>O&amp;M</td>
<td>operation and maintenance</td>
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<td>ODA</td>
<td>official development assistance</td>
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<td>PCR</td>
<td>project completion report</td>
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<td>PMGSY</td>
<td>Pradhan Mantri Gram Sadak Yojana (Prime Minister’s Rural Roads Program)</td>
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<td>PPP</td>
<td>public–private partnership</td>
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<td>PSD</td>
<td>private sector development</td>
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<td>PSM</td>
<td>public sector management</td>
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<td>RCI</td>
<td>regional cooperation and integration</td>
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<td>SASEC</td>
<td>South Asia Subregional Economic Cooperation</td>
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<td>TA</td>
<td>technical assistance</td>
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<td>ULB</td>
<td>urban local body</td>
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<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
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<td>WUS</td>
<td>water and other urban infrastructure and services</td>
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IED retains full responsibility for this report.
Executive Summary

This evaluation assesses the performance of the Asian Development Bank (ADB) strategy and program for India from 2007 to 2015. Its findings are intended to feed into the design of the next country partnership strategy (CPS). ADB provided a total of $22.1 billion to India, including $17.2 billion through sovereign loans and grants, $4.7 billion for nonsovereign operations (NSO), and $151.7 million in technical assistance (TA) grants. Most of the supported operations are in transport, energy, finance, and water and other urban infrastructure and services.

The evaluation considered the private sector program and the main public sector programs in transport, energy, water and other urban infrastructure and services, finance, and public sector management successful. On specific evaluative criteria, some smaller programs performed below expectations. The social (health and education) and agriculture sector programs were also assessed, but since ADB operations in these areas are recent, it is too early to determine their results.

The results of ADB’s support for the main strategic agendas and some thematic priorities were assessed on their relevance and impacts. Support for inclusive economic growth (IEG), environmentally sustainable growth (ESG), gender equality, and public–private partnerships has all been found relevant (appropriate) with satisfactory development impacts. Support for knowledge solutions and innovations was less than expected but had satisfactory development impacts. ADB support for the regional cooperation and integration (RCI) agenda was relevant but more limited than envisaged and was therefore rated less than satisfactory on its development impacts.

The performance of ADB’s strategy and program in India is considered successful overall. Nevertheless, ADB needs to improve in some critical areas. These include (i) process efficiency; and (ii) attention to development challenges in the next CPS. The evaluation provides recommendations at the strategic and operational levels.

Country Context

India is one of the fastest growing economies in the world—and it is undergoing profound development challenges. Reforms initiated in the early 1990s fostered robust economic growth and poverty reduction over the past nearly 3 decades. Yet India has the largest number of poor people in the world, estimated at some 300 million, and faces significant development challenges across multiple fronts. The Asia and Pacific region and the ADB have high stakes in India’s continued progress along the development path.

Evaluation Methodology

This country assistance program evaluation assesses the performance of ADB-supported programs, agendas, and priorities in India during 2007–2015. This is the second full scale evaluation of the performance of ADB support in India, following an earlier country assistance program evaluation conducted in 2007. The current evaluation covers the country strategy and program update, 2006–2008; the CPS, 2009–2012; and the first half of the current CPS, 2013–2017. Sovereign sector programs were assessed for relevance, effectiveness, efficiency, sustainability, and development impacts; while NSO were assessed for development results, ADB investment profitability, ADB additionality, and ADB work quality.

Apart from sector programs, the evaluation assesses ADB’s strategic agendas and special priorities of the India program. These are evaluated in terms of their relevance (appropriateness) and impacts. The three strategic agendas are (i) IEG, (ii) ESG, and (iii) RCI.
The special priorities in the India CPSs (referred to as drivers of change in Strategy 2020) are (i) knowledge and capacity development, (ii) gender equality, and (iii) catalyzing infrastructure investment and public–private partnerships (PPPs). These agendas and priorities were most prevalent in ADB’s three country strategies during the evaluation period.

To arrive at an overall assessment of the India strategy and program, the evaluation followed the ADB’s 2015 Guidelines for Country Assistance Program Evaluations and Country Partnership Strategy Final Review Validations, which assign a proportional weight to the (i) sectoral and (ii) cross-sectoral or thematic performance of the institution.

ADB Strategies in India

ADB’s strategy has responded appropriately to India’s five-year plans on faster, sustainable, and more inclusive growth. Growth was pursued through increased infrastructure investments; raising the productivity of small, medium, and large enterprises; implementing governance reforms; and tackling increasing urbanization. Objectives of ADB’s CPSs in India have evolved from being mainly sector oriented to more thematic oriented, emphasizing IEG, ESG, and RCI. The change can be attributed to the messages in the government’s five-year plans and national programs, and the gradual alignment with ADB’s Strategy 2020 of 2008. One observation made by the Indian authorities is that going forward, ADB needs to operate more on the basis of a long-term vision and framework, as well as on a strongly focused set of programmatic engagements for supporting development in India.

Sector Performance of Sovereign and Nonsovereign Operations

Although the evaluation finds both the public sector programs and the private sector program successful, overall, the efficiency and sustainability of some of the successful sector programs were below the line. There were cost overruns and implementation delays on many projects, and the multitranche financing facility (MFF) approach, highly used in India, did not make a major difference in efficiency as expected. ADB’s sovereign program during the evaluation period covered 28 out of 36 states and union territories. Some projects were very ambitious in their objectives and geographic scope. For effectively managing such a broad program, strong capacity on the ground is called for. In fact, Indian authorities indicated that the response time of ADB was slow, which they associated with a centralized decision-making process in headquarters. Inadequate front-end work for many NSO projects contributed to the high rates of cancellation in this part of the portfolio.

Transport. The ADB transport strategy focused on promoting connectivity and increasing access to markets and other facilities for the population of rural and remote areas, particularly in the economically lagging states in northern and northeastern India. The sector objectives were relevant, and lending was appropriately supported by capacity development assistance and measures to improve asset management, road safety, and private sector participation. The total length of roads completed with ADB financial support was 14,220 kilometers (km), while construction and rehabilitation of an additional 24,000 km is underway. Responses to three beneficiary surveys carried out by Independent Evaluation Department (IED) were positive, and the surveys’ results concluded that there were evident improvements in connectivity and mobility. Overall, the results were effective. However, many ongoing projects were delayed and the problems with process efficiency were not resolved. The additionality of ADB work at the cutting edge beyond financing was not always clear, and some of design and monitoring frameworks did not include clear indicators linked to ADB support.

Energy. ADB aimed to promote higher efficiency of and access to energy. ADB support focused heavily on electricity transmission and distribution (81%), while also providing support to large hydropower generation (15%). The government’s Twelfth Five Year Plan, 2012–2017, aimed to add 107,440 km of transmission lines. The completed ADB projects successfully provided 10,000 km of additional transmission line or 9% of the government’s total as of November 2016. The energy program facilitated better access to economic opportunities by
enhancing and upgrading the national transmission and distribution network. This applied not only to urban and rural areas. Some ADB-supported energy projects enhanced more inclusiveness by targeting the poor. An ADB-supported project in Madhya Pradesh installed separate feeders for agricultural use that helped provide uninterrupted supply to rural customers. It helped farmers curtail the use of more expensive and more polluting diesel pump sets. The project is now being replicated by other utilities in the country. Several projects are delayed and no significant improvements are being achieved in process efficiency. However, the operations are seen as likely sustainable based on financial analysis that confirmed that the financial returns exceeded the weighted average cost of capital. Moreover, the projects also strengthened the financial management capacity of the energy utilities who maintain completed ADB-supported investment. Nevertheless, cost recovery remains a concern because of the difficulty to raise tariffs.

Water and other urban infrastructure and services. ADB supported mainly water supply, sewerage, and institutional and capacity development, with smaller investments in solid waste management, slum development, drainage and flood protection, and urban roads, which represent key needs in many cities in India. The development impacts are satisfactory as significant infrastructure has been put in place and is servicing millions of urbanites. The level of service planned is progressively being achieved and through the provision of 24-hour water supply, computerized control, and operation systems and other innovations, ADB is slowly raising the bar. Among the water and other urban infrastructure services (WUS) projects, the water supply and urban road components of projects were relatively more successful, with the former dominating the loan value of most projects. Sewerage treatment and solid waste management components were generally less than successful, these components comprised 20%–25% of total project investment. The ADB-supported WUS program appropriately operates in challenging locations where government and private sector funds are limited and implementation capacity is low, and municipal governments have limited experience with international development partners, which requires institutional development efforts beyond that required for other infrastructure sectors. As a consequence, process efficiency suffers, typically manifested in above average start-up and implementation delays. While water and sanitation works are generally technically sustainable with observable impacts, the financial and institutional risks to sustainability remain a concern. Capacity building efforts were successful for state-level executing agencies, but less so for local urban implementing agencies that still lack the capacity to manage the utilities and have been slow to introduce appropriate tariffs for services, thus making them heavily dependent on subsidies. Recent initiatives including the use of design–build–operate contracts and urban property tax reforms are significant steps in tackling the issue of sustainability.

Finance. ADB’s finance sector strategy aimed to promote greater private sector participation through PPPs in infrastructure finance, and achieve greater financial inclusion by supporting micro, small, and medium-sized enterprises (MSMEs) and pension reforms. The program was successful overall in achieving its objectives, although shortcomings were identified, especially in efficiency. ADB support was effective in achieving the objective of accelerating infrastructure investment in energy and transport. The first two MFFs amounting to $1.2 billion helped catalyze investments under a PPP modality of about $14.6 billion, achieving an estimated average fund mobilization ratio of 12 times. From a standpoint of process efficiency, the support for infrastructure finance was efficient but the interventions for MSME development and financing, a strategic focus of the finance sector program, were less than efficient, together with TA operations. There were concerns such as low disbursements, slow progress and delays in implementation, and extensions. The sustainability of the PPP infrastructure investment is however likely since the government is moving in the right direction in terms of policy reform and institutional strengthening.

Public sector management. ADB support aimed to improve fiscal management, institutional capacity, and service delivery in four states—this was achieved. Fiscal and institutional challenges
in many states have led to underinvestment in infrastructure and social sectors and poor quality of basic services, all of which constrain longer-term human development and economic growth prospects. The three completed programs in Assam, Mizoram, and West Bengal were generally effective in supporting fiscal consolidation and creating fiscal space through reforms in revenue, expenditure, debt management, and by directing support to key areas such as infrastructure investment and service delivery. The program was assessed likely sustainable, although ADB should consider providing longer-term follow-on support to help cement reform gains and institutional development.

**Agriculture, natural resources, and rural development, and social sectors.** Since most projects are still under implementation, programs in these sectors were reviewed but not rated. The agriculture, natural resources, and rural development (ANR) program focused on agribusiness, irrigation, and coastal protection; and tried to directly address poverty reduction, especially of the rural poor, who face significant hardships due to poor harvests caused by environmental disasters among other factors. The irrigation projects were on track, but two agribusiness projects were closed in 2016 without delivering outputs due to an unworkable PPP design. ADB operations in the social sectors supported the skills and urban health subsectors. Although ADB is a new entrant into the social sectors, its volume of support is large compared to that of most other donors.

**Multitranche financing facilities.** Excluding the public sector management and social sector programs, MFFs have been the predominant financing modality in all sectors supported, and India is ADB’s top recipient of MFF approvals. The evaluation found three major reasons for the popularity of the MFF with the India government: (i) assumption of faster project preparation of later tranches as these can be prepared during earlier tranches without having to go through ADB Board approval; (ii) assumed greater flexibility during implementation, and (iii) lower commitment charges. However, 10 years after their introduction, the implementation delays and levels of cancellation are similar to standalone projects. Some project tranches could not be completed within the MFF’s usual 10-year limit. Although most state governments and executing agencies continue to favor the MFF as a preferred modality, the central government has expressed the view that the MFF lending modality should be adopted more selectively. It points to the possibility that the MFF engenders a false sense of complacency within the executing agencies.

**Nonsovereign operations.** ADB’s NSO strategy focused on promoting private sector investment and infrastructure, and improving access to finance. ADB’s support contributed to private sector development and economic performance. The energy projects made significant contributions to the growth in installed capacity of wind and solar energy, increased level of private participation in generation capacity, and introduction of new technologies. The finance sector projects helped introduce innovations in the areas of housing finance and credit enhancement of infrastructure project bonds, and promoted financial inclusion by focusing on increased access to finance by MSMEs in lagging states and among farmers and women. However, the cancellation rate for NSO projects was high at 40% compared to the ADB-wide NSO cancellation rate (excluding India) of 20%. The evaluation found that that inadequacies in ADB’s front end work—due to lack of agreement on loan pricing and inability or unwillingness of project companies to comply with ADB requirements—contributed to this high cancellation rate. Thus, ADB work quality is considered less than satisfactory, although the overall performance is successful due to the positive development results of assessed projects.

**ADB Strategic Agendas in India**

The three strategic agendas pursued by ADB have been relevant to India. Results of the IEG agenda were favorable, if mainly on account of the fact that many of its operations were in lagging states and hence intended to have an effect on reducing the inequality in economic development between states. In total, 68% of ADB support during the evaluation period was targeted towards the lagging states. A focus on the lagging states tends to ensure that the
geographic dimension of IEG is addressed. ADB strategies focused consistently on basic infrastructure development and access, rural roads and electrification, lagging states, and urban development in big cities with major slum populations. ADB support also promoted IEG to some extent, by incorporating inclusive components in some projects’ designs (e.g., slum improvement in urban projects)—although these were small components.

There is a lack of clarity in ADB’s approach to IEG. The share of ADB financial support for the lagging states, mainly in infrastructure, decreased from 84% in the 2006 country strategy and program update period to 70% during the 2009 CPS period, and then to 61% during the 2013 CPS period. Instead, ADB has broadened its portfolio by including education and health in the 2013 CPS, which aim to directly promote IEG. This could be another approach for IEG, but the social sector portfolio is still relatively small with $0.5 billion investment or 3% of the country portfolio. Support for such programs can compensate for the decreasing financial support to the lagging states. In addition, approaches toward the best way to help economic development are changing, and ADB is now supporting economic corridor development which can initially favor already better-off states. It may well in time have impacts on IEG if the poor can be directly involved or a part of the benefits can be redistributed to them. ADB program in India diversified its approach to IEG. However, ADB support for the social sectors and economic corridor are in the early stage, and the overall approach to IEG is still not clear.

About half of ADB’s program was tagged for environmentally sustainable growth, with most of it having a positive impact in energy, WUS, and ANR. ADB support improved energy and water resource efficiency, cleaned up cities, and aimed to promote good agriculture and water resource management. Most of the energy projects aimed to improve the efficiency of the national grid and increase renewable energy capacity, which would have helped reduce carbon emissions. The private sector program was also responsive to the government strategy, which focused on clean energy and resulted in 13 of 19 energy sector projects

financing wind and solar energy. The WUS sector program supported the ESG agenda primarily through the wastewater treatment and solid waste management, although it has had only limited success in this area due to daunting sector problems. Coastal protection and irrigated agriculture projects in irrigation, though few in number, are relevant for ESG.

However, India’s climate change threat requires developing innovative policies and further financial support. ADB’s climate change-related finance and support have not increased commensurately with the recognition of the threats although ADB-supported infrastructure projects have increasingly been considered to be affected by climate change, and since 2014, all are treated as vulnerable to this, and some engineering measures need to be built in the project designs to cope with them. Most projects, except a few in areas such as renewable energy development, were not designed for climate change mitigation or adaptation. Over the longer term, India’s growth prospects are buffeted by the uncertainty regarding the adverse impact of climate change on the economy, especially on the poor. Droughts, floods, and air pollution events partly related to droughts are already increasing in frequency in India. ADB doubled its corporate target of annual climate financing from the current $3 billion to $6 billion by 2020. Since India is among ADB’s largest borrowers, some of this financing needs to go to India with clear objectives and targets.

ADB support for the RCI agenda was limited during the evaluation period, but showing signs of growth in the last 2 years. The growth is especially due to ADB’s support for economic corridors and the South Asia Subregional Economic Cooperation Operational Plan 2016–2025 which is a long-term vision document for the country and has a set of project proposals. The Government of India has acknowledged ADB’s recent efforts to increase RCI support and has encouraged a stronger focus going forward. South Asia has substantial untapped potential for further regional integration and given India’s size, influence, and centrality in South Asia, the country’s role in exploiting the potential will be crucial. ADB is also well positioned to strengthen
its contributions and support for RCI in the next decade.

**ADB Special Priorities in India**

**ADB’s approach to supporting knowledge work and cutting-edge innovation has not met expectations.** ADB has mostly supported project management capacity development, especially for agencies unfamiliar with multilateral development bank’s style of management in lagging states. ADB strengthened institutional capacity for project preparation, implementation, safeguards, procurement systems, and other areas. However, there is scope for a stronger effort in designing knowledge solutions. Indian authorities indicated that knowledge support from ADB can be improved by a sharper focus on identifying critical development challenges and demands, and by providing practical knowledge to address these challenges, drawing on global best practices, innovation, and expertise. ADB’s TA can be more effectively used and have a sharper focus on critical development challenges and practical knowledge drawing on global best practices, innovation, and expertise. Its impact can be better tracked and documented. The evaluation finds that ADB has not fully met the expectations set out in India’s “finance plus” and “innovation impulse with investment” concepts. While some examples of innovative approaches were found, the absence of a systematic approach to integrating and supporting cutting-edge innovation, and nonexistence of any monitoring and reporting against the objectives in ADB’s own Knowledge Management Action Plan suggest lower responsiveness to this special priority set.

**ADB’s efforts increased awareness on the importance of gender equality and actions in ADB program in India.** The proportion of gender projects with gender action plans increased from 19% of projects approved during 2007–2010 to 48% during 2011–2015. This is likely in response also to factors such as ADB’s corporate target on this in 2008, ADB’s revised operations manual on gender and development in 2010; the issuance of the Gender Equality and Women’s Empowerment Operational Plan, 2013–2020; introduction of quarterly reporting on gender by executing agencies, and the appointment of a gender specialist in the ADB India Resident Mission in 2012. ADB support for gender mainstreaming in projects was consistent with the 1998 gender policy and in line with the government’s approach to gender. In the road program, where there were fewer such plans in the first half of the period, the benefits accrued more to men than women, given the traditional role assigned to women in rural households, i.e., men are expected to work outside the village rather than women. Nevertheless, IED surveys indicated that women benefited as well, as girls could attend schools more easily, and women’s access to government services (e.g., health clinics) improved. Given the issues in India, and the urgency of addressing them, gender remains one of the priority areas for ADB support.

**ADB support for catalyzing private investment in infrastructure and PPPs has been helpful, although significant challenges remain.** PPPs have been an important source of economic development. To encourage PPP arrangements in infrastructure, the government has established several institutions, the most prominent being India Infrastructure Finance Company Limited (IIFCL), which has been in operation since 2006. TA projects provided by ADB for the mainstreaming of PPPs helped create an enabling environment that allowed IIFCL, which is the most important PPP institution, to play a catalytic role in infrastructure finance. ADB was an early supporter of government efforts to improve the PPP enabling environment and has provided sustained support in this area over 2005–2015. Since 2007, ADB has provided TA projects to support PPP institutional and capacity development. However, there are many remaining institutional issues including regulatory uncertainties, government’s unfamiliarity with negotiating long-term projects, and an inadequate attention to the allocation of rights and risks among the partners at the outset.

**Support for financial intermediaries needs special attention.** ADB provided about $2.1 billion of financial intermediary loans for infrastructure investment, including $1.9 billion under two completed and one ongoing MFFs to IIFCL, which helped to catalyze private sector investments through PPPs. ADB has not
monitored outcomes of subprojects of financial intermediary loans such as toll roads, airports, and renewable energy generation, and these were not clearly specified in the design and monitoring frameworks. Compliance with environmental, social, and safety standards was unclear because of weak documentation.

**Conclusion and Recommendations**

The overall strategy and program of ADB in India is considered *successful*, but various important issues need to be addressed. In particular, it is important for ADB to operate on the basis of a long-term vision and framework, as well as on a strongly focused set of programmatic engagements for supporting development in India. The following recommendations, further elaborated in the last chapter, are intended to enhance ADB’s contributions to development in India.

**Strategic Level**

1. **Inclusive economic growth.** Ensure that the new CPS clearly specifies the approach that ADB will take to support the inclusive and sustainable growth agendas, as the 2016 CPS reforms now require.

2. **Climate change.** Increase environment and climate investment lending and TA support in the years ahead, and particularly strengthen ADB support for climate change adaptation.

3. **Regional cooperation and integration.** Intensify operational support for RCI in India and South Asia and scale up operations in line with the vision document developed by South Asia Subregional Economic Cooperation.

4. **Knowledge and capacity development.** Strengthen knowledge needs identification, sharpen focus on cutting-edge global practices and innovation by applying a client-oriented approach, and continue providing targeted capacity development support.

**Operational Level**

1. **Process efficiency.** Review the bottlenecks to the optimal performance of the MFF programs and more generally review the disbursement ratios in recent years. Consider increasing decentralization of decision making process and resources to the resident mission and creating a regional hub.

2. **Gender equality.** Strengthen support for implementation of gender action plans of projects, and for their monitoring as well as for the identification, dissemination, and replication of good practices.

3. **Catalyzing infrastructure investment and public–private partnerships.** Strengthen the capacity of financial intermediaries to better implement and monitor frameworks for improved ADB’s PPP subprojects' implementation, results, and compliance with safeguards; and work with government and other stakeholders to address identified constraints to PPPs and strengthen the regulatory framework and institutional capacity for PPPs.

4. **ADB work quality in nonsovereign program.** Continue to strengthen measures to address the high cancellation rate of India NSO projects, including strong quality-at-entry reviews.
CHAPTER 1

Country Context and Development Needs

1. This report evaluates the performance of operations supported by the Asian Development Bank (ADB) and the results of its strategic agendas and priorities in India from 2007 to 2015. It provides recommendations for the design of the next country partnership strategy (CPS). ADB supplied over $22 billion to India through loans, grants, and technical assistance (TA) projects. This chapter introduces India’s macroeconomic and social situation and its government strategies; discusses ADB’s strategic objectives for India; and sets out the evaluation’s main purpose, questions, and methods employed.

A. Macroeconomic Developments

2. India is one of the fastest growing economies in the world, and its share of the world’s gross domestic product (GDP) is increasing at a fast pace. Its GDP per capita using market prices and exchange rates rose to $1,584 in 2015, or $6,261 on a purchasing power parity basis, with an average growth rate of 7.5% during the evaluation period. India is the world’s second most populous country, with a population of 1.27 billion in 2015. It is on the way to become the most populous country. Almost half of India’s population is below the age of 25, and more than 12 million people enter the labor market every year. By 2030, India will have the largest labor force in the world. At more than 1 billion people of working age, India’s labor force will be larger than the combined labor forces in the United States, the Euro area, and Indonesia. India, however, remains predominantly rural. Two-thirds of the population lives in the countryside and more than half of the labor force is engaged in agriculture. However, the share of agriculture in the real GDP has fallen significantly, from 25% in FY2000 to 18% in FY2015.

3. The macroeconomic, financial, and structural policies and reforms implemented since the early 1990s have strengthened India’s macroeconomic fundamentals and have allowed the country to weather periods of crisis. The reforms led to a period of strong economic expansion, with growth averaging 8.0% during FY2004–FY2009, despite the sharp decline in FY2008 owing to the global financial crisis (Figure 1). After declining to 5.6% in FY2012, growth picked up gradually to 7.1% in FY2016, making India the fastest

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1 International Monetary Fund. 2015. *World Economic Outlook.* Washington, DC. In comparison, in 2015, the People’s Republic of China’s per capita GDP was $8,154 in nominal terms and $13,801 in purchasing power parity terms.

2 India’s land mass is the seventh largest in the world, spanning 3.28 million square kilometers, or 2.3% of the globe’s land area.

3 A revised national income series was introduced in 2011.

growing large economy in the world.\(^5\) Growth is expected to dip to 7.4% in FY2016, as exports decline and both public and private investment slows, but may pick up again to 7.8% in FY2017 when investment revives.\(^6\)

![Figure 1: India: Gross Domestic Product Growth, 2005–2016](image)

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP Growth (%)</th>
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<tbody>
<tr>
<td>2005</td>
<td>9.5</td>
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<tr>
<td>2006</td>
<td>9.6</td>
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<tr>
<td>2007</td>
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<td>2016</td>
<td>6.7</td>
</tr>
<tr>
<td>2017</td>
<td>5.6</td>
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4. The high rates of economic growth were more broadly shared than ever before across the Indian states. Both low income and highly populous states had faster economic growth than India overall. Under the Eleventh Five Year Plan, 2007–2012, some of India’s low-income states grew at a record pace, with Bihar (one of the poorest states) outperforming even the most advanced states, and the GDP of Madhya Pradesh and Rajasthan (both low income and highly populous states) rising faster than India’s overall GDP.\(^7\) Similar growth patterns of the Eleventh Five Year Plan have been experienced so far under the Twelfth Five Year Plan, 2012–2017.\(^8\)

5. Inflation has been stable in recent years with monetary tightening by the Reserve Bank of India, better safety stock management, and better control of agricultural procurement prices. Consumer price inflation was reduced to around 5.9% in FY2014, after hovering above 9% during FY2008–FY2013. During FY2014–FY2015, it declined further, but is expected to increase to 5.4% in FY2016 and 5.8% in FY2017. The government’s fiscal consolidation efforts have also helped to tame inflation. These efforts include (i) expenditure retrenchment, especially the recent subsidy reforms (mainly fuel subsidies), and revenue measures (such as boosting direct tax receipts through a new tax code with smaller and streamlined deductions); and (ii) better tax administration. The expected implementation of a well-designed goods and services tax will also contribute to these efforts, while helping to integrate markets across India and facilitate commercial activities. The required constitutional amendment to allow the imposition of the goods and services tax has been approved, and the enactment of the legislation to enable its implementation is underway at the national and state levels. The goods and services tax is slated for rollout in 2017.

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\(^5\) A new GDP series was released in January 2015 and the base year was changed to FY2011 from FY2004.


B. Poverty and Social Developments

6. Over the last 2 decades, significant progress has been made toward many of the Millennium Development Goals, with India already substantially achieving most of them. It has halved (to less than 30%) the proportion of the population living on less than $1.25 a day, and has progressed toward halving the number of people suffering from hunger. The Government of India Economic Survey, 2015–2016, reports that the incidence of poverty declined from 37% in FY2005 to 22% in FY2011 for the country as a whole, with a sharper decline in rural poverty than urban poverty. India has achieved almost universal primary education, gender parity at all levels of education, and an adult literacy rate of 69% in 2011 (although the female literacy rate is significantly lower than the male literacy rate). India has achieved its Millennium Development Goal target of sustainable access to improved drinking water sources for most people. It has made strong progress in fighting infectious diseases such as AIDS, tuberculosis, and polio; toward environmental sustainability; and in raising average life expectancy, which has risen significantly to 66.5 years in 2013.

7. However, India continues to have the largest number of poor people in the world (approximately 300 million), with the majority living in rural areas. According to the World Bank, India, with 18% of the world’s population, had 21% of the world’s poorest people in 2011. The human development index 2015 ranked India 130th among 188 countries, an improvement from 135th position in the 2014 Human Development Report, on account of the rise in life expectancy and per capita income. Widespread famine is rare, but chronic malnutrition remains pervasive. While maternal mortality has been reduced by 33% over 10 years, almost 20% of all maternal deaths worldwide still occur in India. Child (under 5) mortality is about 49 per 1,000 live births, with the rate of the poorest quintile double that of the richest quintile. There remain serious deficiencies in access to sanitary facilities, with more than half of the population deprived of access to improved sanitation facilities.

8. Women have made great strides in India. They are today active as elected representatives at the block and district levels (collectively referred to as the Panchayat Raj Institutions). The number of female functionaries exceeded 300,000 during period covered by the Eleventh Five Year Plan. Over time, these grassroots women functionaries are emerging as rural leaders, although this is yet to translate into numbers at the state or national levels. In many parts of the country, their presence is influencing the choice of rural projects, investment allocations, and monitoring of projects. There are also hundreds of thousands of women-run groups related to microfinance and savings. Participation of women in the rural employment programs is beyond initial expectations. During 2015–2016, 13 billion person-days of work were undertaken under the government scheme, and of this, 7.7 billion were accounted for by women.

9. Much, however, remains to be done to provide women with a level playing field. The Human Development Report 2015 (footnote 11) ranked India 130th out of

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9 The Millennium Development Goals that had been in place up to 2015 were replaced by the Sustainable Development Goals, comprising 17 goals and 169 targets to be achieved by 2030.
155 countries on the gender inequality index as of 2014. India’s 2014 Annual Employment-Unemployment Survey showed that the labor force participation rate was 53% (55% in rural areas and 47% in urban areas).\(^\text{13}\) Indeed, India’s female labor force participation rate is the third lowest in South Asia and has been on a declining trend since 2005. At 27%, the female labor force participation is now substantially lower than the global average of 50% and well below the East Asia average of 63%.\(^\text{14}\)

10. A multitude of factors explain the divergent growth and inequality rates across states.\(^\text{15}\) The trends in human development indices across states have varied considerably. The period of rapid growth after 1990 witnessed a rise in income inequality both across states, as population and GDP growth rates diverged, and between rural and urban areas (Figure 2). Despite the injection of huge resources—mainly through centrally sponsored flagship schemes such as the National Employment Guarantee Act, which was later renamed the Mahatma Gandhi National Rural Employment Guarantee Act; and the National Rural Livelihoods Mission—growth in rural incomes has lagged behind that of urban incomes, and job creation in the nonagricultural sector has been slow. Nevertheless, India’s urban population experienced a more unequal growth pattern compared to rural households. During FY2004–FY2009, the Gini index rose from 0.27 to 0.28 in rural areas and from 0.35 to 0.37 in urban areas in India.\(^\text{16}\) The India-wide Gini coefficient masks substantial variation in inequality across states, with inequality rising mostly in richer states. Rural inequality rose in most states from FY2004 to FY2009 and remained high in some of the richer states, such as Haryana, Kerala, and Punjab, but it was lowest in the poorer states of Assam, Bihar, and Rajasthan in FY2009. Urban inequality also grew in almost all states during the same period. The range of Gini coefficients for urban households increased from 0.26–0.36 in FY2004 to 0.31–0.40 in FY2009, and the Gini coefficients of most states increased as well, highest again in the richer states of Kerala and Maharashtra.

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C. India’s Development Strategies

11. India’s evolving strategies reflect a complex and dynamic development context. In recent years, the government’s planning process itself has evolved, with the dissolution of the Planning Commission by the new Bharatiya Janata Party-led government of Prime Minister Narendra Modi, the decision to abolish the traditional 5-year planning cycle, the emergence of a new government policy think tank, and the rise of many new national flagship programs. Against this backdrop, and reflecting their own evolving institutional priorities, ADB country strategies for India have shifted toward supporting the government’s emphasis on faster, sustainable, and more inclusive growth.

12. India’s national development planning process has seen recent changes. For over 6 decades, India followed a development strategy that revolved around a 5-year planning cycle led by the Planning Commission. Following national elections in 2014, the new government installed in May 2014 replaced the Planning Commission with a new policy think tank, the National Institution for Transforming India. Its role is to help advance national development priorities and strategies with the active involvement of states. The Prime Minister is the chairperson of the National Institution for Transforming India, with a governing council represented by leaders of all states and union territories. From 2018 onwards, after the current Twelfth Five Year Plan ends, India plans to replace the 5-year planning process with a new National Development Agenda that will act as a long-term (15-year) vision document with a strategy for implementation. This is likely to incorporate India’s development agenda, the sustainable development goals, and include internal security and defense for the first time. Part of the national development agenda are (i) a 7-year strategy (from 2017–2018 to 2023–2024) to convert a vision document into implementable policy and action; and (ii) a 3-year action plan (from 2017–2018 to 2019–2020), which will be aligned with the 14th Finance Commission award period.

13. India’s recent development plans have aimed to accelerate and improve the quality of economic growth. This evaluation spans the periods of the Eleventh Five Year Plan, 2007–2012 and the Twelfth Five Year Plan, 2012–2017, which have formed the bases of ADB CPSs from 2007 to 2017. At the start of the Eleventh Five Year Plan, the growth of the Indian economy had accelerated and macroeconomic fundamentals were sound (footnote 7). The Eleventh Five Year Plan focused on making growth faster and more inclusive with ambitious targets of achieving 9% growth and reducing the poverty ratio by 2 percentage points per year. The plan would achieve this by building rural and urban infrastructure, strengthening the provision of essential public services (especially in health and education), and increasing the growth rate of agricultural GDP, among other priorities. The plan also strongly focused on tackling socioeconomic, gender, and interstate disparities through a number of flagship programs and centrally sponsored schemes. Most notable was the aim to extend the Mahatma Gandhi National Rural Employment Guarantee Act across the whole country. Growth was hampered during the plan period by the global economic crisis and the weakest monsoon season (2009) that India had witnessed in 3 decades.

14. The Twelfth Five Year Plan targeted faster, sustainable, and more inclusive growth (footnote 8). It adopted a two-pronged strategy of addressing macroeconomic imbalances to reverse the slowdown of growth, and pursuing structural reforms to maintain growth in the medium term. For faster growth, the target was to increase GDP

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17 Under this national scheme, an adult who applies for employment in rural areas should be provided employment through local public works projects within 15 days, otherwise an unemployment allowance is provided.
growth to 9% by the end of the plan, with agriculture expected to grow at 4%, and manufacturing at 10%. This would be achieved through infrastructure investments; increased productivity in small, medium, and large enterprises; governance reforms; and the tackling of challenges related to increasing urbanization. For sustainable growth, the plan recognized the need for a growth process that is consistent with environmental sustainability (water, land, and forests). The plan also committed to reducing the intensity of greenhouse gases (GHGs) and adding 30,000 megawatts (MW) of renewable energy capacity. For inclusive growth, the plan noted the importance of ensuring that benefits of growth reach the poor, marginalized, and vulnerable communities; emphasized action against gender-based discrimination; promoted empowerment and participation; and paid special attention to lagging states. There was also a strong focus on education, skills, health, nutrition, drinking water and sanitation, and information technology. Prime Minister Modi’s government has not yet finalized its intended vision document, but has formulated 10 national priorities and produced a 3-year action agenda in April 2017. It has incrementally formulated a large number of national flagship programs that replaced earlier programs by the previous government, although there is a large degree of overlap with these earlier programs.

15. India’s Finance Commissions play an important role in the allocation of development resources and in Central-State fiscal relations. A Finance Commission is constituted every 5 years to provide advice on the distribution of tax revenues between the central government and the states, and amongst the states themselves. Two distinctive features of the work of the Finance Commission are (i) redressing vertical imbalances between the taxation powers of the union and expenditure responsibilities of the states; and (ii) equalizing public services across states. The 13th (2007) and 14th (2013) Finance Commissions have pushed for increased states’ share of central taxes and better management of fiscal and revenue deficits and debt. Improved state-level fiscal management is also critical for both macroeconomic stability and microeconomic allocative efficiency, and to achieve overall fiscal consolidation at the country level. Notably, the 14th Finance Commission has changed the back-to-back onlending arrangement of interest to multilateral development banks (MDBs) such as ADB. Poorer states (in the north and northeast) are no longer 100% exempted (as they were before 2013), but now need to pay 20% of the MDB loan back to the federal government. Nevertheless, it can be assumed that poor states have continued to have a special interest in MDB loans over the evaluation period due to this (partial) exemption.

16. Externally, India is increasingly influential in contributing to global economic growth, shaping vital international agreements and processes, and helping to address regional and global public goods. The Twelfth Five Year Plan also articulated India’s priorities for external engagement with the world economy, driven by its political, economic, security, and developmental considerations, including at bilateral, regional, and multilateral levels. India is a growing source of learning and innovation for other countries, particularly in facilitating South–South knowledge and investment. Since the 1950s, India has been providing small amounts of development cooperation to other countries, but in the recent decade, this has grown significantly, with the government budgeting approximately $1.16 billion for development assistance in FY2013.

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18 These 10 priorities are (i) taming inflation, (ii) reviving economic growth, (iii) checking corruption, (iv) implementing fiscal discipline, (v) boosting manufacturing, (vi) implementing financial sector reforms, (vii) reviewing and revamping social welfare schemes, (viii) promoting urbanization and rejuvenating rural areas, (ix) investing in agriculture, and (x) investing in education and skills development. See also Government of India, NITI Aayog. 2017. Three Year Action Agenda 2017-18 to 2019-20. New Delhi. 23 April.

D. Value Addition of Official Development Assistance

17. With official development assistance (ODA) representing less than 0.3% of national GDP, the government has increasingly emphasized a “finance plus” policy, which calls on development partners to offer value addition beyond the provision of finance by integrating knowledge and innovation, leveraging finance, and strengthening capacity. This is in line with government’s own emphasis on supporting an innovative and knowledge-based economy and the expectation that aid-supported programs clearly demonstrate value-addition beyond basic financing. These expectations are expressed through the concept of finance plus, which calls for aid-supported projects to make significant contributions over and above the provision of finance. Specifically, these projects need to demonstrate systemic positive impacts on the business processes of agencies in charge of infrastructure; introduce innovations and pilot new approaches; and/or leverage other sources of finance, especially from the private sector.

18. The government takes a direct role in implementing the national programs that receive much of the ODA. In practice, donors and multilateral financing institutions do not comprehensively coordinate their programs either at the national or state levels. Most development partners have bilateral agency-level meetings with the Ministry of Finance (MOF) to review portfolio performance and set forward priorities. For instance, the MOF and ADB in India conduct tripartite portfolio review meetings at least three times a year, which are also attended by line ministries and state partners. These meetings also potentially act as a cross-learning platform among participating states. Staff at the India Resident Mission conveyed that the government plays a lead role in the determination of projects if deemed suitable for ADB to prepare and fund. ADB senior management’s visits to individual states and meetings with chief ministers as well as prior operations can also lead to new project proposals for funding by ADB. In addition, approved 3-year rolling business plans and 10-year multitranche financing facilities (MFFs) influence the portfolio connected with new CPSs. Hence, the preparation of any new CPS is influenced in major ways by carry-over projects (including MFFs) and this limits the space for new directions and project proposals that follow new corporate priorities of ADB and new government priorities. Nevertheless, the MOF has stated a preference for ADB to develop and specify a long-term plan for its support.

E. ADB’s Strategies in India and Responsiveness

19. While addressing the needs of several longer running national flagship programs, ADB’s strategy has responded more broadly to the focus of India’s five-year plans on faster, sustainable, and more inclusive growth. The country strategy and program update (CSPU), 2006–2008 for India aimed to mainstream poverty reduction as the central organizing theme of ADB. This objective was aligned with India’s Tenth Five Year Plan, 2002–2007, which called for the urgent need to upgrade infrastructure facilities and refocus on agriculture and rural development so that growth would become more broad-

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20. The World Bank, ADB, and the Government of Japan are the top three ODA providers to India, accounting for two-thirds of ODA commitments from 2007 to 2013. Other important ODA agencies include the International Finance Corporation; United Nations agencies; and the governments of the United Kingdom, Germany, France, and the United States. Since 2000, annual ODA has risen from around $2 billion to $3 billion (in constant 2013 dollars), but has leveled off in recent years. World Bank. www.data.worldbank.org

21. The concept of “finance plus” was replaced in 2013 by “innovation impulse with investment.” Since these are similar concepts, the evaluation refers mostly to the “finance plus” concept for brevity.

based and create employment opportunities. ADB’s CPS, 2009–2012 was aligned with India’s Eleventh Five Year Plan, 2007–2012 and drew from the recommendations of the 2007 country assistance program evaluation (CAPE) for India. It had four pillars:

(i) supporting inclusive and environmentally sustainable growth,
(ii) catalyzing investments through using innovative business and financing solutions,
(iii) strengthening results orientation and emphasizing knowledge solutions, and
(iv) supporting regional cooperation.

20. The current CPS, 2013–2017, supports India’s priorities of faster, more inclusive, and sustainable growth. It identifies five strategic thrusts:

(i) infrastructure development;
(ii) creation of and access to jobs;
(iii) regional connectivity;
(iv) environmental sustainability; and
(v) synergies in infrastructure development, urbanization, and regional cooperation and integration.

21. ADB’s program objectives in India have evolved from being formulated mainly in sector terms to becoming formulated in more thematic terms. The change can be attributed to (i) the government’s five-year plans and national programs; and (ii) the gradual alignment with ADB’s Strategy 2020, which emphasizes three strategic agendas: inclusive economic growth (IEG), environmentally sustainable growth (ESG), and regional cooperation and integration (RCI). Table 1 elaborates the IEG, ESG, and RCI objectives as they have been integrated into ADB’s strategy documents for India. A progression is clearly visible. The CSPU, 2006–2008 had set only one key objective (poverty reduction) and all sector programs were linked to this. Inspired by ADB Strategy 2020’s central agendas and priorities, the CPS, 2009–2012 added RCI as a key objective and added a focus on partnerships with the private sector and other development partners. The CPS, 2013–2017 further aligns with Strategy 2020 by highlighting the support for IEG, ESG, and RCI objectives and linking these explicitly to government strategies and programs. Of the five drivers of change promoted in Strategy 2020, which will be called special priorities in this evaluation, attention is focused on ADB’s support for (i) catalyzing investment in infrastructure and public–private partnerships (PPPs); (ii) gender equality; and (iii) knowledge solutions, which cover knowledge work, capacity development, and innovation.

Table 1: Summary of Key Objectives of the Country Partnership Strategies for India

|---------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Inclusive economic growth       | Mainstreaming poverty reduction through continued assistance in the following priority sectors:  
  (i) transport,  
  (ii) urban,  
  (iii) energy,  
  (iv) agriculture and water resource management,  
  (v) public resource management and governance,  
  (vi) private and financial sector development,  
  (vii) education,  
  (viii) health, and  
  (ix) disaster management | (i) Support for inclusive and environment growth  
  (a) Focus on infrastructure development  
  (b) Agriculture and water resource interventions  
  (c) Focus on lagging states  
  (d) Environmental sustainability  
  (e) Disaster management to ensure sustainability  
  (ii) Catalyzing investment  
  (a) Public–private partnerships  
  (b) Cofinancing  
  (c) Governance and public resource management  
  (iii) Results orientation and knowledge solutions | Infrastructure development investments for rapid growth and to attract private sector investment  
 Job creation and access to jobs, investment in infrastructure, logistics, urban services and skill development, and supply chain networks along economic corridors  
 Synergies in infrastructure development, urbanization, and regional cooperation and integration  
 Environmental sustainability, investments in water resources management, and introduction of new technologies and low-carbon solutions |
| Environmentally sustainable growth | Developing cross-border infrastructure and promoting trade and investment | Regional connectivity, investments anchored on SASEC program with emphasis on multimodal regional connectivity and economic corridors |

CPS = country partnership strategy, CSPU = country strategy and program update, SASEC = South Asia Subregional Economic Cooperation.


22. In ADB’s India portfolio, IEG is most frequently tagged among the three strategic agendas of Strategy 2020. ADB tagged all 157 projects (117 sovereign and 40 nonsovereign projects) during the evaluation period for at least one of the three strategic agendas (projects approved before 2010 were tagged retroactively), and tagged over half for more than one strategic agenda. Out of these 157 projects, 141 (90%) were tagged as supporting IEG, on the basis of the rather wide criterion that they either support creating opportunities for growth, providing access to such opportunities, or ensuring social protection. Additionally, 82 projects (52%) were also classified with the ESG objective, while 7 (4%) were classified as supporting the RCI objective. ESG-tagged projects were mainly in

Figure 3: Financial Support to India by Strategic Agenda, 2007–2015 ($ million)

ESG = environmentally sustainable growth, IEG = inclusive economic growth, RCI = regional cooperation and integration.

three categories: (i) energy projects supporting clean and renewable energy; (ii) projects that deal with urban sanitation, sewerage, and urban water management; and (iii) some agriculture, natural resources, and rural development (ANR) projects that focus on water resource management. Figure 3 shows the financial support by strategic agenda for the evaluation period. Results and impacts of the implementation of the three strategic agendas are assessed in Chapter 4.

23. Among the five special priorities, ADB assigned the following three most frequently to operations in India: (i) governance and capacity development (GCD), (ii) gender equity and mainstreaming (GEM),\(^\text{27}\) and (iii) private sector development and private sector operations (PSD). Of the 157 projects, 95 (61%) were tagged for GCD, 75 (48%) for GEM, and 82 (52%) for PSD in multiple selection. Projects were classified as GCD most often, as most included a capacity building component or were supported by capacity development TA and policy advisory TA. Gender mainstreaming was promoted seriously during the evaluation period, especially after 2010, when the monitoring of ADB’s new results framework made clear that ADB was underperforming on this corporate priority.\(^\text{28}\) ADB’s emphasis on PSD in India was consistent with the government’s Eleventh Five Year Plan and Twelfth Five Year Plan, which called for a large amount of private sector investment. Table 2 summarizes the special priorities (drivers of change in Strategy 2020) in the three relevant CPS periods. While project classification clearly distinguishes between GCD and knowledge solutions ADB strategic objectives are hard to separate.

<table>
<thead>
<tr>
<th>Table 2: Special Priorities in the Relevant Country Partnership Strategy Periods</th>
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<tbody>
<tr>
<td>Governance and capacity development, and knowledge solutions</td>
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<tr>
<td>Gender equality</td>
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<td>Private sector development and private sector operations (Catalyzing)</td>
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\(^{27}\) GEM included projects tagged for effective gender mainstreaming, gender equity theme, and some gender elements.

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<tr>
<td>infrastructure investment and public–private partnerships)</td>
<td>rationalizing capital market regulations</td>
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<td>associated capacity development</td>
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<tr>
<td>Partnerships</td>
<td>Coordinating external funding and partnership arrangements</td>
<td>Catalyzing investment with cofinancing</td>
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ADB = Asian Development Bank, CPS = country partnership strategy, CSPU = country strategy and program update, PPP = public–private partnership.
Source: ADB.

24. The remaining two special priorities in Strategy 2020, knowledge solutions and partnerships were tagged only a few times in the portfolio. Among the projects, 13 were tagged as knowledge solutions and 19 as partnerships. Figure 4 shows the total amount of financial support grouped by each priority. The gap between GCD and knowledge solutions reflects the fact that ADB support was provided more frequently for project preparation and implementation, including safeguard management, project design, procurement, and project supervision and monitoring. It was provided less frequently for the development and application of more innovative solutions, thereby revealing ADB’s fundamental emphasis on GCD in India. Operations tagged for partnerships were also few, compared with other priorities, which indicated that there may be fewer opportunities for collaboration in India, both with development partners and other institutional players. This reflects the donor coordination climate, the scope for financing, and perhaps also the perception of the low profitability of public infrastructure investment.

F. Available Country Level Evaluations in India

25. The 2007 CAPE for India\(^29\) covered 2 decades (1986–2006) of ADB operations, with an overall successful rating. ADB’s support, though small in relation to India’s economy, was deemed to have made a significant contribution to the country’s development process. The support was most effective when it was focused, part of a long-term engagement, and integrated with government reform initiatives. Support for infrastructure development and policy reforms had an impact on economic growth, which helped mitigate income poverty. ADB’s focus on rural development activities and the provision of basic urban services likely had a positive impact on the reduction of both income and non-income poverty. To maximize impact with limited resources, the evaluation recommended that ADB (i) improve its strategic focus, (ii) improve the quality of its financial support, (iii) improve nonlending services, (iv) increase private sector operations, and (v) increase responsiveness to client concerns.

26. ADB’s country partnership strategy final review, 2009–2012 self-assessed its performance as successful, and the country partnership strategy final review validation report prepared by the Independent Evaluation Department (IED) in 2013 confirmed this rating. The validation report found that (i) ADB registered satisfactory progress toward improving its strategic focus, increasing private sector support through PPPs, and increasing responsiveness to client concerns; (ii) capacity development was required in several agencies working with ADB because ADB operations were entering more difficult sectors (e.g., water and other urban infrastructure and services [WUS] and small industries) and ADB was operating in lagging states; and (iii) ADB needed to keep building a strong knowledge base and expertise in core areas of support. The validation recommended that ADB (i) strengthen policy dialogue and engagement with the state governments, (ii) enhance synergies and impacts by better linking outputs to outcomes, (iii) increase staff resources in the field to engage better with lagging states and augment resources for technical work to deliver innovative solutions and stay abreast of client requirements, (iv) prepare an integrated strategic framework to synergize ADB’s public–private sector operations, and (v) improve monitoring of the CPS results framework.

G. Scope and Method of Evaluation

27. The CAPE will provide the ADB Board of Directors and Management with an independent assessment of the performance of the program in India during 2007–2015. It consists of three parts:

(i) A description of the operationalization of ADB’s strategic objectives in its portfolio.

(ii) A performance assessment of ADB’s programs and projects in transport, energy, WUS, finance, public sector management (PSM), and nonsovereign operations (NSO). The sovereign sector programs were assessed for relevance, effectiveness, efficiency, sustainability, and development impacts, while NSO were assessed for development results, ADB investment profitability, ADB additionality, and ADB work quality. The ANR and social sectors (education and health) are real-time assessments with no ratings, as all projects are under implementation except one in ANR.

(iii) An assessment (using a matrix assessment approach) of the relevance and development impacts of cross-sectoral issues and three special priorities (para. 32).

28. The evaluation covers ADB operations from 2007 to 2015 and covers the last 2 years of the CSPU, 2006–2008, the full period of CPS, 2009–2012, and the first 3 years of the CPS, 2013–2017, up to the end of 2015. Projects, policy-based loans (previously called program loans), grants, and TA that were approved over this period have been assessed. Chapter 2 provides more information on ADB’s portfolio.

29. This evaluation uses a mixed-method approach with both qualitative and quantitative assessments, including (i) document and file study; (ii) portfolio data analysis; (iii) interviews with ADB staff, government counterparts, beneficiaries, and other stakeholders; (iv) field observations; and (v) questionnaire surveys. Information studied includes project completion reports (PCRs) and project validation reports, and the findings of project performance evaluation reports for projects that closed during the

31 Footnotes 22, 24, and 25.
evaluation period. Additional details on the approach and methodology of the CAPE are set out in the approach paper for this evaluation, which is available on ADB’s website.32

30. Prior to developing the CAPE main report, the evaluation team prepared the following documents, available on the IED website through a link provided in the List of Supplementary Linked Documents in the Appendix:

(i) three background papers on (a) country context, (b) poverty, and (c) climate change;
(ii) five sovereign sector program assessments for operations in (a) transport, (b) energy, (c) WUS, (d) finance, and (e) PSM;
(iii) an assessment of NSO;
(iv) real-time assessments (without ratings) for operations in (a) the social sectors, and (b) ANR;33
(v) analyses of the findings of four beneficiary surveys in (a) Assam, (b) Bihar, (c) Madhya Pradesh, and (d) Odisha;
(vi) an assessment of ADB support for gender equality in India; and
(vii) a study of an involuntary resettlement.

31. The evaluation follows the assessment approach set out in the CAPE guidelines of 2015.34 The assessment scale includes the ratings highly successful, successful, less than successful, and unsuccessful. There are five evaluation criteria for sovereign programs, each weighted at 20% of the overall success rating: relevance, effectiveness, efficiency, sustainability, and development impacts. The ratings for the five public sector programs (the sovereign program) were weighted depending on each sector’s financial girth. The private sector operations program (the nonsovereign program) was assessed based on four evaluation criteria: development results, investment profitability, ADB additionality, and ADB work quality. Its weight in the overall assessment is also determined by its approved financial size.

32. The evaluation takes a matrix assessment approach, by assessing relevance and development impacts of the implementation of the three strategic agendas of Strategy 2020, plus three special priorities (drivers of change), and integrating this with the above sector program assessment. The three strategic agendas are IEG, ESG, and RCI. The three special priorities identified as constants in the CPSs were knowledge and capacity development, gender equality, and catalyzing infrastructure investment and PPPs. These six themes were responsible for half of the scores for relevance and development impacts. Supplementary linked document 19 gives further details on the scoring system. The evaluation findings and recommendations are intended to feed into the design of ADB’s next country strategy for India.

33. The report is structured as follows. Chapter 2 analyzes ADB’s portfolio of operations, i.e., the response given by ADB to the CPS agenda and priorities. Chapter 3 assesses the performance of ADB sovereign operations by sector program, and the performance of NSO. Special attention has been paid to the results of MFFs, a prominent feature of the program. Chapter 4 assesses results in terms of supporting the strategic agendas and the special priorities. Chapter 5 ties together the various assessments, summarizes key findings, and provides recommendations.

33 No ratings were given because of the limited number of projects approved during the evaluation period in these areas.
CHAPTER 2

ADB’s Portfolio in India

34. The composition of ADB’s portfolio in any country is a result of (i) strategic discussions with the client at the time of preparation and implementation of the country programs, and (ii) midterm adjustments due to changing realities and ad hoc requests. In India, the MOF is the main government counterpart in discussions with ADB, particularly the Department of Economic Affairs. It coordinates on behalf of the Government of India and its state governments. On the ADB side, the India Resident Mission plays a lead role. When ADB selects projects for its portfolio in India, it factors in the corporate strategy, staff expertise from the sector divisions, and variables that result in longer or shorter than planned durations of ongoing projects. This chapter analyzes ADB’s portfolio in India, particularly the incorporation into the portfolio of the strategic agendas and special priorities of the CSPU, 2006–2008; the CPS, 2009–2012; and the CPS, 2013–2017.

A. ADB Program

35. ADB’s partnership with India is one of its largest borrowers, which is to be expected from one of the two most populous middle-income countries in the world and one of the biggest economies in the region. Of ADB’s $22.1 billion investment as approved during 2007–2015, $22.0 billion was approved in ordinary capital resources loans and grants (including nonsovereign loans totaling $4.7 billion) and $151.7 million was approved for 195 TA projects. ADB supported 117 projects and policy-based interventions through 113 sovereign loans and 6 sovereign grants. ADB’s sovereign program covered 28 out of 36 states and union territories during the evaluation period.

36. Due to its perception of ADB as having comparative advantage in infrastructure financing, the government has been most interested in having ADB support projects in transport, energy, and WUS. As a result, such portfolios account for the largest share of ADB support. With 10 loans, the finance sector program is the fourth largest, although this is mainly relying on financial intermediary loans, which are also for infrastructure development. The financial share for support to other sector portfolios, such as PSM, ANR, and social sectors, are smaller, though some increased during the latter half of the evaluation period (the ANR program is, however, also closely linked to infrastructure investment). ADB’s nonsovereign program was also substantial and financed 40 projects with 51 investments totaling at $4.7 billion during the evaluation period, the bulk of which were energy and finance sector projects (for infrastructure, Table 3).

35 For purposes of the evaluation, a tranche under an MFF is counted as one project. The stand-alone loans 2536 and 2537 [Mizoram Public Resource Management Program] were counted as separate projects and loans 3182 and 3183 [Rajasthan Urban Sector Development Program] were also considered as separate projects because they had different outputs and outcomes.
### Table 3: ADB Sovereign and Nonsovereign Loans, Grants, Investments, and Technical Assistance in India, 2007–2015; and Completion Report Status

<table>
<thead>
<tr>
<th>Sector</th>
<th>Approved Loans</th>
<th>Approved Grants</th>
<th>No. of Projects</th>
<th>Projects with PCR</th>
<th>Approved Investments</th>
<th>No. of Projects</th>
<th>Projects with XARR</th>
<th>Approved TA</th>
<th>TA with TCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport(^a)</td>
<td>29</td>
<td>0</td>
<td>29</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>52</td>
<td>4</td>
</tr>
<tr>
<td>Energy</td>
<td>33</td>
<td>0</td>
<td>33</td>
<td>4</td>
<td>30</td>
<td>19</td>
<td>7</td>
<td>38</td>
<td>10</td>
</tr>
<tr>
<td>WUS(^b)</td>
<td>27</td>
<td>2</td>
<td>27</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>28</td>
<td>5</td>
</tr>
<tr>
<td>Finance</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td>5</td>
<td>11</td>
<td>10</td>
<td>0</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>PSM</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>9</td>
</tr>
<tr>
<td>ANR</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>29</td>
<td>7</td>
</tr>
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<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
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<td>Education</td>
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<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>9</td>
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<td>ICT</td>
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<td>0</td>
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<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Industry</td>
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<td>1</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>113</strong></td>
<td><strong>6</strong></td>
<td><strong>117</strong></td>
<td><strong>18</strong></td>
<td><strong>51</strong></td>
<td><strong>40</strong></td>
<td><strong>0</strong></td>
<td><strong>195</strong></td>
<td><strong>40</strong></td>
</tr>
</tbody>
</table>

\(^a\) The number under the nonsovereign column represents loans or equities. There were 51 loans or equity investments in 40 projects. Some nonsovereign projects had multiple investments.

\(^b\) The National Capital Region Urban Infrastructure Financing Facility - Tranche 1 and the Jammu and Kashmir Urban Sector Development Investment Program are classified as transport projects by ADB. This evaluation classifies the projects with the WUS sector.

\(^c\) The 117 projects include 113 sovereign loans and 6 sovereign grants. Two grants in the WUS sector, however, supported two related loans and thus were not counted as projects.

Source: ADB.

37. Due to (i) the long-standing arrangement that India has not used ADB’s concessional Asian Development Fund window, and (ii) India’s access to the World Bank’s soft International Development Association window until recently, the government had not, until a few years ago, availed itself of ADB loans in the social sectors, instead using a sizeable portion of International Development Association’s resources for supporting such sectors. The government has traditionally seen the best use of ADB financing in support for infrastructure investment, and sees ADB’s strength mainly in these terms. A related special feature of the India program has been its preference for MFFs since 2005, mostly again in infrastructure. The government has been a critic of ADB’s commitment charges, which it sees as expensive penalties for when standard but ambitious loan disbursement schedules cannot be followed for various reasons (e.g., ADB and executing agency inefficiencies, force majeure). Thus, the government has become supportive of using MFFs to finance infrastructure.

### B. Sovereign Operations

38. ADB support for infrastructure including financing intermediary loans of the finance sector comes to more than 90% of all support during the evaluation period, corresponding to the major demand of the government, and aligning with main government interests.\(^36\) Transport, energy, and WUS projects made up 78% of sovereign loans and grants during the evaluation period (Table 4). The share of the transport and energy programs remained similar from the first CPS to the last, but the WUS program increased its share. Lending commitments for the ANR program increased from less than

\(^36\) This is the total share when the finance sector support for financial intermediaries is also included in the figures.
1.0% in 2007–2008 to 2.5% in 2013–2015. Most finance sector projects leveraged private capital to finance infrastructure development by channeling ADB’s funding through India Infrastructure Finance Company Limited (IIFCL), a special purpose vehicle wholly owned by the government. ADB’s lending support in the social sectors started only in 2013–2015. Prior to this, the government did not request such financing from ADB, which limited ADB’s ambitions to support inclusive growth in India. Average annual disbursements hovered around $1.5 billion for each of the three assessment periods even while the amount of approved loans has gone up from an annual average of $2.1 billion in 2007–2008 to $2.7 billion in 2013–2015. Thus, disbursement ratio peaked in 2010 at 32.3% (without policy based loans) but has since been on a downward trend and stayed at 17.0% in 2015. India’s disbursement ratio has been generally consistent with the trend of ADB-wide disbursement ratio, which is below optimum. Indian authorities have in fact associated slow disbursement with slow response times by ADB and its reliance on the headquarters for decision-making. They favor strong capacity on the ground.

Table 4: ADB Sovereign Loans and Grants to India by Sector, 2007–2015

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount ($ million)</td>
<td>Amount ($ million)</td>
<td>Amount ($ million)</td>
<td>Amount ($ million)</td>
</tr>
<tr>
<td></td>
<td>Share (%)</td>
<td>Share (%)</td>
<td>Share (%)</td>
<td>Share (%)</td>
</tr>
<tr>
<td>Transport</td>
<td>1,138</td>
<td>2,719</td>
<td>2,179</td>
<td>6,036</td>
</tr>
<tr>
<td>Energy</td>
<td>1,039</td>
<td>2,719</td>
<td>1,170</td>
<td>4,928</td>
</tr>
<tr>
<td>WUS</td>
<td>266</td>
<td>1,076</td>
<td>1,006</td>
<td>2,348</td>
</tr>
<tr>
<td>Finance</td>
<td>450</td>
<td>950</td>
<td>900</td>
<td>2,300</td>
</tr>
<tr>
<td>PSM</td>
<td>100</td>
<td>500</td>
<td>200</td>
<td>800</td>
</tr>
<tr>
<td>ANR</td>
<td>17</td>
<td>151</td>
<td>151</td>
<td>319</td>
</tr>
<tr>
<td>Health</td>
<td></td>
<td></td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td>200</td>
</tr>
<tr>
<td>Industry</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>3,010</td>
<td>8,118</td>
<td>6,106</td>
<td>17,234</td>
</tr>
</tbody>
</table>

ADB = Asian Development Bank; ANR = agriculture, natural resources, and rural development; PSM = public sector management; WUS = water and other urban infrastructure and services.

Note: Percentages may not total 100% because of rounding.

Source: ADB.

39. ADB funds relatively few TA operations (excluding project preparatory TA) in India compared to its large loan portfolio, and compared to comparators. During 2007–2015, ADB funded $101.0 million or 0.5%–1.0% of the total loan approvals (Figure 5). The annual average TA amount received as a percentage of loan approval was 0.6%, marginally better than Pakistan’s 0.4% (which increased from 2013 to 2015), but lower than the People’s Republic of China’s 1.0%, which has a higher success rate.

40. In line with government demand, MFFs have been the predominant financing modality and India is ADB’s top recipient of MFF approvals. MFFs constitute half of all operations in India (Figure 6), and at $11.3 billion, they account for over 30% of all ADB’s MFF operations as of 31 December 2015. During 2007–2015, the number of MFF approvals for India was greater than the combined number of MFF approvals for Afghanistan, Pakistan, and Viet Nam, and 58% of the $17.2 billion in approved sovereign projects during the evaluation period were MFF tranches (Table 5).
Table 5: Multitranche Financing Facility Approvals for India, 2007–2015

<table>
<thead>
<tr>
<th>Sector</th>
<th>Number of MFF Projects</th>
<th>Approved MFF ($ million)</th>
<th>Approved MFF Tranches ($ million)</th>
<th>Approved Projects ($ million)</th>
<th>Share of MFF Tranches to Sector (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>4</td>
<td>2,000</td>
<td>2,535</td>
<td>6,036</td>
<td>42</td>
</tr>
<tr>
<td>Energy</td>
<td>8</td>
<td>3,570</td>
<td>3,346</td>
<td>4,928</td>
<td>68</td>
</tr>
<tr>
<td>WUS</td>
<td>10</td>
<td>2,475</td>
<td>1,713</td>
<td>2,344</td>
<td>73</td>
</tr>
<tr>
<td>Finance</td>
<td>4</td>
<td>2,400</td>
<td>2,100</td>
<td>2,300</td>
<td>91</td>
</tr>
<tr>
<td>ANR</td>
<td>5</td>
<td>878</td>
<td>311</td>
<td>311</td>
<td>100</td>
</tr>
<tr>
<td>Others</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,300</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31</strong></td>
<td><strong>11,323</strong></td>
<td><strong>10,005</strong></td>
<td><strong>17,219</strong></td>
<td><strong>58</strong></td>
</tr>
</tbody>
</table>

ANR = agriculture, natural resources, and rural development; MFF = multitranche financing facility; WUS = water and other urban infrastructure and services.

Note: The number of MFF projects and amount of ADB finance were derived from the ADB Project Data Sheets as of the end of the evaluation period, 31 December 2015. MFF 50 (Assam Integrated Flood and Riverbank Erosion Risk Management Investment Program) was categorized under ANR, but the first tranche of MFF 50 was categorized under WUS. Total approved loans include approvals for education and health, and public sector management sectors. All loans for these sectors are stand-alone loans.


41. The MFF window supported five sector programs in ADB’s portfolio and was responsible for 58% of all lending during the evaluation period. The WUS program had 10 MFFs; the energy program had only 8, but with the largest approved amount ($3.6 billion); the ANR program had 5 MFFs, each with 4 tranches; and the transport and finance programs had 4 MFFs each (Table 5). The MFF has become a well-established modality in India, allowing for term financing for projects requiring large investments for related individual components. Feedback from most state governments and executing agencies gathered during the evaluation noted that the MFF is a valuable modality. State governments view the MFF as a flexible financing instrument that facilitates phased programs through periodic funding of approved project loans, and provides critical mass, predictability, and continuity. Other advantages of MFFs include the following, they (i) reduce the impact of commitment charges as they are not payable on the entire amount of the MFF approved but only on the individual tranche approved, (ii) can adjust to accommodate ADB’s changing project components between tranches when necessary, and (iii) allow financing to align with project readiness.
The evaluation found, however, that some project tranches within the MFFs approved in India could not be completed within the usual 10-year limit for MFFs, and this might be the case for many ongoing MFFs as well. While the importance of MFFs will likely continue (as remaining tranches of already approved MFF programs are likely to be approved over the next years), the share of MFF programs decreased during the evaluation period compared to other modalities, such as the stand-alone project modality (Figure 7). The reasons for this are somewhat unclear. In addition, the implementation delays and number of cancellations of MFF programs have been similar to those of stand-alone projects so far, unlike the expectation that MFFs significantly improve the project readiness of following tranches. One of the reasons might be the inability to complete final tranches within the usual 10-year limit for MFFs, which is a problem that stand-alone projects do not have. Some MFFs now have to either cut back on their intended programs (through cancellations) of operations or be extended. The MFF tranches that have been cut back are sometimes taken over by state governments using their own funds, but this reduces funds available for other interventions. Especially for lagging states, which do not need to pay most or all of the funds back to the central government, this is a lost opportunity.

During the tripartite portfolio review meeting in 2016, the government said that the MFF lending modality should be adopted more selectively than before. This was because the 10-year timeline for an MFF is now perceived as difficult to meet, perhaps due to a false sense of complacency within executing agencies, which feel flexibility to extend their projects to match the MFF duration. In a discussion with MOF representatives, the view was held that extensions should not be provided automatically, but based on objective criteria. While this was not discussed, occurrence of force majeure events that lead to unavoidable delays could perhaps be one such criterion. In response to the government’s suggestion, ADB proposed to change the financial modality of an ANR project under processing from MFF to stand-alone project loan in March 2017 as it provides a more flexible framework for both project preparation and implementation and does not compromise the programmatic approach.

C. Nonsovereign Operations

India is the largest borrower of ADB’s nonsovereign financing. ADB catalyzed private sector investments through direct financing, credit enhancement, and risk mitigation instruments. During 2007–2015, the 40 NSO projects approved were valued
at $4.70 billion (Table 6). The two sectors with the largest share were energy and finance. There were 19 energy projects and 11 finance projects. Of note, however, is that 13 projects were cancelled, while another 8 had partial cancellations. Total cancellations (full and partial) amounted to $1.89 billion or 40% of the approved amount. The sectors with the biggest cancellations were energy ($761.00 million), followed by transport ($350.00 million) and finance ($325.00 million). Reasons for the cancellations will be reviewed in the NSO assessment section (para. 107).

Table 6: ADB Nonsovereign Loans and Grants to India by Sector, 2007–2015

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount ($ million)</td>
<td>Share (%)</td>
<td>Amount ($ million)</td>
<td>Share (%)</td>
<td>Amount ($ million)</td>
<td>Share (%)</td>
<td>Amount ($ million)</td>
<td>Share (%)</td>
</tr>
<tr>
<td>Transport</td>
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<td>8</td>
<td>250</td>
<td>16</td>
<td>40</td>
<td>2</td>
<td>390</td>
<td>8</td>
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<tr>
<td>Energy</td>
<td>859</td>
<td>69</td>
<td>791</td>
<td>50</td>
<td>962</td>
<td>50</td>
<td>2,612</td>
<td>55</td>
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<tr>
<td>WUS</td>
<td>0</td>
<td>0</td>
<td>35</td>
<td>2</td>
<td>35</td>
<td>2</td>
<td>70</td>
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<tr>
<td>Finance</td>
<td>94</td>
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<td>32</td>
<td>826</td>
<td>43</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ANR</td>
<td>0</td>
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<td>48</td>
<td>3</td>
<td>48</td>
<td>3</td>
<td>48</td>
<td>1</td>
</tr>
<tr>
<td>Health</td>
<td>39</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>39</td>
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</tr>
<tr>
<td>Education</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
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<tr>
<td>ICT</td>
<td>150</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>150</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>1,241</td>
<td>100</td>
<td>1,574</td>
<td>100</td>
<td>1,913</td>
<td>100</td>
<td>4,729</td>
<td>100</td>
</tr>
</tbody>
</table>

ADB = Asian Development Bank; ANR = agriculture, natural resources, and rural development; ICT = information and communication technology; PSM = public sector management; WUS = water and other urban infrastructure and services.

Notes: Numbers may not sum precisely because of rounding. Percentages may not total 100% because of rounding. Source: ADB.

D. Summary

45. ADB’s strategy for India has gradually aligned more closely to ADB’s corporate strategy during the evaluation period.

(i) IEG is the objective most tagged to ADB operations. The definition of IEG is very broad, however, allowing almost any operation to fit under it.

(ii) To support IEG, ADB has focused on infrastructure development in lagging states, on rural areas, and on water and sanitation in urban areas.

(iii) An ESG objective was frequently tagged to operations in ANR, energy, transport, and WUS, particularly renewable energy, energy efficiency, water resource management, and increasingly in climate resilience.

(iv) ADB support for RCI was limited, although it has grown somewhat in recent years.

(v) Of the special priorities identified by Strategy 2020, three—GCD, GEM, and PSD—are most tagged to operations.

(vi) Support for the other two priorities—promoting knowledge solutions and partnerships—was much less frequently tagged.

(vii) ADB’s TA support is not commensurate with the size of the loan program.

46. India is one of the main users of the MFF modality.

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37 Total exposure includes loans, equity, and guarantees.

38 An MFF, policy-based loan, TA grant, and administration of grant for the Visakhapatnam–Chennai Industrial Corridor Development Program was approved in September 2016, although it is not included in the evaluation period.
(i) Use of the MFF modality is still perceived to reduce commitment charges and has some other perceived advantages over other infrastructure financing modalities.

(ii) The government expressed that the MFF lending modality should be adopted more selectively and extensions should be given only according to objective criteria.

47. India is the largest borrower of ADB’s nonsovereign financing, but the following caveats apply:

(i) Indian companies mostly borrowed for energy investments.

(ii) Of the total loans, 40% were cancelled—a higher cancellation rate than the ADB-wide NSO rate (excluding India).

Reasons are presented in Chapter 3, which gives an assessment of the sovereign and nonsovereign portfolio performance.
CHAPTER 3

Sectoral Performance of ADB Sovereign and Nonsovereign Operations

48. This chapter assesses the performance of operations by the evaluation criteria listed in Chapter 1: relevance, efficiency, effectiveness, sustainability, and development impacts (para. 31). Performance is assessed separately for operations in energy, finance, PSM, transport, and WUS. The evaluation conducted real-time assessments for operations in ANR and the social sectors without rating performance fully, given that most projects were approved in the second half of the evaluation period and are still ongoing. Findings from four beneficiary surveys undertaken in Assam, Bihar, Madhya Pradesh, and Odisha are also presented to support the assessment. The evaluation assessed ADB’s nonsovereign program using different criteria for development results, investment profitability, ADB additionality, and ADB work quality. The full sector program assessments, including NSO, are in supplementary linked documents 6–13, and these also contain lessons and suggestions of more direct use to ADB and government for the sector programs. The results of the surveys, indicated briefly in some of the assessments below, are fully described in supplementary linked documents 15–18 in the Appendix.

A. Sovereign Operations

1. Transport Sector Program Assessment

49. Sector strategy. The ADB transport strategy focuses on promoting connectivity and increasing the access of rural areas to the towns and cities, particularly in lagging states. The theme of the CSP, 2006–2008 was to mainstream poverty reduction in ADB’s support. This would be addressed through high, equitable, and pro-poor growth through the provision of infrastructure. In the CPS, 2009–2012, ADB focused on encouraging seamless connectivity via roads. It also put more emphasis on road safety and traffic operations. The transport sector strategy in the CPS, 2013–2017 continued to promote regional connectivity around lagging states, support increasing mobility in rural and urban areas, and support embedding low-carbon solutions in investments. The Prime Minister’s Rural Roads Program (PMGSY) and the Special Accelerated Road Development Programme for North East were the most relevant national programs during the evaluation period (para. 115).

50. Portfolio. The transport program was the largest component in ADB’s sovereign portfolio (35%). ADB approved 29 loans during 2007–2015 with a value of $6 billion, and these were for projects located in 18 states, especially lagging states in northern and eastern India. Apart from two loans for railways ($0.3 billion), all sovereign loans were for roads, with 15 through MFFs and 14 through investment projects; ADB did not provide any policy-based loans to support sector reform. The program aimed to
construct, upgrade, and/or rehabilitate over 38,000 km of roads—64% rural roads ($1.4 billion) and 35% state roads ($4.0 billion), with national roads (657 km of the east–west corridor) making up less than 1% ($0.2 billion). During 2007–2015, ADB approved projects to support the PMGSY for about 24,000 km of roads in total (9,833 km of completed roads). ADB provides ongoing support for the Special Accelerated Road Development Programme for North East to upgrade about 1,000 km of national and state roads.

51. **Relevance.** This evaluation saw ADB’s transport program relevant. Of the portfolio, 92% was implemented within lagging states, which was in line with ADB’s CPS directives on prioritizing such states in the program. The CPSs noted the limited capacity of transport agencies, particularly in these lagging states. The evaluation team found that many road projects were appropriately supported by capacity development TA, e.g., to improve project preparation and implementation, asset management, road safety, and private sector participation. Many designs of transport projects in India are similar. Some design and monitoring frameworks did not set clear targets. Some were too complex or inadequate to serve as a basis for monitoring and evaluation, particularly when the project spanned more than one state.

52. **Effectiveness.** The program is viewed effective based on the observation that the outputs of completed projects were generally achieved, traffic surveys (when done) were positive, and improvements in connectivity and mobility were visible. The National Highway Corridor (Sector) I Project, four state road projects, and four rural road projects were completed, and IED’s beneficiary surveys found that the outcomes were achieved. The total length of roads completed with ADB support was 14,220 km; the other 24,000 km targeted is still in progress. Not many cancellations are evident, so it is likely that all or most of the targets will be achieved. The National Highway Corridor (Sector) I Project was completed despite delays, with 657 km of national highways upgraded and widened to four lanes, and substantial road safety features incorporated in Madhya Pradesh, Rajasthan, and Uttar Pradesh. ADB projects rehabilitated 3,731 km of state highways and 9,833 km of rural roads in Assam, Bihar, Chhattisgarh, Madhya Pradesh, Odisha Uttaranchal, and West Bengal.

53. **Efficiency.** The program is considered less than efficient, based mainly on the delays incurred and the lack of significant progress in this area because of limited capacity of executing agencies and contractors in the lagging states. The evaluation team noted that many projects were delayed and were encountering cost overruns because of the weak capacity of both contractors and implementing agencies, especially in the lagging states. Five of 29 projects in the portfolio were completed and had completion reports. The rates of return were generally above the 12.0% threshold, but the sample of projects completed is small and most reports were not validated by IED. For the

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39 ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Supplementary Loan to India for the National Highway Corridor (Sector) I Project*. Manila.
National Highway Corridor (Sector) I Project ($100 million supplementary loan), the economic internal rate of return (EIRR) was initially estimated at 22.9% but re-estimated at 15.2% at completion due to cost overruns. State roads upgraded with ADB support had estimated EIRRs well above the threshold of 12.0%, based mostly on time and vehicle operating cost savings. The PCR of the Madhya Pradesh State Roads Sector Project II (not validated by the IED) reevaluated the EIRR at 29.7% in comparison with the forecast of 26.2% at appraisal. For rural roads, typical EIRRs at appraisal in the Rural Roads Sector II Investment Program projects 2, 3 and 4 were 18.0% (all based on the same sample of roads). In the unvalidated PCRs, the EIRRs at completion were 21.5% for project 2, 17.0% for project 3, and 20.1% for project 4.

54. **Sustainability.** The transport portfolio in India is assessed likely sustainable. Institutional and financial capacities have improved, and performance-based contracts have enhanced sustainability. The physical inspection of randomly selected national, state, and rural roads by the evaluation mission found that the roads were well maintained, even along sections completed 5 years ago. The mission found that funding for maintenance in several states has gradually improved, and ADB-supported states have improved their road asset management system. ADB has encouraged performance-based contracting works in most states, and in most cases, this has benefited government and road users, although difficulties remain in effectively monitoring contract implementation such as traffic conditions. Moreover, under the PMGSY for which all ADB rural road projects supported, it is now mandatory for all projects to have a bundled maintenance contract for a period of 5 years. Capacity building TA was usually related to ADB project implementation, and this contributed to the sustainability of the outcomes. The enhanced capacity and best practices were found to impact non-ADB projects in some cases, contributing to sustainable sector development.

55. **Development impacts.** The evaluation considered the development impacts of the road program satisfactory. They contributed to promoting connectivity, particularly in lagging states. State and national roads are the main arteries of the country, and positive macroeconomic impacts from lower travel costs and increased time savings are typically expected. Two beneficiary surveys conducted by the evaluation team—one each for project 2 and project 4 of the Rural Roads Sector II Investment Program—indicate that ADB support for rural roads and state highways in lagging states has improved connectivity to and from targeted remote areas, and benefited men and women by facilitating their access to markets and government services (paras. 127–129). A survey implemented in Bihar (based on a field visit and focus group discussions) by the evaluation team for the Bihar State Highways Project found the majority of stakeholders indicating that the road had improved their mobility, particularly in accessing economic, health, education, and government facilities. In terms of additional income or economic opportunities, however, the response was mixed (para. 130). Women noted that they had little opportunity to access any income-generating activities. Focus group discussions suggested that people are going to other cities because of easier access to transport and because there was less income available in their villages, particularly alongside state highways 73 and 75, due to low rainfall, which affected agricultural harvest. Thus, people who depended on agriculture could now look for work in other places.

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42 Footnote 42, Tranches 2 (2008), 3 (2008), and 4 (2009). Subproject 1 was approved before the evaluation period.

43 As a good example, the Road Construction Department of the Government of Bihar adopted a “Road Assets Maintenance Policy” in 2013. The road asset maintenance contract packages cover 7,760 km of state highways and major district highways. A maintenance clause is provided, which assigns maintenance responsibility to the contractor for 5 years.

Box 1: Summary of the Resettlement Study Conducted by the Evaluation Team

The Independent Evaluation Department undertook a review of the extent to which the Safeguard Policy Statement (2009) of the Asian Development Bank (ADB) was applied in India, with a focus on resettlement. A survey of 200 beneficiaries was conducted for the Bihar State Highways Project along four project highways in Bihar to learn whether they received the compensation they were entitled to under the project’s resettlement plan, and their perception of whether their lives had improved.

The review found that project documents for all five ADB-supported projects reviewed were consistent with ADB’s Safeguard Policy Statement. All principles appear to be complied with on paper, thus clearly leading to an increased likelihood of a more inclusive program covering vulnerable groups. However, there were significant delays in updating of resettlement plans or social safeguard monitoring reports during implementation, lack of standard monitoring formats, and little or no monitoring of progress towards desired outcomes. There was some improvement in terms of updated reports in states such as Assam.

ADB’s Safeguard Policy Statement helped to enhance inclusion aspects of the large infrastructure portfolio. The Bihar survey indicated that the majority of eligible squatters and encroachers received compensation for their structures on government land—benefits that were not required under the Land Acquisition Act, 1984, which compensates only those from whom land is acquired.

The survey indicated the need to strengthen nongovernment organization (NGO) performance and monitoring of involuntary resettlement. A few affected persons could not encash check payments, but a completion report prepared by NGOs showed the funds as being disbursed. The report showed that 10 of 200 affected persons were not eligible to receive compensation, but the affected persons recalled having received compensation for dismantled structures. The NGO observed that such discrepancies arose due to last-minute road realignments resulting in changes in who were considered as affected persons. Once the checks are handed over and photographs taken, they marked the compensation as “disbursed.” They were not expected to monitor whether the affected persons actually received the compensation. Executing agency staff observed that it was a challenge to find quality NGOs in remote areas.

ADB has undertaken several capacity development efforts for policy makers and implementing agencies in India. In 2012, for example, ADB conducted an international workshop for safeguard experts and encouraged learning among developing countries. In addition to providing training on safeguard policy requirements under technical assistance for consultants, the India Resident Mission has collaborated with various reputable national institutions for delivery of training programs on project implementation and thematic topics. Safeguards implementation is a regular feature of such training efforts.

There is much greater consistency between the Land Acquisition, Resettlement and Rehabilitation Act, 2013 and ADB’s Safeguard Policy Statement. The Act states that the cumulative outcome of compulsory acquisition should be the improvement of the post-acquisition social and economic status of displaced populations. The Act requires avoidance of involuntary resettlement, and where not possible, minimization of such population displacement through exploring other project or design alternatives. A social impact assessment is mandatory, as is consultation with those affected. The Act now provides compensation not only for affected title holders but also to non-title holders who had been earning their primary livelihood from the land for 3 years prior to the acquisition of the land. The Act also takes special care to protect the rights of vulnerable communities such as scheduled castes and tribes. The calculation of compensation is less arbitrary than under the previous legal framework, and now includes a formula that reduces the discretion of the collector. Some projects approved prior to the promulgation of the Act were retrofitted in August 2014 under the new law.


56. ADB’s involuntary resettlement safeguard policy helped to enhance inclusion aspects of the predominantly large infrastructure portfolio. The evaluation carried out a resettlement study, including a survey conducted for the Bihar State Highways Project (supplementary linked document 15). ADB safeguards mandate special attention for the poor and vulnerable among affected people, and the need to improve their livelihood up to national minimum standards. ADB projects supported fair and just compensation to
those affected by involuntary resettlement and these compensations helped vulnerable squatters and encroachers on government land gain access to benefits. A survey conducted for the Bihar State Highways Project indicated that interviewed encroachers and squatters received compensation for their structures, which were illegally built on government land. While this was not required under Indian law, which compensates only those from whom land is acquired, in ADB projects, many vulnerable people were compensated and provided special assistance. However, implementation and monitoring of resettlement and rehabilitation plan needs to be improved (Box 1).

2. Energy Sector Program Assessment

57. Sector strategy. ADB’s strategy focused on strengthening the national transmission grid and other critical investment needs. ADB’s strategy aimed to promote higher efficiency, clean energy (e.g., hydropower projects and renewable energy), expansion and optimization of transmission and distribution systems, and institutional strengthening to implement reforms. Investments of the energy program were deemed to target (i) transmission at the state and central levels; (ii) distribution networks at the state level, including remote metering, feeder separation, and high voltage distribution systems; and (iii) renewable energy development.

58. Portfolio. The sovereign energy program was the second largest component (29%) of ADB’s sovereign portfolio. ADB approved 33 projects with a value of $4.9 billion, which supported eight states, five of which were lagging states. Twenty-eight projects, 68% of sovereign financing for energy, were financed through ADB’s MFF instrument. Nine projects have closed to date and four have completion reports. All four were considered successful, three of which have been validated by IED. ADB did not provide any policy-based loan to support the government’s energy sector reforms; the ADB sovereign energy portfolio mainly supported the government’s strategy, which seeks to develop a strong national grid and expand and optimize transmission and distribution systems to ensure reliable supply of power to all. Accordingly, ADB’s support focused heavily on electricity transmission and distribution (81%). ADB also provided support to large hydropower generation (15%), renewable energy (3%), as well as energy sector development and institutional capacity development (1%), particularly for asset management. In particular, for the transmission and distribution subsector, ADB targeted projects providing 12,700 km of additional transmission lines during 2013–2017, which is about 12% of the national transmission capacity additions targeted under the government’s Twelfth Five Year Plan.

59. Relevance. ADB’s support for India’s sovereign energy electricity program is found relevant to India’s development priorities and to ADB’s Strategy 2020. The goals and objectives of the Eleventh Five Year Plan and the Twelfth Five Year Plan to develop infrastructure for economic growth and poverty reduction are reflected in the three ADB strategies (the CSPU, 2006–2008; CPS, 2009–2012; and CPS, 2013–2017). The energy program supported the 2005 Rajiv Gandhi Grameen Vidyutikaran Yojana scheme and the 2014 Deendayal Upadhyaya Gram Jyoti Yojana scheme, which sought to provide access to all rural households, reduce aggregate technical and commercial losses, and provide adequate power supply for agricultural consumers. In support of the government’s objective of expanding clean energy, ADB has also supported the development of renewable, low-carbon energy sources such as run-of-the-river hydropower plants, and supported the development of transmission lines to evacuate power from renewable resources such as solar energy and hydropower. Design and monitoring frameworks for

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Energy sector projects were generally well defined with measurable targets, except for impact indicators which, while measurable, were at times too broad and not easily and entirely attributable to ADB’s support. Some of the designs of energy projects financed under ADB’s MFF did not distinguish across the different tranches of the MFF project and thus shared the same design and monitoring frameworks.

60. **Effectiveness.** Energy operations were found effective. All completed projects met their objectives of strengthening the transmission system, reducing losses, improving evacuation capacity and system reliability, and increasing access to electricity. Of the four projects with PCRs—all in Madhya Pradesh—three were assessed effective and one less than effective, as some of the actual outputs were lower than the estimates. The three effective PCRs were also assessed effective by the respective validation reports. The validation report for one of the Madhya Pradesh Power Sector Investment Program tranche loans also noted that the project met the objectives of strengthening the transmission system, increasing access to electricity in Madhya Pradesh, and reducing system losses.\(^46\) On the whole, these added 128.33 circuit kilometers of 220 kilovolts (kV) and 1,293.39 circuit kilometers of 132 kV transmission lines in addition to several 220 kV and 132 kV substations. For the Uttarakhand Power Sector Investment Program, the 10-year MFF availability period lapsed in 2016 due to severe flooding in 2013 which destroyed major equipment and delayed implementation, and it is unlikely to fully achieve its intended outcomes. Other projects are still ongoing but they are generally deemed to be likely effective in terms of meeting their intended outputs and outcomes. This impression is based on the progress of their implementation.

61. **Efficiency.** Although most completed projects showed satisfactory self-assessed rates of return, the energy program is assessed less than efficient due to the delays encountered with the large portfolio. Although the subprojects of the Madhya Pradesh Power Sector Investment Program were delayed by 12–21 months due to issues related to right-of-way for the transmission corridor and acquisition of land for substations, the four PCRs still assessed the subprojects efficient due to the higher than appraisal EIRRs as a result of the lower than expected equipment prices and local currency costs during implementation. Nevertheless, two PCR validation reports (Madhya Pradesh Power Sector Investment Program, tranches 1 and 2 [Loans 2323 and 2324]) were assessed less than efficient due to implementation slippages\(^47\) and irregularities in the approach used to recalculate the EIRR.\(^48\) For ongoing and/or active projects, recalculation of the potential EIRRs was not undertaken, such that delays and process efficiency were taken as the determining factors for the assessment of active projects. While most of the ongoing projects are felt likely to achieve or near-achieve the potential project benefits envisaged at appraisal, several ongoing projects were noted to have been delayed due to bidding issues, remote location of the projects, and catastrophic floods.

62. **Sustainability.** ADB-supported sovereign energy operations are viewed likely sustainable. Financially, the re-evaluated financial internal rates of return of the four

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\(^{47}\) Loan 2323 had a time overrun of 1 year while the loan closing date was extended twice for a total of 12 months.

\(^{48}\) The validation report for Loan 2323 noted that the major shortcomings in the economic valuation of costs included (i) there are lack of clarity and consistency in the use of the numeraire; (ii) costs were not classified and properly shadow-priced; (iii) financial charges, taxes, and duties were mistreated; and (iv) operating costs were assumed at 5% of the cumulative capital cost instead of the actual cost from project operation. Estimate of benefits also had problems in identification, quantification, and valuation, the treatment of incremental and non-incremental benefits, and it had likely been overestimated. The validation report for Loan 2324, on the other hand, noted that the EIRR seems overstated and methodological issues were noted in the recalculation of the EIRR.
completed tranches with PCRs were all above the reevaluated weighted average cost of capital threshold and were assessed likely sustainable. However, cost recovery remains a concern because none of the states have fully cost-reflective tariffs at the retail level for all customer segments, and they need financial support from state government. Technically, while the specifications of the equipment procured and commissioned are simple, it is unlikely the equipment will become obsolete for operation and maintenance (O&M) during its expected life span. Institutionally, the state-owned energy entities in the states have adequate in-house institutional capacity. Capacity development components of the ADB loans and the related TA projects were designed to strengthen the capacities of relatively weaker implementing agencies. Moreover, outsourcing of O&M services via performance-based contracts were employed, particularly in lagging states that have relatively weaker institutional capacity. Overall, ADB projects—especially those supporting transmission and distribution enhancements and improvements—will remain likely sustainable, and project beneficiaries will likely be able to achieve outcomes over the economic lives of the projects.

63. **Development impacts.** These are assessed *satisfactory*, as the four completed projects reported to have achieved the envisaged impact. The PCR for tranche 3 of the Madhya Pradesh Power Sector Investment Program (Loan 2346) estimated that transmission capacity increased in Madhya Pradesh to 9,484 MW during 2007–2012 from a 2007 base when energy deficits were 13%; transmission availability increased from 97.5% (2008–2009) to 99.4% (2012–2013); and transmission losses were reduced from 4.9% to 3.3%. The three project validation reports confirmed that the project increased the energy transmission capacity of Madhya Pradesh and this contributed in reducing the energy deficit, sustaining economic growth and social development, and meeting energy demand growth. However, all improvements may not be attributable to the ADB-supported project. Overall, the completed ADB projects provided 10,000 km of additional transmission line as of November 2016. This is equivalent to 9% of the government’s target under the Twelfth Five Year Plan which aimed to add 107,440 km of transmission lines for 2012–2017. By enhancing and upgrading the national transmission and distribution network, the ADB energy program also facilitates better access to economic opportunities as it aims to connect a total of 2.5 million new households.

3. **Water and Other Urban Infrastructure and Services Sector Program Assessment**

64. **Sector strategy.** The WUS program was one of ADB’s priorities, and ADB helped the government develop urban areas where government and private sector funds had been limited. The CSPU, 2006–2008 aimed to mainstream poverty reduction as the central organizing theme of ADB, and the development of urban infrastructure continued to be a priority. Infrastructure development, including water supply and sanitation, was again a focal point of the CPS, 2009–2012 but with increased focus on the lagging states. The CPS, 2013–2017 road map for the water supply and other municipal infrastructure and services sector (reclassified as WUS) focuses on expanding the coverage, quality, and continuity of basic services. A priority is reducing direct public sector project finance and increasing financial intermediation through the creation of financial intermediaries. The urban services program aimed to avoid areas where adequate funds are normally available through the Ministry of Urban Development.

65. **Portfolio.** The WUS program is the third largest component of ADB’s sovereign portfolio, comprising 14%. The program has a major focus on water supply, supporting a number of implementing agencies with low implementation capacity in a wide
geographic area, particularly in lagging states. ADB approved 27 projects in 17 states with a value of $2.3 billion. Twenty-four were for MFFs, two were for investment projects, and ADB provided one policy-based loan to support reform. ADB support was primarily focused on the key targets of water supply, sewerage, and institutional and capacity development with smaller investments in solid waste management, slum development, drainage and flood protection, and urban roads. ADB’s sector development program has addressed the wide differential in urban infrastructure services, and executing and implementing agencies’ capacity across the different regions of India, with a strong focus on lagging states. The majority of ADB support targeted the urban water supply subsector, comprising over half the loan value in 50% of the projects, although the stated subsectors did not always reflect the full scope of the project design. Loans covered 17 states, of which 12 are listed as lagging states. Of the 27 projects, three have closed and two have PCRs, only one of which has been validated. The validated PCR had a less than successful rating due to a failure to complete sewerage works and water supply household connections on time and their deferment to a later tranche of this MFF—the validation report concurred with the PCR rating. The other PCR rated the project successful but this PCR was not validated yet. Four PCRs for WUS projects completed during the evaluation period, but approved before it and comprising almost $1.0 billion of investment, were rated successful—two of these PCRs were also validated successful, one by PCR validation report and one by project performance evaluation report.

66. Relevance. ADB’s WUS program is viewed relevant. The WUS program has had a strong focus on inclusion and lagging states consistent with ADB’s poverty reduction mission and IEG agenda. The sector strategies and road maps were generally appropriate, and project outputs, outcomes, and impacts were aligned with both government and ADB visions. The urban water portfolio contributed to the National Action Plan for Climate Change mainly through improvements in water use efficiency, in particular, the goal to reduce nonrevenue water losses. Many project designs were generally appropriate. Some projects were too ambitious in their target objectives and geographic scope.

67. Effectiveness. WUS operations were found effective, expected outcomes are generally being achieved. The urban water supply and transport components of projects were the most successful, but there were challenges particularly in some subsector interventions. Water supply operations, the dominant subsector, have been generally successful in achieving their outcomes and reaching beneficiaries. ADB supported projects are progressively achieving 24-hour water supply, which represents a new standard of expected performance levels in the sector in India. Twenty-three of the projects were MFF tranches, and although early tranches sometimes performed poorly, later tranches are improving the likelihood of achievement of overall MFF objectives. The performance in completed or near completed projects also indicates the likelihood of achieving objectives. In water supply provision, for example, projects that are more than 80% disbursed have reached 93% of the outcome of target households and achieved between 95%–100% of expected built outputs. Although relatively small in expenditure terms, urban transport operations have probably been the best performing group with the majority of scheduled works, such as road-over bridges in Rajasthan and road resurfacing work in Karnataka being completed in a timely manner. Capacity

49 For example, the North Karnataka Urban Sector Investment Program targeted 25 urban local bodies spread over the northern half of the state together with one district in the far south. The logistical problems alone made the projects hard to implement, as travel times are significant and it was extremely difficult for ADB and executing agencies to visit work sites on a regular basis to properly oversee implementation.

development support was effective at the state executing agency level producing competent and capable organizations, but proved more difficult among urban local bodies (ULBs). In contrast, sewerage interventions, representing about one quarter of the portfolio, are reaching about 41% of target households and achieving 50%-70% of expected built outputs. There is a time lag in implementation and reaching the beneficiaries in the sewerage subsector reflecting technical issues and local capacity constraints, but the benefits accrued when works completed are significant. Solid waste management has some positive examples but generally it has been the most challenging component of urban operations. It requires a more holistic approach including not just landfill sites but effective waste segregation, collection, and management. While only 1% of the portfolio value it represents a key subsector for achieving better quality of life and reducing environmental and health risks for urban citizens.

68. **Efficiency.** The WUS program is viewed less than efficient, with delays in some projects, and relatively lower portfolio performance metrics reflecting the more challenging nature of this sector compared to some others. It has been more common for executing agencies in the urban subsector to experience long delays in their projects due to implementation problems, particularly for the sewerage components, resulting in cancellations or deferral to later tranches. Disbursement ratios for the WUS sector in India during the evaluation period were relatively stable and averaged 16%, indicating little progress on efficiency measures. While lower than for the whole India portfolio, the low ratios are in line with (lower than average) sector performance across all ADB developing member countries and reflect the problems of working at the local government level. The projects that had PCRs indicate good EIRRs, but unfortunately there are only two of such reports. The project validation report for tranche 1 of the North Karnataka Urban Sector Investment Program confirmed the EIRRs for the water supply subprojects. The EIRRs ranged from 17.6% to 26.6%, which, while lower than the estimates at appraisal due to cost and time overruns and a reduction in project beneficiaries, were above the 12% threshold. The unvalidated PCR for the Urban Water Supply and Environmental Improvement in Madhya Pradesh Project (Supplementary Loan) reported EIRRs greater than 12% in all but two of 10 subprojects. These EIRRs were slightly lower than at appraisal due to cost increases and implementation delays.

69. **Sustainability.** The WUS program is assessed less than likely sustainable, with key risks correctly identified at entry but not sufficiently managed during implementation. Works were generally designed and constructed in accordance with sound engineering principles and practices, and many projects reviewed also have appropriate provisions for future expansion and are therefore considered to be technically sustainable. However, identified financial and institutional risks to sustainability in reports and recommendations of the President became real problems in practice, and mitigation measures put in place failed. ADB has made considerable efforts to improve the institutional capacity of ULBs, but many still lack the capacity to manage constructed works. ULBs have been slow to introduce appropriate tariffs to charge for services and, as such, have not been fully compliant with all loan covenants. Many schemes are therefore heavily dependent on internal subsidies.

70. However, recent initiatives, including the use of design–build–operate contracts, are a significant step in tackling the issue of sustainability. There are a few exceptions where PPPs have been introduced for building and operation. Recognizing the lack of readiness, design–build–operate contracts have been adopted for a number of the sewerage treatment plants and pumping stations where the contractors have managed

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the assets professionally and have been made responsible for the O&M for the initial post-construction period, typically 3–5 years, and even up to 10 years. Provisions have also been made to train ULB staff during this period. Through the provisions of the Rajasthan Urban Sector Development Program, ADB is attempting to increase the financial capacity of the ULBs (and hence improve project sustainability) through the rationalization of urban property taxes. In the long term, this approach, combined with progressive tariff reform, should improve the sustainability of the WUS program.

71. Development impacts. The development impacts of the WUS program are considered satisfactory. Significant infrastructure has been built and strong institutions are emerging, the long process to bring lagging states up to the same level of the richer states has begun. ADB has made a significant contribution to inclusive economic growth both in terms of targeting the lagging states and including the poorer sections of society. ADB’s support for the WUS sector has, to varying degrees, facilitated the expansion of services and improved management capacity in the target towns and cities, although not always to the levels set. A beneficiary survey conducted in Madhya Pradesh for the completed Urban Water Supply and Environmental Improvement Project found that ADB had made a significant impact on the living conditions of the beneficiaries targeted, and inequality in the provision of urban services has declined (para. 133).

4. Finance Sector Program Assessment

72. Sector strategy. ADB support responded to the inadequate financial resources for India’s economic and social infrastructure, which remains a main challenge. The ADB strategy for India’s finance sector has been to support the government’s priorities for the sector as articulated in the government’s Eleventh Five Year Plan and Twelfth Five Year Plan. ADB’s strategies have broadened over time from improving delivery of financial services to poor entrepreneurs and pension reforms (i.e., promoting inclusion) to helping third parties finance infrastructure and renewable energy, and developing the bond market (i.e., promoting growth).

73. Portfolio. Substantial support went to infrastructure finance through MFFs for financial intermediaries. ADB approved 10 loans and 9 TA projects to support India’s finance sector during 2007–2015. The total amount of the loans approved was $2.3 billion. Loans for infrastructure finance totaled $1.9 billion (83%), which supported IIFCL. The total amount approved for clean energy finance was $500.0 million (19.2%) and support for micro, small, and medium-sized enterprise (MSME) financing and development amounted to $200.0 million (9%). MFFs comprised 91%

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52 ADB. 2014. Report and Recommendation of the President to the Board of Directors: Proposed Loans and Technical Assistance Grant and Administration of Grant to India for the Rajasthan Urban Sector Development Program: Manila (Loans 3182 and 3183, and Grant 0413).

53 The CSPU, 2006–2008 and the CPS, 2009–2012 did not include quantitative outcome indicators. Indicators in the CPS, 2013–2017 were not due yet.

54 Beneficiary Survey—Knowledge, Attitude, and Practice about Water, Sewerage, and Sanitation in Indore City of Madhya Pradesh (accessible from the list of supplementary linked documents in the Appendix).

55 The first two completed MFFs were rated successful. India Infrastructure Project Financing Facility I was rated highly successful by the PCR, but the project completion report rating was a notch lower because of some limitations and missing details in project design and formulation. India Infrastructure Project Financing Facility II was rated successful by the PCR. ADB. 2012. Completion Report: India Infrastructure Project Financing Facility. Manila; ADB. 2014. Completion Report: Second India Infrastructure Project Financing Facility: Manila; IED. 2014. Validation Report: India Infrastructure Project Financing Facility: Manila; ADB.

56 In 2006, the government established IIFCL as a special purpose vehicle to provide long-term finance to viable infrastructure projects.
($2.1 billion) of the total loan portfolio. Policy-based loans (7% of total loans, $150 million) and project loans (2% of total loans, $50.0 million) were used for MSMEs. TA projects amounted to $9.1 million, supporting infrastructure finance, clean energy finance, MSME financing and development, pension reforms, and rural finance.

74. **Relevance.** The program is viewed relevant—ADB’s strategy was responsive to the development priorities identified in the government’s five-year plans (Eleventh and Twelfth plans) using both lending and nonlending modalities. ADB’s operations were also responsive to the CPS objectives and were consistent with ADB’s Financial Sector Operational Plan, which included inclusive finance and infrastructure finance among the areas of focus through 2020. The projects carried out were generally well designed, particularly those that supported infrastructure finance through financial intermediaries. However, the demand outlook for loans for PPPs is unclear given that the PPP market has experienced challenges in recent years. There is therefore a need for ADB to reassess the demand for financing PPPs through financial intermediary loans. Meanwhile, there were shortcomings in projects that supported MSMEs, with difficulties in complying with tranche conditions and limitations in implementation capacity not adequately addressed at appraisal.

75. **Effectiveness.** Support for the finance sector was found effective; it largely achieved the outcomes envisaged in sector results frameworks (particularly the infrastructure financing program), although several interventions encountered challenges. The two completed MFF programs (India Infrastructure Project Financing Facility I and India Infrastructure Project Financing Facility II), which were the major interventions in this sector, helped increase private sector participation in infrastructure by financing 50 infrastructure subprojects. ADB support for IIIFCL mobilized private sector investment and improved project financing, mainstreaming the PPP modality in the financial system. The ongoing MFFs (Accelerating Infrastructure Investment Facility and Clean Energy Finance Investment Program) follow the same business model as the previous MFFs and added new products to meet the demand for long-term financing of infrastructure projects ( paras. 216–219).

76. The nonlending support helped develop new financing schemes. TA projects for infrastructure finance helped improve financial intermediation structures for PPPs. The TA on Bond Guarantee Structuring Skills for India removed the high legal costs associated with credit-enhanced bonds, enabling them to be successfully issued. So far,

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58 The policy-based loan for the *khadi* industry has not progressed since 2010 because of difficulties in complying with conditions on setting up a marketing organization through joint ventures and effective marketing through private sector participation. At the time of the evaluation mission, the program had been extended until 30 June 2016 and the government had requested ADB to restructure the loan. The program had been further extended until 31 December 2016 to allow for the processing of the proposed restructuring. And as of January 2017, the closing date was extended until 31 December 2017.

59 The assessment of financial intermediary loans (MFFs to IIIFCL) did not assess individual subprojects directly, but assessed the overall program more broadly.


61 ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to India for the Accelerating Infrastructure Investment Facility in India*. Manila.


there have been two bond issuances amounting to a total of $110 million, contributing
to more infrastructure investments. The TA on Implementing Pension Reforms\textsuperscript{64} helped
the government to roll out the national pension system among the formal and informal
sectors, and establish institutions and networks for service delivery and monitoring. The
objective of supporting MSMEs was not fully achieved due to problems with the
institutional capacity of the executing agency (para. 74). Support to the \textit{khadi} industry\textsuperscript{65}
through a policy-based loan (Khadi Reform and Development Program\textsuperscript{66}) is facing
difficulties in meeting second tranche conditions. The design of the TA attached to the
nonsovereign loan for SME Trade Development Facility was completely revised.\textsuperscript{67} The
planned support for rural finance through a TA is yet to commence as one of the
participating banks is still to sign the agreement. Overall, the problems encountered by
MSME projects did not outweigh the positive performance of the large IIFCL intervention.

77. **Efficiency.** The program is judged \textit{less than efficient}. From a standpoint of
process efficiency and leveraging additional resources for infrastructure development,
the support to IIFCL was efficient, but the interventions for MSME development and
financing—a strategic focus of the finance sector program—were less than efficient,
together with TA operations. There were delays in implementation across projects.
Utilization of funds was generally efficient, particularly for the three MFFs to IIFCL. The
first two MFFs for infrastructure finance amounting to a total of $1.2 billion contributed
in catalyzing investments under a PPP modality of about $14.6 billion, achieving an
estimated average fund mobilization ratio of 12 times. This indicates financial efficiency
in leveraging resources for infrastructure development. These were fully disbursed ahead
of the project completion date, but there had been initial delays in the approvals and
disbursements at the subproject level in the first MFF due to lack of staff and capacity
within the executing agency on safeguard compliance. This was addressed by adding a
safeguard component in the TA attached to the loan, which also experienced delays in the
delivery of inputs and activities; it was not until 1 year after the signing of the TA
that the consultants were mobilized. It was extended twice, for a total of more than 2
years. Further, there is no evidence of economic efficiency of subprojects aside from at-
entry estimates for indicative subprojects under the two ongoing MFFs. The TA on
pension reforms was delivered, but it was extended several times during implementation.

78. The financial intermediation loan for MSMEs (MSME Development Project)\textsuperscript{68} was
only 71\% disbursed, as the direct lending component was not fully utilized. Its
accompanying TA experienced an extension of validity for 1 year due to a delay in the
consultant selection process. The policy-based loan for the development of India’s \textit{khadi}
industry was only 13\% disbursed due to difficulty in meeting tranche conditions. As of
the end of December 2015, disbursement of its related capacity development TA was at
65\%, 6 years after the signing of the TA agreement. While ADB support was efficient in
infrastructure finance, support for MSMEs was less than efficient, which resulted in a \textit{less
than efficient} overall rating.

\textsuperscript{64} ADB. 2007. \textit{Technical Assistance to India for Implementing Pension Reforms}. Manila.

\textsuperscript{65} \textit{Khadi} refers to handspun and handwoven cloth. Khadi and village industries were originally promoted by
Mahatma Gandhi in 1920s for rural self-employment.

\textsuperscript{66} ADB. 2008. \textit{Report and Recommendation of the President to the Board of Directors: Proposed Program Loan
and Technical Assistance Grant to India for the Khadi Reform and Development Program}. Manila.

\textsuperscript{67} Rather than supporting EXIM Bank’s role as the lead trade development agency, the TA is developing EXIM
Bank’s capacity to undertake environmental and social assessments of subprojects and helping in the
identification of bankable deals in the SME cluster sector. ADB. 2009. \textit{Report and Recommendation of the
President to the Board of Directors: Proposed Loan to India for the Small and Medium Enterprise Trade
Finance Development Facility}. Manila.

\textsuperscript{68} ADB. 2010. \textit{Report and Recommendation of the President to the Board of Directors: Proposed Loan and
Partial Credit Guarantee to India for the Micro, Small, and Medium Enterprise Development}. Manila (Loan
2617).
Sustainability. The achieved outcome and outputs of ADB support to India’s finance sector are assessed likely sustainable. The government’s five-year plans (Eleventh and Twelfth), policies, and recent initiatives pushed for increased availability and quality of infrastructure, a fiscally sustainable national pension system, and a developed MSME sector. Strong government commitment will likely sustain the gains in the sector. The lending operations were complemented by capacity development and advisory TA to address capacity weaknesses. An environmental and social safeguards system was developed and adopted for infrastructure and MSME financing projects. Legal templates were developed through a TA that would support further issuances of credit-enhanced bonds. Executing agencies have demonstrated sustainable financial operations and received positive credit ratings, which reflect the stability of the financial instruments.

Development impacts. Completed finance sector projects showed satisfactory development impacts, which were most visible in (i) infrastructure development that included support for projects in lagging states; (ii) financial inclusion, particularly in pension reforms; and (iii) knowledge and financial solutions for infrastructure development, including in clean energy, through development of new financing schemes that helped improve financial intermediation structures for PPPs. Although the CPS, 2009–2012 set quantitative targets to evaluate sector objectives, these were too broad to assess the contribution of ADB’s finance program, and the targets were not monitored in country partnership strategy final review. However, the infrastructure financing facility supported by the two completed MFFs increased the availability of physical infrastructure in India (highways, airports, and energy generation and transmission). The increase in private investments helped reduce the fiscal pressure on infrastructure financing and contributed directly toward India’s infrastructure development. Through pension reform work, a focus area in the earlier CPSs, ADB helped the government achieve its objectives of improving public resource management, and developing a domestic capital market with a subscriber base of 5 million that would bring in domestic savings that could be mobilized in the capital market and infrastructure financing. Support to MSMEs is likely to have had a positive bearing on (i) the promotion of financial inclusion on account of the poor coverage of lagging states, (ii) effective implementation of indirect lending including women, and (iii) the associated grant for women empowerment in entrepreneurship.

5. Public Sector Management Program Assessment

Sector strategy. ADB-supported reform programs aimed to facilitate public financial management reforms and institutional development in selected states, thereby contributing to the higher-level country objectives of efficient use of public resources, as set out in the CPSs. The specific objectives were to work selectively with states to create fiscal space and undertake development activities (CPS, 2009–2012), and strengthen capital investment, revenue collection, and service delivery (CPS, 2013–2017).

69 The executing agencies include IIFCL, the Indian Renewable Energy Development Agency, and the Small Industries Development Bank of India.

70 Chhattisgarh, Madhya Pradesh, Orissa, Uttar Pradesh, and West Bengal, where India Infrastructure Project Financing Facility I and India Infrastructure Project Financing Facility II financed infrastructure subprojects.

71 The CPS, 2009–2012 targets for private sector participation included the following: (i) private sector participation in infrastructure increases by 30%; (ii) credit accessed by the private sector compared to the public sector increases (baseline of 43%-47%); (iii) small and medium-sized enterprise employment increases from 32 million to 40 million, and access by small and medium-sized enterprise and unorganized (microfinance) sector increases from 40% to 60% of total credit; and (iv) share of pension assets to GDP increases from 5% to 10%. According to the Twelfth Five Year Plan, the share of private sector investment in total infrastructure investment during the period covered by the Eleventh Five Year Plan was 36.6%.
82. **Portfolio.** ADB supported reforms in four states to improve fiscal management and service delivery, accounting for 5% of the portfolio. Since 1996, ADB has supported eight major reform programs in seven states by providing policy-based loans: Gujarat (1996), Madhya Pradesh (1999), Kerala (2002), Assam (two programs, 2004 and 2008), Mizoram (2009), West Bengal (2012), and Punjab (2014). The Assam (2008), Mizoram (2009), West Bengal (2012), and Punjab (2014) programs are covered by this evaluation and had a total approval value of $800 million. There were also 13 TA projects (totaling $10.2 million) implemented at both the state and central levels. The primary focus of ADB TA support was to prepare or implement programs, with knowledge and capacity development support a secondary priority.

83. **Relevance.** ADB support was found relevant—it was strongly linked to government priorities and had strong ownership. ADB’s program aimed to tackle constraints such as (i) state fiscal imbalances, which have led to underinvestment in infrastructure and social sectors; and (ii) poor quality of basic services, which constrain longer-term human development and economic growth prospects. The factors leading to fiscal imbalance vary across states, but are commonly caused by limitations in tax administration, poor performance of public sector units, increased expenditure on accounts of pay revisions, and accumulating debt and debt service payments. The PSM road map and results framework, and the four state reform programs and supporting TA were well designed and underpinned by sound diagnostics. There were also several examples of innovation in the designs of some components, such as in Mizoram (para. 138). ADB followed a selective approach and supported reforms in just four states, all of which are either low-income or special category states.

84. Moreover, the PSM program was strategically well positioned, aligned with India’s priorities for improved state-level public financial management and service delivery, and in support of ADB’s corporate priorities for governance and capacity development. Fiscal management, especially at the state level, is a major challenge. India’s stabilization and structural adjustment reforms initiated in the early 1990s required containment of fiscal deficits at both the central and state levels. Successive five-year plans and Finance Commission reports over the evaluation period have prioritized and pushed for continued reforms to improve various areas of governance, public sector management, and in particular, public financial management. At the state level, in addition to containing deficits, reforms have aimed to address the issue of enhancing allocation and technical efficiency in public spending and creating an enabling environment for private sector development. A policy change in the mid-1990s allowed reform-oriented states to negotiate loans from multilateral financial institutions to improve their finances, augment outlays on social and physical infrastructure, restructure public enterprises, and create an enabling environment to attract private sector involvement in infrastructure development. It was an innovative strategy, and in 1996, ADB became the first MDB to support state-level public financial management reforms.

85. **Effectiveness.** The program is regarded effective, as the major reform objectives and fiscal targets were largely achieved. The sector program contributed to the strategic objectives of creating fiscal space and strengthening capital investment, revenue collection, and service delivery. The three completed programs in Assam, West Bengal, and Mizoram were generally effective in helping achieve these broad objectives by (i) supporting fiscal consolidation and creating fiscal space through reforms in revenue, expenditure, and debt management; and (ii) directing support to key areas such as infrastructure investment and service delivery. The programs in Assam in West Bengal were particularly effective, with the Mizoram program falling short on some of its output
and outcome targets. Key fiscal targets were achieved in most cases, again with some shortcomings in the Mizoram program. These targets were for fiscal and revenue deficits, states’ own-tax revenue, and debt. IED field missions to and interviews with representatives in Assam, West Bengal, and Mizoram found overall positive views on the effectiveness of the three programs.

86. **Efficiency.** The program was held to be efficient; its implementation and efficiency depended on complexity of reform designs and ADB supervision. Process efficiency was generally satisfactory, with two of four projects completed earlier than planned, while the other two were delayed by 2 years—the average delay of all ADB projects or programs. All 11 completed TAs also experienced delays, although their average delay of 14 months was again in line with ADB-wide averages. State officials placed a high value on the role of ADB staff in helping to monitor and manage reforms, policy actions, and other aspects of implementation. In West Bengal and Assam, state officials felt that ADB staff provided adequate supervision, whereas in Mizoram, a very remote area, state officials indicated that stronger supervision by ADB staff would have helped with implementation. State officials also highlighted the importance of continuity of ADB staff over the course of a program, expressing concern that high turnover among ADB staff often presents a challenge to effective implementation. The complexity of programs, the capacity of state governments, and the effectiveness of consultants were additional factors in efficient implementation; all of these factors posed some limitations, but the level of efficiency was generally acceptable.

87. **Sustainability.** The program is assessed likely sustainable. The outlook for reform outcomes is positive, and follow-on support can help cement reform gains. Overall, the achievements of the sector program have a decent chance of being carried forward. Some fiscal targets that were achieved early on are showing possible signs of regression, so it is important that state authorities continue to focus on and monitor progress, possibly with some support from ADB. In Assam, information technology systems improved; government officers were provided with training in key areas; and fiscal indicators at completion were seen to have improved, although several years after program completion some indicators, such as capital expenditure levels, have regressed slightly. In Mizoram, despite some problems with implementation, the achieved outcomes and outputs are likely to be sustained over the medium term given the strong sense of ownership and commitment by the state government. Nevertheless, key fiscal (outcome) indicators are fluctuating, thus requiring continued attention. The outcomes of the West Bengal PSM program are likely to be sustained given the state government’s commitment to achieving fiscal consolidation even after program completion. ADB is working toward a second subprogram in this state to build on the earlier reforms.

88. **Development impacts.** Completed PSM programs showed satisfactory development impacts. The reform programs helped the state governments undertake fiscal adjustments and achieve better fiscal balance while improving processes and systems for fiscal management across many areas, including revenue and tax administration, expenditure management, debt management and sustainability, and different areas of public service delivery. Moreover, improving fiscal management and creating fiscal space enables state governments to invest more in priority development areas, such as human development and infrastructure, thus contributing to inclusive growth. The sector program was able to contribute to these development impacts.
6. **Agriculture and Natural Resources Sector Program Real-Time Review without Ratings**

89. **Sector strategy.** The ANR program focused on agribusiness, irrigation, and coastal protection. The CSPU, 2006–2008 identified operations in agriculture, irrigation, and rural infrastructure as important entry points for addressing rural poverty as well as negotiating the impending water crisis in the country. The succeeding CPS, 2009–2012 reaffirmed and enhanced ADB’s engagement in rural infrastructure, including irrigation, water resources management, and rural markets. The CPS, 2013–2017 aimed to promote efficient and sustainable water management in agriculture, cities, and industry, with a focus on investment projects; it also included advice on policy and institutional reforms.

90. **Portfolio.** While ANR accounts for less than 2% of the total portfolio during the evaluation period, the scope and geographical reach of the projects covering six states are diverse. ADB approved nine projects (six loans and three grants) with a value of $0.3 billion—all financed under ADB’s MFF modality. Three grants were financed by the Japan Fund for Poverty Reduction. These were piggybacked on the MFF projects for livelihood improvement. Three projects each in the states of Odisha and Karnataka aimed to develop participatory irrigation and water resource management systems. Besides these three, ADB approved two agribusiness projects focused on value chains of horticulture in selected regions of the states of Bihar and Maharashtra, and a coastal management program in the states of, Goa, Karnataka and Maharashtra.

91. **Relevance.** ANR interventions address poverty reduction, as the rural poor are likely to face hardship in the absence of ample agricultural produce, or because of environmental disasters. The ANR portfolio resonates well with high-priority areas of the government’s development objectives. The portfolio is also aligned with ADB’s corporate strategies, especially Strategy 2020, which focuses on rural infrastructure, IEG, and ESG. The Japan Fund for Poverty Reduction projects in India are well designed highlighting the poverty interface of ANR operations appropriately. However, the total magnitude of ANR operations is limited, so the impact remains very local.

92. **Effectiveness.** A complete assessment of effectiveness of the Indian ANR portfolio is awaited as there is no completed project that has been evaluated. Notwithstanding, the outcomes and associated outputs of irrigation projects are expected to be positive, although the extent of their full achievement is not known precisely. The completed projects are likely to help alleviate rural poverty concerns, at least in their immediate vicinity. For example, under the Orissa Integrated Irrigated Agriculture and Water Management Investment Program, the irrigated area increased by 43%, exceeding the target of 40%. Likewise, there were substantial increases in cropping intensity (44%) and crop production (177%). The performance of agribusiness projects, though, has been below expectations in both states. Both loans were closed in 2016 without delivering outputs. Coastal management also did not cover all three states of Goa, Karnataka, and Maharashtra, as appraised, because no loan request was received from Goa and the project was not implemented in Goa.

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72 The evaluation conducted real-time assessments without rating performance because most projects were approved in the second half of the evaluation period and are ongoing.
73 The six states are Assam, Orissa, Bihar, Goa, Karnataka, and Maharashtra.
74 The Goa component of the program was not implemented.
93. **Efficiency.** ADB operations are still under implementation, making it difficult to assess the efficiency. The efficiency indicators, especially the EIRRs, are difficult to discuss after the fact in the absence of such exercises. However, based on internal documents, the irrigation infrastructure projects seem to have done reasonably well in terms of augmenting areas under irrigation, enhancing cropping intensity, and promoting higher yields. However, the efficiency of agribusiness and coastal management projects is hard to conjecture. Also, in terms of process efficiency, the latter projects had a number of issues that needed midcourse interventions.

94. **Sustainability.** Sector-wide evidence suggests that a substantial proportion of existing irrigation infrastructure is dysfunctional and stranded due to inadequate O&M. Notwithstanding this, the new ADB projects may not require much O&M support at present, but in the medium to long run they might also be subjected to similar practice. If so, the likely sustainability of project assets is an issue that would require policy dialogue with the state governments.

95. **Development impacts.** ADB’s three irrigation projects promise satisfactory development impacts, especially under the projects that included rehabilitation of the existing infrastructure within their scope. However, the impact of agribusiness or coastal management projects will be clearer when the PCRs and assessments are undertaken.

7. **Social Sectors Program Real-Time Review without Ratings**

96. **Portfolio.** Although ADB is a new entrant in the social sectors, with operations beginning in 2012, its volume of support is large compared with the volumes of several other donors. Education operations include two ongoing loans totaling $200 million for the states of Kerala and Meghalaya, with two capacity development TA projects (one for each of the loans) totaling $3.5 million. Other support includes a capacity development TA for skill development worth $2.6 million. Health interventions include one national results-based loan of $300 million for Supporting National Urban Health Mission, accompanied by three capacity development TA projects worth $2.8 million.

97. **Relevance.** ADB operations in the social sectors support India’s strategic priority of raising human capital. ADB support for the skills and urban health subsectors is relevant in terms of its (i) alignment to the country’s needs; (ii) consistency with ADB’s strategic emphasis on inclusive growth; (iii) choice of modalities and instruments (including ADB’s first results-based loans in India); (iv) coordination with other partners; and (v) strategic and operational positioning, both at the national and state levels. ADB is a new partner in these areas in India, and yet its early support is strongly appreciated by its Indian counterparts and other development partners. For the skills subsector in particular, ADB entered a relatively underdeveloped space at a time when this agenda became a key priority for the government.

98. **Effectiveness.** ADB operations in education (skills development) and health remain at an early stage, so it is difficult to assess overall future effectiveness. The Kerala skills program is on track, whereas the Meghalaya program is less certain. For the health operations, it is too early to assess effectiveness, although ADB is fully aware of the key risks to delivery that could undermine achievement of results, and it has a number of measures in place to mitigate these.

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76 The evaluation conducted real-time assessments without rating performance because all projects were approved in the second half of the evaluation period and are ongoing.
99. **Efficiency.** ADB operations are still under implementation, so it is too soon to assess efficiency. The new modality of results-based loans requires that both ADB and clients familiarize themselves with the specifics of this approach. It is also clear that familiarity with ADB processes and procedures for executing agencies is critical to effective implementation.

100. **Sustainability.** In the medium to long term, a critical issue will be how to finance skills development initiatives, in particular, how to attract private sector participation. ADB and government partners are cognizant of these issues, but financial sustainability plans, beyond ADB support, have yet to be developed. ADB program documents envisage that O&M activities will be undertaken by stakeholders (e.g., by school management committees in Meghalaya) and by outsourcing O&M to private players in Kerala. It is too early to comment on the uptake or success of these models.

101. **Development impacts.** If delivered effectively, the support for skills and urban health services should contribute to human development in the intervention target areas. The major skills and urban health interventions have clearly established results frameworks and intended impacts. While it is early to gauge results, some implementation partners expressed concerns that incentives of lending programs tend to focus on meeting disbursement and output targets (e.g., numbers trained) and will need to focus greater attention on how these will translate to outcomes (e.g., those able to find employment and remain in employment). As program implementation progresses, ADB and its implementation partners should monitor how the outputs are contributing to the achievement of outcomes.

**B. Nonsovereign Operations**

102. **Nonsovereign operations strategy.** ADB’s NSO strategy was to support two of the main components of the government’s eleventh and twelfth five-year plans: (i) promote private sector investment and infrastructure, and (ii) improve access to finance. The NSO strategy supported the following two government initiatives to promote greater private participation in power generation: (i) the development of Ultra Mega Power Projects in 2005, and (ii) the launching of the Jawaharlal Nehru National Solar Mission in 2010. In the finance sector, the Reserve Bank of India utilized priority sector lending to ensure that banks allocated credit to specific sectors such as MSMEs, agriculture, and renewable energy.

103. **Portfolio.** The NSO portfolio was selective, focusing on the priority areas identified in the government and ADB strategies, but it had a high cancellation rate relative to the ADB-wide NSO average. The 40 NSO projects at $4.7 billion included 19 in energy, 10 in finance, and 4 in other infrastructure. The remaining seven were in the social sectors and agriculture, and in a climate equity fund. Of the energy projects, 13 supported renewable (wind and solar) energy; 4 were transmission and distribution projects; and 2 were conventional energy projects including one Ultra Mega Power Project. The finance sector projects included support to MSMEs, agriculture, low-cost housing, and infrastructure finance. Of the total NSO projects approved during the period, 13 were fully cancelled while another 8 had partial cancellations. Total cancellations amounted to 40% of the approved amount, which was higher than the ADB-wide NSO cancellation rate (excluding India) of 20% during 2007–2015.

104. **Development results.** The evaluation finds the overall development results of the NSO program *satisfactory*, as ADB support contributed to private sector development
The energy projects made significant contributions to the growth in installed capacity of wind and solar energy, the increase in private participation in generation capacity, and the introduction of new technologies. The total additional installed capacity from wind sources in India during FY2006–FY2017 was 21.56 gigawatts, of which 1.13 gigawatts (5.2%) was from ADB-supported wind projects. ADB-supported solar projects also had a big impact, as ADB support added 548 MW (or 8.1% of total additional installed capacity of 6,761 MW) from solar sources during the same period. The lone conventional energy project that ADB supported also had an impact, as the 4,000 MW plant accounted for 3.4% of the 115,800 MW additional installed capacity from coal plants during FY2006–FY2015. ADB support also created an estimated 10,000 jobs during construction and 2,500 jobs for O&M. The finance sector projects helped introduce innovations in the areas of housing finance and credit enhancement of infrastructure project bonds, and promoted financial inclusion by focusing on increased access to finance by MSMEs in lagging states, farmers, and women.

105. **ADB investment profitability.** The evaluation considered this *satisfactory*, taking into account the financial share of ADB loans; most loans are likely profitable, although ADB investments of equity investments are expected to yield low returns. With respect to the 13 projects where ADB provided loans, market pricing was achieved and most of the loans were expected to be paid as scheduled, with one loan deemed to be at risk. Meanwhile, six out of the eight projects with ADB equity investments were underperforming—one company is under voluntary liquidation, ADB has recognized other-than-temporary impairment in another company (90% of original investment), and the interim internal rates of return of ADB’s investments in the other four companies were negative.

106. **ADB additionality.** The NSO program’s additionality was found to be *satisfactory*. ADB provided loans with terms not easily available to the projects at hand, such as tenors of 9–12 years and grace periods of up to 4 years. These were particularly important for infrastructure projects because of their long gestation periods and large capital requirements. For finance sector projects, ADB finance helped the supported financial institutions in meeting their priority sector lending quotas (small farmers, MSMEs, and low-cost housing). In six projects, ADB induced other lenders and equity investors to participate in the projects. ADB’s main nonfinancial contribution, which applied to the majority of the projects, was that it helped the project companies establish environmental, social, health, and safety standards, policies, and procedures. In the 12 projects where ADB had a significant contribution, the project companies were first-time ADB borrowers or equity investments, so they benefited immensely from ADB safeguard standards and policies.

107. **ADB work quality** is viewed *less than satisfactory* due to poor project preparation in several assessed and cancelled projects. Seven of the 22 assessed projects had frontend work deficiencies that included noncompliance with ADB policies and procedures, overly optimistic assumptions with respect to financial and economic projections, failure to adequately assess the ability of project sponsors and cofinanciers to mobilize financing, failure to properly assess demand for certain financial products, and weak design of TA projects due to poor interaction with project companies. As discussed in para. 103, the cancellation rate for NSO projects was high at 40% compared to the ADB-wide NSO cancellation rate (excluding India) of 20%. In at least 6 of the 13 cancelled

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77 Of the 22 assessed projects, the numbers of projects rated satisfactory or better by sub-evaluation criteria were: 18 for contribution to private sector development and other ADB strategic objectives; 19 for economic performance; 20 for health, and safety (ESHS) performance; and 15 for business success with 5 infrastructure projects rated less than satisfactory or worse.
projects, ADB was not able to adequately assess the capability and willingness of the project sponsors to comply with ADB safeguard, financial, and reportorial requirements.

C. Summary

108. The evaluation considered all sector programs, including the NSO program, successful.

   (i) All sovereign sectors achieved most or all envisaged outputs and outcomes, were relevant, and had outcomes that were likely sustainable except WUS; the NSO program leveraged greater private sector participation and contributed to job creation and economic development.

   (ii) There were cost overruns and implementation delays on many projects, which were caused by complexed decision making, slow interdepartmental coordination and clearance, and weak capacity of contractors and executing agencies. The problems with the process efficiency were not being resolved. Therefore, performance of efficiency in all sovereign sectors programs except PSM was less than efficient.

   (iii) The government requested greater use of country systems in ADB supported projects and further decentralization of authority and resources from headquarters to the resident mission. This would, in their view, improve efficiency of decision making and provision of ongoing operational support. It also proposed that ADB consider establishing a regional hub for South Asia in India.

   (iv) Capacity limitations of executing agencies, consultants, and contractors affected project preparation and implementation, especially in the lagging states. Geographically, widespread operations posed challenges to implementation as well.

   (v) WUS projects covered too many individual cities and towns in each state to be able to provide adequate supervision.

   (vi) The inadequacies of ADB’s front-end work for NSO projects contributed to the high rate of cancellation.
CHAPTER 4

Results of ADB Support for Strategic Agendas and Special Priorities

109. This chapter assesses the relevance of the IEG, ESG, and RCI agendas in India, and the impacts of their operationalization. The same applies to ADB’s special priorities of knowledge solutions and capacity development, gender equality, and catalyzing infrastructure investment and PPPs. During the evaluation period, ADB strategies prioritized inclusive and environmentally sustainable growth, consistent with the government’s long-term plans and program, which focused on faster, more inclusive, and sustainable growth. ADB’s prioritization of an RCI agenda in Asia and the Pacific was less prominent in India’s national strategies, but was also pursued by the government to some degree—particularly through the South Asia Subregional Economic Cooperation (SASEC) program—and this provided the hook for ADB’s support. Indian authorities reflected that ADB should operate on the basis of a long-term vision, and have a clear set of programmatic engagements in India. This chapter starts by describing India’s context, then analyzes the responsiveness of the ADB program to the agendas and priorities set, before assessing the relevance and development impacts.

A. Inclusive Economic Growth

1. Context

110. Central and state governments of India have continuously stated their pursuit of IEG in one form or another. Central and state governments have objectives in education, health, food security, employment generation, gender equality and empowerment, improved livelihoods in the rural areas, rural housing, and they support these objectives through special subsidies and programs. These are either directly funded by the central government or are supported by state governments with the help of transfers from the central government. However, India’s IEG achievements are uneven and widely regarded as insufficient when compared to the needs of its population, or compared with some other large economies in Asia and the Pacific. The reasons for the slow progress include multilayered democratic politics, incomplete demographic transition, deficient policies, infrastructure deficit, and governance issues.78

111. India’s current leadership is committed to pursuing IEG-oriented policies. The issue is how best to protect the poor. The government is aware of the slow pace of IEG progress in previous decades and inefficiencies of delivery systems, especially in relation to the quality of public services. The government aims to enhance its implementation capability, especially at the local level, and is relying on technology (especially

information and communications technology), electronic transfers, and banking reforms to reach out to the poor and vulnerable population, including women.\textsuperscript{79}

112. It is estimated that about 4\%–5\% of GDP is spent every year on various subsidies to provide support to transport, food, fuel, and agricultural activities. These have an impact in making economic development inclusive, even though not all of these resources reach to the poor. Prime Minister Modi’s government is trying to improve financial inclusion of the poor by making direct bank transfers to beneficiaries using mobile phone and electronic transfer.\textsuperscript{80} In addition, it is implementing recommendations of the 14th Finance Commission by transferring more financial resources to state governments and encouraging them to have greater ownership of IEG activities. A goods and services tax and other financial reforms are likely to increase revenue and enhance sustainability of public service reforms in the country. Even a fraction of gains arising from fiscal reforms is likely to make significantly more resources available for the poor and help India pursue IEG.

113. ADB support has historically focused on infrastructure development. ADB programs have focused on building infrastructure and emphasizing policy reforms while the IEG agenda has been pursued largely with domestic resources or the support of other development partners, including the Japan Fund for Poverty Reduction. The fact that infrastructure development was one of the comparative advantages of ADB has added momentum. However, ADB is a new entrant into the social sectors, and ADB recently began operations in skills development projects. There is room to rationalize and streamline IEG programs to make them more focused and operationally efficient.

2. Government Flagship Programs

114. After the national elections in May 2014, which saw the National Democratic Alliance and Prime Minister Narendra Modi rise to power, more than 20 flagship programs were approved in areas such as infrastructure, sanitation, health and education, skills, social security, financial inclusion, and food security. For most the programs, states are the executing agencies. However, the central government provides grants and technical advice to executing agencies. In many cases, development partners have been requested to support parts of national flagship programs. The following major national programs were supported by ADB (paras. 115–121).

115. \textbf{The Prime Minister’s Rural Roads Program}. The PMGSY was originally launched in 2000 and focuses on the connectivity of rural habitations.\textsuperscript{81} The PMGSY envisages improving IEG by connecting rural areas and providing better transportation services. Rural roads link communities with the highway network, providing access to higher agricultural incomes, employment, and social services. During 2007–2015, ADB approved projects to support a portion of the government’s nationwide rural roads investment program, about 25,000 km in total. As of January 2016, over 466,000 km of rural roads (64\% of the target) had either been constructed or rehabilitated. Following the progress of the PMGSY, the government is planning a new scheme with a vision to improve transportation services in the villages as well as enhance job opportunities for local populations. The Special Accelerated Road Development Programme for North East,

\textsuperscript{79} These measures revolve around the Jan Dhan–Aadhaar–Mobile trinity, which refers to the initiative by the Government of India to link bank accounts, individual identity numbers, and mobile phone numbers to help reduce transaction costs and promote efficiency in service delivery.


\textsuperscript{81} The program envisages connecting rural habitations with populations of up to 500 people in the plains and 250 people in the hills with all-weather roads.
Results of ADB Support for Strategic Agendas and Special Priorities

aimed at developing connectivity between remote areas in the northeast with state capitals and district headquarters, is another relevant government program, which aims to (i) develop double or four-lane national and state highways of about 4,798 km, and (ii) provide double lanes to and/or improve about 5,343 km of state roads. ADB is providing support to the program with the upgrading of about 1,000 km of national and state roads.

116. **Rajiv Gandhi Gramin Vidyutikaran Yojana (Rural Electricity Infrastructure and Household Electrification Scheme).** This scheme, which was launched in 2005 to provide all rural households with electricity, was subsumed under the Deen Dayal Upadhyaya Gram Jyoti Yojana scheme in 2014. India still has a large number of people without access to electricity, although the country has made significant gains over the past several years. The Deen Dayal Upadhyaya Gram Jyoti Yojana scheme seeks to reduce technical and commercial losses, and provide adequate power supply for agricultural consumers. In September 2015, the Government of India announced an Integrated Power Development Scheme to strengthen distribution networks and ensure constant power supply to all by 2022, including provisioning of solar panels; and metering of distribution transformers, feeders, and/or consumers in urban areas. As of December 2016, the government has connected electricity to about 116,000 unelectrified villages and provided free electricity connections to 23.2 million households below the poverty line. ADB has supported this program by investing in about 18,000 km of transmission lines, 136,000 km of distribution lines, and an additional 1,700 MW of hydro generation. ADB estimated that about new 2.5 million houses would be connected to the power distribution network through ADB-approved projects during the evaluation period.

117. **Jawaharlal Nehru National Urban Renewal Mission.** This was established in 2005 and originally had an investment provision of $11 billion over 7 years. Through the Jawaharlal Nehru National Urban Renewal Mission, 63 cities were identified as eligible for investments, with key requirements such as preparation of city development plans and a commitment to urban governance reforms. In practice, the Jawaharlal Nehru National Urban Renewal Mission had greater success in the more progressive states where governance reforms could be implemented. Under the framework of the Twelfth Five Year Plan, the Jawaharlal Nehru National Urban Renewal Mission was extended. To further advance development, the Government of India recently initiated three flagship urban missions: the Swachh Bharat (Clean India) Mission, the Atal Mission for Rejuvenation and Urban Transformation, and the Smart Cities Mission. The Swachh Bharat Mission is a critical program for a healthy India. Toilets built increased from 5 million in FY2013 to 5.9 million in FY2014 and 12.7 million in FY2015. ADB has sought to support water supply, sanitation, urban roads, and waste management in 17 states.

118. **National Water Mission.** This is focused on the conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources development and management. The Accelerated Irrigation Benefits Programme has increased irrigated areas in different states. The potential increase in irrigation from FY1996 to FY2011 is given as over 8

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82 Launched in October 2014 the Swachh Bharat Mission covers 4,041 cities and towns with the prime objective of cleaning the streets, roads, and infrastructure of India. A key target is to eliminate open defecation by 2 October 2019, the 150th anniversary of the birth of Mahatma Gandhi. The Atal Mission for Rejuvenation and Urban Transformation was initiated in June 2015 and is targeting the provision of basic urban services, including water supply, sewerage, and urban transport, to households in 500 cities over a 20-year period. The Smart Cities Mission was also initiated in June 2015 and will cover 100 cities over a 5-year period. The objective is to promote cities that provide core infrastructure and a decent quality of life to its citizens in a sustainable and inclusive manner, and to create a replicable model that can act as an example to other cities across India.
million hectares. However, the growth of irrigation infrastructure in the country has been slow, despite its potential role in increasing yields, feeding the population, and improving the welfare of the rural masses. The government has also launched a comprehensive initiative for expediting irrigation under the banner of Pradhan Mantri Krishi Sinchai Yojana (Prime Minister’s Agriculture Irrigation Plan), which amalgamates ongoing schemes for irrigation and watershed management programs. ADB is supporting this irrigation plan through projects that aim to (i) improve irrigation systems that serve 215,000 hectares of farmland, and (ii) upgrade 300 km of irrigation canals. ADB also provides TA projects for strengthened institutional capacity for policy making, planning, and legal framework reform of state governments and water user associations, and for mainstreaming of integrated flood management in addressing climate change.

119. **Skill India.** Skill India was launched by Prime Minister Modi in July 2015 with an aim to train over 400 million people in India in different skills by 2022. It includes various initiatives of the government such as the National Skill Development Mission and the National Policy for Skill Development and Entrepreneurship (2015). Skill India will emphasize industries with a current skills shortage, such as real estate, construction, transportation, textiles, gems, jewelry designing, banking, and tourism. ADB is supporting skills development with capacity development TA projects and two investment projects in the states of Kerala and Meghalaya. The largest target group of the Skill India comprises the rural poor. The program guarantees employment for one person from each household in rural areas for 100 days annually. During FY2015, it provided 1.35 billion person-days of employment to 36 million households. Women constitute the biggest target group for IEG in India. They have done reasonably well in accessing education at the primary or secondary school levels. However, parity is still to be reached at the tertiary level. The women’s labor force participation rate in India is the second lowest in South Asia next to Pakistan. Much of the work done by women remains unpriced and unaccounted for in economic terms even though there is an active demand for employment on the part of women in rural areas.

120. **Pradhan Mantri Jan Aushadhi Yojana (Public Medicine Scheme).** The objective of the Public Medicine Scheme is to make quality medicines available at affordable prices for all, particularly the poor and disadvantaged, to reduce out of pocket healthcare expenses. Steps taken to enable this include the following: (i) adjusting the prices of scheduled drugs through the national pharmaceutical pricing authority, (ii) monitoring price regulation of non-scheduled drugs, (iii) putting a value-added tax of 4% on medicines, (iv) reducing the excise duty from 16% to 4%, and (v) opening 3,000 stores nationwide where high-quality generic medicines are sold at low prices. The government has also announced a national health protection scheme, under which the government provides coverage for up to ₹100,000 to poor families and families below the poverty line against hospitalization expenditure (for senior citizens, there is additional coverage of ₹30,000). An ADB supported project is supporting the government’s efforts to improve the health status of the urban poor through increased access to equitable and good quality urban health services.

121. **National Mission for Empowerment of Women.** This was launched on International Women’s Day in 2010 with the aim to strengthen overall processes that promote all-round development of women. It has the mandate to strengthen inter-sector convergence and facilitate the process of coordinating all the women’s welfare and socioeconomic development programs across ministries and departments. The mission

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83 People within the list of deprivations (according to the socioeconomic caste census data) are also entitled to this facility.
aims to provide a single-window service for all programs run by the government for women under the aegis of various central ministries. The implementation responsibilities of the state governments are often different from those of the central government, and intergovernmental coordination needs further strengthening. ADB supports this by streamlining ADB projects with gender action plans and TA projects.84

3. ADB Responsiveness and Geographical Focus of ADB Support

122. Over 90% of projects during the evaluation period were tagged to IEG, and hence there should be a basic degree of alignment of the portfolio with ADB’s IEG agenda (para. 22). In principle, the scope for alignment of most infrastructure projects with growth objectives within the IEG agenda is larger than the scope for access and distribution objectives. This is different for the agriculture and social sectors programs, which by their nature directly address major population groups or can be targeted very clearly to the poor.

123. IEG has three subcategories, or pillars, and Table 7 shows the number of projects and financial amounts of ADB sovereign operations and NSO by each pillar. ADB’s support falls almost equally under pillar 1, growth and expansion of economic opportunity (62 projects), and pillar 2, social inclusion to ensure access to economic opportunity (81 Projects). Pillar 3 refers to social protection, in which ADB’s engagement has been relatively small, consisting of two projects in education worth $200 million. This is counterintuitive, given the large number of impoverished and vulnerable people in India. ADB’s current CPS states, nonetheless, that the government does not expect external assistance for its social protection programs, as these are already supported through national and state budgets. The number of energy projects under pillar 1 is high because more than 40% of NSO projects (16 projects) have been tagged for pillar 1. Most of ADB’s transport, energy, and water projects get an IEG categorization, and many transport and energy projects are even in pillar 2 based on their location in rural areas and ADB’s view that growth in lagging states, including low-income states and special category states, promotes inclusion (i.e., national inclusion of poor states).

Table 7: ADB Support of Inclusive Economic Growth by Pillar

<table>
<thead>
<tr>
<th>Sector</th>
<th>Pillar 1</th>
<th>Pillar 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Projects</td>
<td>Amount ($ million)</td>
</tr>
<tr>
<td>Transport</td>
<td>13</td>
<td>1,980</td>
</tr>
<tr>
<td>Energy</td>
<td>35</td>
<td>5,123</td>
</tr>
<tr>
<td>WUS</td>
<td>1</td>
<td>44</td>
</tr>
<tr>
<td>Finance</td>
<td>9</td>
<td>2,228</td>
</tr>
<tr>
<td>PSM</td>
<td>4</td>
<td>600</td>
</tr>
<tr>
<td>ANR</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Health</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Education</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ICT</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Industry</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>62</td>
<td>9,975</td>
</tr>
</tbody>
</table>

ADB = Asian Development Bank; ANR = agriculture, natural resources, and rural development; ICT = information and communication technology; PSM = public sector management; WUS = water and other urban infrastructure and services.

Source: ADB.

84 For example, technical assistance includes Advanced Project Preparedness for Poverty Reduction – Enhancing Capacities of Executing and Implementing Agencies to Achieve Gender Equality Results.
124. An important aspect of ADB’s approach to IEG in India was that it provided much financial and technical support to lagging states. Lagging states cover two types: (i) special category states, and (ii) low-income states with high poverty incidence. Special category states are defined by the government as those with hilly terrains, sparsely populated habitations, and high transport costs leading to high costs of delivering public services. They cover states such as Assam, Himachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, and Uttarakhand. ADB counts Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh, and West Bengal as low-income states. These states can get MDB funding in principle as grants, as they do not have to pay most or all of the financing back to the central government.

125. This evaluation finds a focus on lagging states consistent with the government’s strategy of reducing disparity in poverty rates across states, which has been a major issue in the country. ADB, in fact, initiated operations in these states in 2003, and this continued under the CSPU, 2006–2008 and the CPS, 2009–2012. In total, 69% of ADB support during the evaluation period was targeted toward lagging states (Figure 8). During 2007–2008, 84% of sovereign loans went to such states, falling to 70% during 2009–2012, and 61% during 2013–2015. The CPS, 2013–2017 planned to reduce overall lending to lagging states to around 40%–50% of total ADB lending approval, and to reduce the number of sectors covered in these states. The transport program has been particularly influenced by the IEG agenda: the bulk of its operations (92% on average) were located in lagging states, and the proportion went up from the 2009 CPS period to the 2013 CPS period. This was unlike other infrastructure programs, wherein the share of operations decreased in the lagging states.

![Figure 8: Share of Lagging States on ADB Sovereign Loans, 2007–2015 (%)](image)

<table>
<thead>
<tr>
<th>Period</th>
<th>ADB Sovereign</th>
<th>Energy</th>
<th>Transport</th>
<th>WUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-2008</td>
<td>100</td>
<td>85</td>
<td>78</td>
<td>61</td>
</tr>
<tr>
<td>2009-2012</td>
<td>96</td>
<td>72</td>
<td>61</td>
<td>57</td>
</tr>
<tr>
<td>2013-2015</td>
<td>85</td>
<td>60</td>
<td>61</td>
<td>50</td>
</tr>
</tbody>
</table>

ADB = Asian Development Bank, WUS = water and other urban infrastructure and services. Source: ADB.

4. **Contribution of Infrastructure to Inclusive Economic Growth**

126. Studies reveal positive contribution of infrastructure to inclusive economic growth. According to the World Bank, India’s infrastructure shortage hinders the growth of labor-intensive manufacturing industries that generate jobs for low- and semi-skilled workers, and has not been conducive to the growth of manufacturing exports that
integrate into global value chains.\textsuperscript{85} The government sees poor infrastructure or lack of infrastructure as key bottlenecks to growth. A 2012 report by the Planning Commission indicated a strong correlation between infrastructure development and poverty reduction, showing that infrastructure affects poverty primarily by encouraging economic activity and leading to higher incomes (Table 8).\textsuperscript{86} The report found that infrastructure itself can provide significant positive spillovers for other sectors, raising productivity by reducing transaction and other costs. A recent analysis on the effects of India’s national rural road program on employment and economic outcomes found that rural roads give workers better access to labor markets and provide gains to multiple measures of economic outcomes, including increased earnings.\textsuperscript{87} This suggests that improved rural transportation infrastructure positively affects the sectoral allocation of labor and employment and earnings prospects.

**Table 8: Correlation between Infrastructure Index, Per Capita Income, and Poverty Ratio**

<table>
<thead>
<tr>
<th>Item</th>
<th>1999–2000</th>
<th>2007–2008\textsuperscript{a}</th>
<th>2008–2009\textsuperscript{b}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between infrastructure index and PCI</td>
<td>0.79</td>
<td>0.86</td>
<td>0.85</td>
</tr>
<tr>
<td>Between infrastructure index and poverty ratio</td>
<td>0.64</td>
<td>0.87</td>
<td>0.82</td>
</tr>
<tr>
<td>Between PCI and poverty ratio</td>
<td>0.82</td>
<td>0.74</td>
<td>0.74</td>
</tr>
</tbody>
</table>

PCI = per capita income.
\textsuperscript{b} PCI (2008–2009) and poverty ratio (2009–2010).

127. The three surveys for the transport program conducted for this evaluation in Assam, Bihar, and Odisha documented the locals’ high appreciation on the beneficial effects of rural roads and highways on inclusion.\textsuperscript{88} ADB’s support was found to have improved the connectivity of remote communities to nearby markets, health care centers, government offices, employment hubs, and financial institutions; 14,220 km of roads were completed with ADB support. Women benefited from improved proximity to health centers and girls benefited from improved connectivity to schools. In all three states, the time taken to access facilities and services decreased significantly because of the use of motorized transportation modes.

128. Beneficiaries in Assam, where the beneficiary survey was more rigorous and also included a control group of non-beneficiaries,\textsuperscript{89} reported that travel time has been reduced by road rehabilitation.\textsuperscript{90} Table 9 shows time savings by destination. Travel time

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\textsuperscript{88} One each for the Rural Roads Sector II Investment Program – tranches 2 and 4, and one for Bihar State Highways Project.

\textsuperscript{89} The survey included the administration of a questionnaire that resulted in 230 responses from beneficiaries and 190 from non-beneficiaries, as well as 10 focus group discussions. The survey analysis revealed the differences in road user satisfaction and incremental income growth. The evaluation team collaborated with Gauhati University in Assam to (i) calibrate the methodology with local culture and practices, (ii) promote good communications with local people, (iii) attain high-quality enumeration and analysis of the questionnaire, and (iv) share knowledge on the evaluation.

\textsuperscript{90} The survey included the administration of a questionnaire that resulted in 230 responses from beneficiaries and 190 from non-beneficiaries, as well as 10 focus group discussions. The survey analysis revealed the differences in road user satisfaction and incremental income growth. The evaluation team collaborated with Gauhati University in Assam to (i) calibrate the methodology with local culture and practices,
to access markets, health, education, and government administrative services were reduced by 24%–42% on average. By gender, more male respondents reported time savings than women. One of the reasons for this, as shared in focus group discussions, was the difference in mode of transportation. Many women still count on nonmotorized or public transport. Men, however, use personal vehicles and motorbikes; rehabilitated roads generally save time for users of these modes of transportation. Ninety nine percent of female beneficiaries and 94% of male beneficiaries confirmed that project roads contributed positively to their lives (Figure 9). The average value of responses was 2.8 on a scale of –5.0 to 5.0.

### Table 9: Time Savings Benefit from Rural Road Rehabilitation (%)

<table>
<thead>
<tr>
<th>Facility Visited</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market</td>
<td>38</td>
<td>44</td>
<td>42</td>
</tr>
<tr>
<td>Primary health center</td>
<td>39</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Secondary health care facility</td>
<td>13</td>
<td>35</td>
<td>28</td>
</tr>
<tr>
<td>Primary school</td>
<td>18</td>
<td>27</td>
<td>24</td>
</tr>
<tr>
<td>Secondary school</td>
<td>18</td>
<td>35</td>
<td>30</td>
</tr>
<tr>
<td>Government administrative services</td>
<td>31</td>
<td>37</td>
<td>35</td>
</tr>
</tbody>
</table>


129. Both the beneficiaries’ and non-beneficiaries’ satisfaction on access, time savings, and economic and social opportunities were positive, and the beneficiaries’ satisfaction was 1.5–2.0 times the non-beneficiaries’.

130. In Bihar, beneficiaries living alongside State Highway 68 said that the rehabilitated roads made their life and travel much more comfortable, particularly during the rainy season when these highways had been previously unnavigable. Travel time to major cities in the region, such as Gaya, was cut by half in Southern Bihar for users of private vehicles and public transport. However, in terms of additional income or economic opportunities, the response was mixed. Focus group discussions organized with communities indicated that people were able to seek work in other cities because

(ii) promote good communications with local people, (iii) attain high-quality enumeration and analysis of the questionnaire, and (iv) share knowledge on the evaluation.

91 Perceptions were recorded on an 11-point scale ranging from –5 to 5, although Figure 9 shows only the range from –3 to 5 because there were no responses of –4 and –5.

92 Although the roads of the non-beneficiaries were not rehabilitated, their satisfaction during the same period, from 2009 to 2016, was increased by other factors such as improvement of public transport services.
of more transport opportunities. Discussants also mentioned that there were fewer opportunities for income generation of agriculture in their villages alongside state highways 73 and 75, particularly due to low rainfall. Unfortunately, the survey showed that fewer women than men felt their lives improved after the road rehabilitation.93 This might be because the majority of people looking for work were men, with social inhibitions preventing women from seeking employment to an equal degree. The evaluation does not generalize the results of the focus group discussions. It would be good if the executing agencies or ADB can implement an in-depth beneficiary survey for this project.

131. ADB’s energy program likely contributed to IEG pillars 1 and 2 (para. 123). It contributed to providing more access to economic opportunities by enhancing and upgrading the national transmission and distribution network to enable improved access to electricity in urban and rural areas. The ongoing Assam Power Sector Enhancement Investment Program, for example, targeted village and/or rural electrification and access to household electrification to reach 100% of the population. The project is still ongoing but secondary sources indicate that rural Assam is currently more than 90% electrified and seems to be on track to reach the 100% electrification target. The World Bank Global Monitoring Report 2015 reported that rural electrification in India has caused major changes in consumption and earnings, with increases in employment opportunities for both men and women, and has made it possible for girls to attend school. With support from ADB, Madhya Pradesh installed separate feeders for agricultural use, which has helped provide 24x7 supply to a section of rural customers. The feeder-separation scheme that was adopted by ADB from the government enabled the distribution company to regulate power supply to agricultural consumers as and when needed for effective demand side management. This also helped reduce theft of power and illegal connections in rural areas, and helped farmers curtail the use of more expensive and more polluting diesel pump sets. The scheme is now being replicated by other utilities in the country. An associated TA is supporting women micro-entrepreneurs to seize income-generation activities made possible by improved access to electricity.

132. WUS operations mainly address pillar 2 of IEG, helping to distribute the benefits of growth. ADB investments contributed to more reliable and regular water supply as well as better quality water. There was a marked urbanization of poverty in India from FY2005 to FY2012, with the urban poor now accounting for one-third of the total population. Rural poverty measures that were historically higher than those of urban areas are now converging with urban measures.94 In general, projects have had an open and balanced approach to the provision of urban services in the target towns and cities, and it is apparent that all areas were treated with equal importance. In Bhopal, Indore, and Jabalpur, the poorer sections of society, including slum residents, have been specifically targeted as beneficiaries. However, further work for slum development could have been included in the program, although slum development is a bigger priority for ADB and the level of effort needed is high. Of the 17 states covered by the WUS program during the evaluation period, 12 are classified as lagging states.

133. A beneficiary survey was conducted during the evaluation mission in February 2016 in the city of Indore, Madhya Pradesh for the completed Urban Water Supply and

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93 ADB Support for Gender Equality (accessible from the list of supplementary linked documents in the Appendix).
Environmental Improvement Project. It found that the current water supply is more reliable, and that water quality has improved because the water is now sourced from a perennial river and treated, replacing, in part, limited groundwater sources. Some 80% of households in the project area now have piped water supply compared to 22% in the control group area. Hence, at the city level, where ADB contributed to the projects, inequality in provision of urban services has declined. Focus group discussions indicated that residents were pleased that they no longer had to rely on expensive private water tankers and were saving time previously spent on collecting water from various sources. The residents also reported better health in general and a decrease in waterborne diseases. Almost all households without a piped water supply connection were willing to pay for it. Solid waste disposal facilities have also improved, partly as a result of ADB-supported interventions, although coverage of such facilities is still low.

134. ADB’s ANR operations supported IEG by creating opportunities for poor farmers as producers. Three out of nine projects in this sector program supported water resource management and irrigation. Many minor irrigation schemes under ADB’s integrated water management or participatory irrigation management aimed to help the poor directly or by increasing their agricultural production and creating employment opportunities. ADB actively supported participation of women in water user associations under different projects. The Orissa Integrated Irrigated Agriculture and Water Management Investment Program, expected to be completed in September 2018, is designed to benefit 1.7 million people over 8 years with special coverage of small and marginal farmers among the beneficiaries.

135. With improvements in rural roads and energy, the rural situation in India is changing rapidly and is becoming integrated into the market economy. There is evidence to suggest that employment opportunities are beginning to diversify in the rural areas. This is important, as a majority among the rural poor are agricultural laborers with little or no landholding of their own. ADB’s two agribusiness projects drew interest from and were relevant for the private sector. However, these were prematurely closed, as the proposed PPP modality was unworkable and inadequately considered the private sector’s needs and appetite for risk.

136. ADB-supported infrastructure NSO created an estimated 10,000 jobs during construction and 2,500 jobs for O&M. In addition, the ADB investments likely helped support the growth of ancillary industries such as suppliers of equipment. Several nonsovereign finance sector projects also supported IEG by focusing on lagging states, small farmers, low-cost affordable housing, and women’s access to financial services. The evaluation found that there may be opportunities to support agribusiness and general manufacturing in lagging regions through NSO. To promote inclusion, ADB strengthened farmers’ access to markets. Yes Bank had a dedicated unit targeting small and medium-sized enterprises and women self-help groups. Axis Bank has been improving the credit and monitoring skills of its agriculture team, and is investing in information technology to quickly respond to loan applications and to more effectively monitor loan performance.

95 The Narmada intake, water treatment plant, storage, and primary distribution system at Indore in Madhya Pradesh is a major achievement that gives the city an excellent basis on which to go forward.
96 As evidence of growing commercialization, in the rural areas it is the non-farm sector (rather than the agriculture sector) that is emerging as the major source of employment opportunities. H. Binswanger-Mkhize. 2012. India 1960–2010: Structural Change, the Rural Non-farm Sector, and the Prospects for Agriculture. Berkeley: University of California, Department of Agriculture and Resource Economics. May 11.
5. Contribution of Non-Infrastructure Support to Inclusive Economic Growth

137. Finance sector operations contributed to IEG particularly through their support for pension reforms. The TA on Implementing Pension Reforms helped the government roll out a national pension system not only to central and state civil servants, but also to informal sector workers (footnote 62). ADB support for increasing access to finance for the “missing middle” segment of MSMEs through the Small Industries Development Bank of India via direct lending to micro-entrepreneurs was not realized and hence did not contribute well to IEG in India. This was mainly due to limitations on capacity and branch networks. There were also challenges in implementing this project because of the global financial crisis in 2008 and the over-indebtedness of microfinance borrowers, which affected the quality of the portfolios of microfinance institutions and their lending to MSMEs. Indirect lending through participating financial institutions will be hopefully more successful. The Khadi Reform and Development Program was expected to promote inclusive growth by creating a conducive enabling environment for khadi entrepreneurs. The expected results are yet to be realized as the lack of mobilization and minimal response from private sector players makes it difficult to meet the tranche conditions.

138. PSM operations were concentrated in low-income and special category states, and contributed to IEG by creating fiscal space to better finance infrastructure, social sectors, and human development. The three completed state-level public resource management reform programs in Assam, Mizoram, and West Bengal had a consistent focus on creating fiscal space, primarily through reforms to revenue, expenditure, and debt management. By freeing up resources and mitigating fiscal risks, states are in a better position to boost investment in infrastructure and social sectors, strengthen overall fiscal sustainability, and contribute to the higher goals of poverty reduction and inclusive growth. Recent analysis by the International Monetary Fund suggests that states that boosted social sector spending, in particular on education, had better inclusive growth outcomes (footnote 16). These reforms are in effect supporting IEG pillars 1 and 2 (para. 123). Some elements of the programs went further and had more specific and targeted social assistance elements, such as the Mizoram program, which established a $25 million trust fund, earnings from which are now used to support health care settlement claims of families below the poverty line.

139. Social sector operations are in the early stage of implementation and, although their relevance to IEG is beyond doubt, their impact is still unclear. ADB selected Meghalaya, a special category Indian state in the country’s northeast, for its first loan in the skills and education sector, given the state’s low human development. ADB’s support for Supporting Kerala’s Additional Skill Acquisition Program in Post-Basic Education, which was implemented in the non-lagging state of Kerala, can be justified because (i) the state has a relatively high level of educated unemployment compared to the

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97 The “missing middle” refers to small borrowers who have potential and have performed well, but have grown too large for traditional microfinance support and are unable to access more conventional bank financing because they either remain not creditworthy, or lack the necessary skills, capacity, and experience.

98 This refers to the Micro, Small, and Medium Enterprise Development Project. The balance of the $14.29 million allocation under the direct lending component was cancelled. Only $0.71 million (4%) of the $15.00 million allocation for direct lending was utilized. The indirect lending component amounting to $35 million was fully disbursed. The Small Industries Development Bank of India shifted its business strategy away from direct lending to the “missing middle” segment that had been started as pilot phase to entirely indirect lending through the participating financial institutions.

99 The two remaining conditions are the setting up a marketing organization through joint venture and effective marketing through PPP. There was very little response from the private sector.
national average, and (ii) the program has potential for demonstration effects in other states with similar problems. Supporting National Urban Health Mission, a results-based lending program, aims to reach the urban poor and vulnerable. ADB’s Odisha Skill Development Project, a TA project in the low-income state of Odisha, is now being followed up with a larger lending program.

140. ADB’s gender policy has been applied to many projects in India. Projects classified as having gender equity as a theme or effective gender mainstreaming increased from 18% during 2007–2010 to 46% during 2011–2015. This helped to enhance the inclusiveness of ADB’s support. The bulk of ADB’s portfolio (i.e., transport and energy), however, was not as gender inclusive prior to 2011. During this early period, the assumption was that all infrastructure projects by their very nature would benefit both men and women, and there was no need for special gender action plans (GAPs). In 2011 the quality of gender mainstreaming improved with the recognition that women’s ability to seize economic or livelihood opportunities afforded by new infrastructure was constrained by a complex set of economic, social, and cultural factors in India. A sharp increase in projects with gender objectives or GAPs after 2010 was probably due to factors including (i) the corporate results framework of 2008, which connected with Strategy 2020, set quantitative targets for projects with effective gender mainstreaming across ADB; (ii) the 2009 IED gender and development evaluation; (iii) the issuance of the ADB Operations Manual section on gender and development in 2010; and (iv) the Gender Equality and Women’s Empowerment Operational Plan, 2013–2020, which set a target of 45% for all operations and 55% for its Asian Development Fund operations being effectively gender mainstreamed by 2016.

6. Assessment

141. ADB’s strategy in India was relevant to government IEG-related programs as well as to ADB’s corporate IEG agenda. ADB’s portfolio in India was also responsive to the government strategy and helped flagship national programs in IEG, for instance the PMGSY (para. 115), Deen Dayal Upadhyaya Gram Jyoti Yojana (para. 116), and Jawaharlal Nehru National Urban Renewal Mission (para. 117). Serious efforts were made in rural roads, state highways, and electrification to advance IEG and inclusion of the poor (concentrated in rural areas). In terms of improved household welfare in the roads, water, and electrification programs, as was borne out by beneficiary surveys. The social inclusion benefits achieved through WUS programs are significant, as are those in agriculture and PSM and some finance sector projects. Inclusion in the finance sector program as a whole could be improved.

142. The evaluation found that implementing the IEG agenda in India has had satisfactory development impacts. ADB support promoted IEG through (i) focusing on lagging states; (ii) incorporating inclusive elements into the project design (e.g., slum improvement in urban projects), and (iii) ensuring projects in sectors with high inclusion impact, such as education, water supply, rural roads, rural electrification, agriculture, MSME and rural lending, and low-cost housing finance. With regard to the inclusion impact of ADB’s program, this evaluation finds it concerning that the financial share of ADB support for lagging states is decreasing during the evaluation period, although it

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100 IED. 2009. Special Evaluation Study: The Asian Development Bank’s Support to Gender and Development. Manila: ADB.


103 In the case of the energy sector, no survey was conducted. The conclusion is based on a document review and development experience in similar closed ADB projects.
recognizes that lagging states comprise just one criterion for IEG impact. IEG impacts can also be pursued in other states through a more granular approach by supporting the right sectors and subsectors; and by fine-tuning the project design, targeting the poor and vulnerable specially if necessary and feasible. If ADB is to continue pursuing the IEG agenda, then one would expect special attention to social sectors and agriculture, as well as sectors that can provide jobs to the people, such as MSMEs and microfinance.

B. Environmentally Sustainable Growth

1. Context

143. India has made significant progress toward achieving Millennium Development Goal 7 (ensure environmental sustainability) in areas such as drinking water and forest cover, but the government has found that a better effort is needed in several areas. India, was the third largest emitter of GHGs in the world with 5.7% of the global total, and is one of the most vulnerable to climate change impacts. One source, for example, identified India as the third country most adversely affected by climate change in 2013, following only the Philippines and Cambodia, and among those subject to the greatest climate risk over the preceding decade. Its vast population and large poor subpopulation are susceptible to both droughts and extreme rainfall and related floods. Growing groundwater scarcity in the context of growing urbanization exacerbates these weather and climate impacts. The government has acknowledged that GHG emissions continue to grow in India, especially as both industrialization and urbanization, together with expansion of the national vehicle fleet, proceed apace with (while also strongly contributing to) the country’s rapid economic growth. Aside from GHG emissions, economic growth has resulted in local air pollution becoming an insidious hazard in many of India’s major cities. Millennium Development Goal targets for sanitation have not been met and open defecation remains a widespread practice. Groundwater overexploitation, pollution of inland waterways, and conservation of terrestrial and marine ecosystems remain significant challenges and, if left unabated, represent a serious threat to sustainable growth.

144. The government published a National Action Plan for Climate Change in June 2008, and issued its Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC) in 2012. These documents reported that a large portion of the population depends upon climate-sensitive sectors like agriculture and forestry for their livelihood, and any adverse impact on water availability due to recession of glaciers, decrease in rainfall, and increased flooding would threaten food security. For the mitigation challenge, the Second National Communication acknowledges that the main focus of GHG emission reduction efforts in India has to be in the energy and transport sectors; and that reduction can be best promoted by increasing the share of renewables in the national energy matrix, using clean coal and carbon capture and storage technologies, and seeking to reduce petroleum consumption in transport. For the adaptation challenge, the Second National

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106 The National Action Plan on Climate Change proposed eight national missions on the following topics: (i) solar, (ii) enhanced energy efficiency, (iii) sustainanble habitat, (iv) water, (v) green India, (vi) sustaining the Himalayan ecosystem, (vii) sustainable agriculture, and (viii) strategic knowledge for climate change.

Communication emphasized India’s increasing vulnerability to the adverse effects of climate change in urban and coastal areas, agricultural activity and food security, and public health.

145. India ratified the Paris Agreement on 2 October 2016, making the commitment to generate at least 40% of its electricity from non-fossil sources by 2030.\(^{108}\) India, at the 15th session of the Conference of the Parties to the UNFCCC in Copenhagen in December 2009, had already pledged to continue a constructive role in international climate diplomacy while emphasizing the need for implementing a comprehensive domestic response to reduce the emissions intensity of GDP by 20%–25% by 2020 in relation to 2005 levels (not including emissions from the agriculture sector). It also highlighted the measures already taken in this regard, including (i) a carbon tax on coal to fund clean energy (at the rate of $1 per ton on both domestically produced and imported coal), (ii) aggressive strategies on forestry and coastal management, and (iii) the promotion of regional and international cooperation through the South Asian Association for Regional Cooperation. More recently, for the 21st session of the Conference of the Parties to the UNFCCC in Paris in December 2015, the government submitted its Intended Nationally Determined Contribution proposing a commitment to conservation of nature and affirming that climate change is a major challenge for developing countries.\(^{109}\) Other declared commitments in India’s Nationally Determined Contribution include reducing emissions intensity of its GDP by 33%–35% by 2030 (from the 2005 level) and creating an additional carbon sink of 2.5 billion tons to 3.0 billion tons of carbon dioxide (CO\(_2\)) equivalent through additional forest and tree cover by 2030.

2. **ADB Strategies and Portfolio for Environmentally Sustainable Growth**

146. ADB strategies and support for ESG have been highlighted in the CPS, 2009–2012 and the CPS, 2013–2017 for India. Strategy 2020 included special attention for strengthening climate change mitigation and adaptation work in addition to the focus on sanitation, solid waste, and urban environmental problems. While 47% of sovereign projects for all of ADB’s members for 2014 were tagged for ESG, for India this was 57%.\(^{110}\) The most recent CPS, 2013–2017 stated that promoting environmental sustainability is also a priority because population growth, urbanization, and economic growth have placed unprecedented pressures on the country’s natural resources.

147. Energy operations (which are aligned with the eco-efficiency subtheme) and WUS operations (which are aligned with the urban environmental improvement subtheme) dominated the ESG-tagged operations. This is expected given their close

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\(^{108}\) “The Paris Agreement’s central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework, and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework.” United Nations Framework Convention on Climate Change. Paris Agreement. http://unfccc.int/paris_agreement/items/9485.php

\(^{109}\) “India’s contribution takes into account its commitment to conservation of nature as well as the imperatives of meeting the competing demand on resources for addressing the challenges of poverty eradication, food security and nutrition, universal access to education and health, gender equality and women [sic] empowerment, water and sanitation, energy, employment, sustainable urbanization and new human settlements, and the means of implementation for enhanced action for achieving, among others, the sustainable development goals for its 1.2 billion people.” Government of India. 2015. *India’s Nationally Determined Contribution*. Delhi.

alignment with the project design (Table 10). In India, sovereign energy projects focus on improving the efficiency of the national grid and also provide an important enabling environment for renewables. ADB’s transmission line projects had added 10,000 km as of November 2016, and 11,000 km of distribution networks. The WUS sector program supports the ESG agenda primarily through wastewater treatment and solid waste management, which reduces pollutant loads to the receiving environment, waterways in particular. Water supply subcomponents also contribute to ESG through reductions in non-revenue water losses, thereby achieving gains in water use efficiency and energy efficiency. More recent loans also include efforts to recycle wastewater and to generate energy through sludge digestion and gasification. There are examples of projects not tagged as ESG, although they clearly will contribute environmental benefits. Overall, the country program is well aligned with the ESG agenda, but there is scope for expanding ADB work in underrepresented areas beyond energy and urban water, particularly in disaster risk management and environmental policy and legislation. The environmental co-benefits of many infrastructure operations can also be increased further, and given the major huge sanitation and solid waste agenda in India both in urban and rural areas, ADB could aim to further increase its program in these fields.

<table>
<thead>
<tr>
<th>Subtheme</th>
<th>ANR</th>
<th>EDU</th>
<th>ENE</th>
<th>FIN</th>
<th>HLT</th>
<th>PSM</th>
<th>TRA</th>
<th>WUS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural resources conservation</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban environmental improvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>23</td>
</tr>
<tr>
<td>Eco-efficiency</td>
<td></td>
<td></td>
<td>21</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global and regional transboundary</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>environmental concerns</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Environmental policy and legislation</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disaster risk management</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td>2</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>1</td>
<td>33</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>9</td>
<td>26</td>
<td>79</td>
</tr>
</tbody>
</table>

ANR = agriculture, natural resources, and rural development; EDU = education; ENE = energy; FIN = finance; HLT = health; PSM = public sector management; TRA = transport; WUS = water and other urban infrastructure and services.

Note: Totals are not necessarily cumulative as a loan may be tagged with more than one subtheme.


3. ADB’s Support and Contribution to Addressing Climate Change Impact

ADB’s Support and Contribution to Addressing Climate Change Impact

Strategy 2020 has strengthened its operational emphasis on climate change impacts. The ADB project classification system requires that project documents indicate (i) the degree of impact from climate change; (ii) the amount of investment for mitigation and/or adaptation; and (iii) the estimated amount of CO₂ reduction, if applicable. ADB projects in India have increasingly been considered to be affected by climate change to the point where, in 2014 and 2015, all sovereign projects were considered to be somewhat affected by climate change (Figure 10). ADB project tagging suggests that projects are increasingly acknowledged as being affected by climate change. This reflects ADB’s increasing awareness of India’s high vulnerability to climate change, which could also affect its lending operations. However, such tagging cannot be seen as a proxy for increasing measures for adaptation and mitigation, or improving the

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111 With regard to the environment, Strategy 2020 emphasized three areas: (i) climate change—mitigation and adaptation; (ii) livable cities—addressing of a range of environmental problems resulting from rapid urbanization; and (iii) complementary actions—the mainstreaming of environmental considerations into country policies and investment programs; and the strengthening of the legal, regulatory, and enforcement capacities of public institutions.
resilience to impacts of infrastructure. Of the 113 sovereign loan projects (excluding grants) to India during the evaluation period ($17.2 billion), 56 with commitments of more than $9.8 billion were tagged as having some relation to climate change (i.e., either being affected by it and/or helping to address it). 112 Similarly, almost all nonsovereign projects in recent years are considered likely to be impacted to some extent by climate change (Figure 11). ADB’s climate change-related nonsovereign lending portfolio for India during the evaluation period was exclusively focused on mitigation and highly concentrated in energy.

Figure 10: India ADB Sovereign Loans Approved and Expected to Be affected by Climate Change, 2007–2015 ($ million)

![Graph showing sovereign loans](image)

ADB = Asian Development Bank.
Notes: The chart indicates total loan amounts. Total of Loans with Climate Change Impact includes loans that were indicated to have adaptation or mitigation aspects but for which no information on impact level was given.
Sources: ADB Sustainable Development and Climate Change Department (for 2009–2013); ADB eOps (for 2014–2015, accessed 19 May 2016).

Figure 11: India ADB Nonsovereign Loans Approved and Expected to Be Impacted by Climate Change, 2007–2015 ($ million)

![Graph showing nonsovereign loans](image)

ADB = Asian Development Bank.
Notes: The chart indicates total loan amounts. Total of Loans with Climate Change Impact includes loans that were indicated to have adaptation or mitigation aspects but for which no information on impact level were given.
Sources: ADB Sustainable Development and Climate Change Department (for 2009–2013); ADB eOps (for 2014–2015, accessed 19 May 2016).

However, ADB’s climate change-related finance has not increased commensurately (Figure 12). 113 Since 2011, funding for mitigation projects in the India portfolio has been relatively stable, ranging from $235 million to $481 million per year, while the average of ADB loan and grant approval in India was $2.5 billion per annum. Adaptation work has typically accounted for a much smaller proportion of climate change-related projects, in India as elsewhere. If India does not devote more funding to climate change, it may hinder the ability to manage GHG emissions. A possible reason for the limited progress is that ADB support for climate change functions is merely an add-on to existing sector programs, with few projects proposed with climate change resilience as a primary objective. A recent strategic IED review of ESG support in ADB concluded it would be desirable if ADB would set a corporate target for the number or proportion of environmental projects (footnote 110).

112 Projects tagged with a medium or high risk (as opposed to low) are subject to a climate risk vulnerability assessment during project preparation, which characterizes climate risk in more detail and develops commensurate mitigation measures in project design.

113 ADB’s Climate Change and Disaster Risk Management Thematic Group began reporting these indicators as part of the joint reporting by MDBs on climate finance in 2011. The climate change-related finance in 2016 increased to $1,218 million.
ADB’s support for climate change-related activities in energy is an important element of ADB’s strategy in India and elsewhere. ADB is committed to the Government of India’s resolve to “better adapt to climate change by enhancing investments in development programs in sectors vulnerable to climate change, particularly agriculture, water resources, the Himalayan region, coastal regions, health and disaster management.” Analysis of the portfolio trend shows increasing attention to helping the national and local governments increase resilience to adverse effects of climate change. In the CPS, 2009–2012 and the CPS, 2013–2017, ADB’s support highlighted low-carbon solutions and ESG. During the evaluation period, ADB’s energy operations were focused only on mitigation projects, and more than 80% of the public sector energy support was allocated to electricity transmission and distribution. Indeed, the allocation for electricity transmission and distribution was consistently the highest across all three periods (Table 11).

<table>
<thead>
<tr>
<th>Table 11: ADB Support to Energy Sector by Subsector, 2007–2015</th>
<th>($ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large hydropower generation</td>
<td>150</td>
</tr>
<tr>
<td>Conventional energy generation</td>
<td></td>
</tr>
<tr>
<td>Electricity transmission and distribution</td>
<td>847</td>
</tr>
<tr>
<td>Energy efficiency and conservation</td>
<td>3</td>
</tr>
<tr>
<td>Energy sector development and institutional reforma</td>
<td>2</td>
</tr>
<tr>
<td>Renewable energy</td>
<td>42</td>
</tr>
<tr>
<td>Multiple subsectors</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>1,044</td>
</tr>
</tbody>
</table>

ADB = Asian Development Bank.

* Three tranches of the Madhya Pradesh Power Sector Investment Program (Loans 2323, 2324, and 2346) classified under the energy sector development and institutional reform subsector were considered under electricity transmission and distribution in this assessment as the majority of their components were electricity transmission and distribution.

Source: ADB.

All ADB energy projects resulted in absolute or relative emission reductions, and also improved energy efficiency. ADB estimated the potential CO₂ emission reductions from all sovereign energy projects (where information was available) at more than 42 million tons per annum. Notably, most of the projects were not designed principally as

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150. Footnote 10, p. 183, Box 8.3.

151. ADB’s sovereign energy portfolio did not clearly specify any direct support to climate change adaptation. However, more recent loans had the benefit of climate risk screening, in which adaptation measures were considered in the design of energy projects.
climate change mitigation projects; they only included elements of loss reduction in the transmission and distribution networks, which potentially could lead to some emission reductions attributable to the ADB project.

152. Climate change practices included the following. The Himachal Pradesh Clean Energy Development Investment Program–Tranche 4 estimated that the hydropower investments would generate power that would displace conventional fuels on the grid and could earn revenue from selling emissions reductions under the Clean Development Mechanism of the Kyoto Protocol. ADB provided a Clean Development Mechanism specialist during project preparation to assess the carbon market potential of proposed projects. Additionally, the Gujarat Solar Power Transmission Project supported the development of reliable transmission infrastructure for evacuation of up to 500 MW of both solar photovoltaic and concentrated solar power.

153. Total nonsovereign renewable energy approvals were $957 million and corresponded to 37% of the total nonsovereign energy program during the evaluation period. Although some of the largest loans approved were for conventional energy or transmission and distribution systems, the number of nonsovereign loans for renewable energy has increased. Such loans now provide significant support to renewable energy projects (particularly wind and solar). The share of ADB finance to nonsovereign renewable energy projects was higher than that to sovereign operations (Figures 13 and 14). This may be because the private sector is currently better equipped to handle projects of this size and the business of renewable energy. ADB investments in a cluster of wind and solar projects—as opposed to one-time or opportunistic support—signaled ADB’s sustained commitment to the renewables segment, and hence to ESG, although the impact on ESG was not well monitored. To address climate change, further improvement of the enabling environment for private sector renewable energy is crucial.

154. Other ADB portfolios such as the ANR, transport, and WUS programs in India, though substantial both in terms of the number of operations and total loan

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117 The Mundra Ultra Mega Power Project will result in avoidance of 6.25 million tons of CO₂ emissions per annum. Although ADB supports a coal project, it applied cleaner coal technology and estimated an avoidance of 4.0 million tons of CO₂ emissions, when compared with traditional coal-fired plants.
commitments during the evaluation period, have likely had limited impact in terms of advancing the country’s climate change mitigation and adaptation objectives. There appears to be significantly less support for tangible climate change mitigation and adaptation support in these sectors. The CPS, 2013–2017 highlighted water resources management and the introduction of new technologies and low-carbon solutions as measures to enhance environmental sustainability. However, only three irrigation projects and a flood risk management project were approved during the period.  

155. Seven of 27 WUS projects either (i) had climate change indicators for adaptation and mitigation in the project documents, or (ii) conducted climate change risk screening during project processing. Climate change indicators were rated *medium* for adaptation and *low* for mitigation across projects. The seven projects were approved recently, and they primarily focused on increasing the resilience of associated infrastructure investments to potential climate change impacts rather than helping contribute to mitigation goals as expected. The recent TA project to mainstream urban climate change resilience is a sign of greater and much needed attention in this regard. 

156. Promoting public transport helps to reduce GHG emissions associated with the growing use of private motor vehicles and the resulting urban traffic congestion. One metro line and two railway projects were the main ADB climate change-related initiatives in the sector during the evaluation period. A TA project for urban transport is also being implemented (in the city of Aizawl in Mizoram). Demand control measures are being examined, including traffic management and public parking space control, together with pre-feasibility studies of eco-friendly alternative transport systems, which may also have some climate mitigation benefits. ADB also made TA available for the preparation of documents and studies to enable India Railways to apply to the UNFCCC for funds. This was expected to enhance the railway sector investment program as a Clean Development Mechanism, However, the project is yet to be registered to the UNFCCC.

157. ADB has been aware of the potential climate-related hazards that the Indian agriculture sector is facing. Over the previous decade, the ANR portfolio has been growing as ADB has been rapidly acquiring experience of operating in different agro-climatic and administrative regions of the country. ADB carried out a few studies on water resource management and irrigation with significant implications for climate change (paras. 109–111 of supplementary linked document 12). The other TA of the Climate-Resilient Coastal Protection and Management Project helped government develop national guidelines for coastal protection. However, the magnitude of support so far has remained low, and not commensurate with the climate change risks to the ANR project design yet.

158. There were nine ADB TA projects with climate resilience elements for investment project preparation approved during 2007–2015. Unlike ADB’s recent sovereign and nonsovereign loans to India, these TA operations were more evenly focused on mitigation and adaptation issues. Those involving the energy sector concentrated on mitigation issues while the others concentrated on adaptation issues, especially water resources, including flood, management, and coastal protection and management. Many of these operations, however, involve resources from non-ADB sources, including the Urban Financing Partnership Facility, the Global Environment Facility, and other multidonor

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118 ADB approved the Climate Adaptation in Vennar Subbasin in Cauvery Delta Project in 2016 after the evaluation period. This project is climate change centered, aiming to improve water and flood risk management systems.

119 The TA on Strengthening Climate Change Resilience in Urban India was supported by the Urban Climate Change Resilience Trust Fund.
trust funds that ADB administers. A recent TA project to mainstream urban climate change resilience in selected states in India financed by the Urban Climate Change Resilience Trust Fund under the Urban Financing Partnership Facility is a welcome development. There was an average of only one climate change non-project preparatory TA operation per year during the evaluation period—and none at all from 2010 to 2013—despite the rising importance of climate change both for India and ADB.

4. Assessment

159. ADB’s strategy in India was relevant to government ESG-related programs as well as to ADB’s corporate IEG agenda—the focus being almost entirely realized in the energy program, the WUS program, and parts of the agriculture program. ADB’s portfolio in India, particularly the private sector program, was also responsive to the strategy. Energy projects focused on improving the efficiency of the national grid and increase renewable energy capacity. The WUS sector program supported the ESG agenda primarily through wastewater treatment and solid waste management. While the program was well aligned with the ESG agenda, ADB’s climate change-related finance has not increased commensurate during the evaluation period. Most projects were not specifically designed for climate change mitigation or adaptation—this should preferably change.

160. Development impacts for ESG were considered satisfactory, as ADB’s transmission line, urban transport, and water supply programs were successful. While increases in energy and water use efficiency contributed to climate change mitigation and adaptation, most projects were not designed for climate change mitigation or adaptation. The number of TA projects was limited because the other international funds (such as the Global Environmental Fund) took more initiative in this area.

161. Responding to climate change uncertainty requires developing innovative policies and procedures that reconcile the need for enhancing growth with environmental concerns. Over the longer term, growth prospects of India are buffeted by the uncertainty regarding the adverse impact of climate change on the economy, especially on the poor, and the cost of the needed remedial actions. An ADB study that assessed the costs of climate change adaptation in South Asia indicates that the approximate adaptation cost for the Indian energy sector alone would be about $7.7 billion by 2030. The climate change requirements will place substantial claim on budgetary resources over the medium and long term, even if the 2015 Paris Agreement’s binding obligation on developed countries to provide financial resources to developing countries for both mitigation and adaptation is respected. A significant increase in climate finance is needed to support India’s ability to effectively manage GHG emissions and improve climate resilience, while also contributing to ADB’s commitment to double climate finance to $6 billion by 2020.

120 Kolkata is among the six fastest-growing cities worldwide that are classified to be at extreme risk owing to climate change, and Mumbai, Delhi, and Chennai are among the 10 classified as high risk. F. Bosello, F. Eboli, and R. Pierfederici. 2012. Assessing the Economic Impacts of Climate Change. An Updated CGE Point of View. Fondazione Eni Enrico Mattei Working Paper. No. 2. http://www.diss.fu-berlin.de/docs/servlets/MCRFileNodeServlet/FUDOC5 deriving_0000000194/docs/FUDOC5 deriving_0000000194.pdf


C. Regional Cooperation and Integration

1. Context

162. India is an influential actor in the Asia and Pacific and globally, not only through its contributions to economic growth, but also through its influence in shaping vital regional and international agreements and processes. The importance of India to South Asia is significant given India’s size, centrality (it borders all other countries in South Asia), and role as the major trading partner for most countries in South Asia. India also plays a critical role in the SASEC, South Asian Association for Regional Cooperation, and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation. India’s support to the SASEC Customs Subgroup and its trade facilitation and customs initiatives has been particularly important. Since 2009, India has also been active in BRICS, the association of emerging economies comprising Brazil, the Russian Federation, India, the People’s Republic of China, and South Africa. India is also becoming an important source of learning and innovation for other countries, particularly in facilitating knowledge sharing and investment. Moreover, its role as a donor is growing, with the government having budgeted more than $1 billion in development assistance in the FY2013–2014 budget. As a comparison, this amounts to about half of the $2 billion in annual ADB approvals to India in the recent 3-year period.

163. India’s Twelfth Five Year Plan highlights cross-border connectivity as a priority, with emphasis on linkages between India’s northeastern region and Bangladesh and Myanmar, and with Southeast Asia. The plan states that India needs to engage more proactively with the global community at bilateral, regional, and multilateral levels, with special attention to its immediate neighbors. It cites ongoing work on a multimodal connection through Ashuganj in Bangladesh to Tripura, and the Sithwe–Kaladan River Project to Lunglei in Mizoram. It also prioritizes the reconditioning and reconnection of other road networks to better link to Myanmar and onward to Thailand and the road network system in Southeast Asia. The plan specifically cites the Association of Southeast Asian Nations and ADB as development partners that are likely to be supportive of these efforts (footnote 20). With ADB support, India has also worked with neighboring countries to develop two motor vehicle agreements in recent years: the Bangladesh-Bhutan-India-Nepal motor vehicle agreement and the India-Myanmar-Thailand motor vehicle agreement. These framework agreements aim to facilitate more efficient flows of passenger, personal, and cargo vehicular traffic between the participating countries.

164. South Asia is one of the least internally integrated areas in the world. Despite growth in intraregional and interregional trade and investment flows, and an increasing number of regional and subregional bilateral and multilateral arrangements, South Asia remains one of the least internally integrated subregions in the Asia and Pacific region and the world. It has relatively underdeveloped cross-border infrastructure and institutional frameworks, and faces barriers to trade, including high non-tariff barriers. A composite index developed in an IED 2015 thematic evaluation study on ADB support for RCI (Figure 15) shows South Asia’s relatively low integration level on the dimensions of trade and investment flows, monetary and financial flows, and cross-border mobility. The study concluded that there is substantial untapped potential for further regional integration in South Asia, with ADB positioned to contribute significantly more to this strategic agenda than it has in the past. The role of India in realizing this untapped potential will be significant, and India is a key economy wherein ADB should expand its

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engagement on and support for RCI. Opportunities exist not only for ADB to support infrastructure connectivity, but also to further support the areas of regional public goods, trade, and finance.

Figure 15: Regional Integration Index, By Region

CRI = composite regional integration.
Notes: The CRI is an average of the six aggregated indicator variables. For methodological details and additional data and indicators, refer to sources.

165. Better connections between South and Southeast Asia are likely to bring significant economic benefits. India’s northeast region, a natural gateway between South and Southeast Asia, has poor road and rail links. Based on recent analysis by the ADB Institute, connecting the two regions with highways, railways, ports, and energy trading would require $73 billion in investment but generate welfare gains estimated at $375 billion (8.9% of GDP) for South Asia and $193 billion (6.4% of GDP) for Southeast Asia.\(^{124}\) Recognizing this potential, the Government of India has stepped up its focus on promoting RCI and cross-border investments and has suggested that ADB plays a leading role among development partners in this respect.

2. ADB Strategies and Support

166. RCI has not always been a major focus of ADB operations in India, but this is beginning to change. The 2007 CAPE (para. 27) found that RCI objectives had not figured prominently in ADB’s India operations up to 2007. RCI was not a prominent focus during the CPS, 2009–2012 period either, with ADB pledging to continue helping in developing cross-border infrastructure and promoting trade and investment in the region, with limited articulation of specific strategies, projects, or initiatives. The CPS, 2013–2017 gives this agenda clearer emphasis, identifying regional connectivity as a strategic thrust anchored on investments in the SASEC program, with emphasis on lagging states and economic corridors to both expand internal connectivity and facilitate regional trade and investment. Moreover, ADB’s 2011 regional cooperation strategy for South Asia identified the following as priorities: (i) improving regional connectivity, (ii) boosting

cross-border trade, and (iii) strengthening regional energy cooperation.\textsuperscript{125} In response to ADB stepping up its focus on RCI, in 2015 India’s Finance Minister Arun Jaitley stated, “We welcome setting aside of $500 million for regional cooperation under [ordinary capital resources] in response to our persistent demand. I urge ADB to continue with its thrust on regional cooperation not only within South Asia but also between South Asia and rest of Asia.”\textsuperscript{126} As such, Government expects ADB to play a more active role in facilitating greater RCI in South Asia.

167. Within India, ADB support for RCI projects has been limited and focused on infrastructure connectivity. Even with a large portfolio of projects across many states, the number of ADB projects that are truly regional in nature has been limited. Over the evaluation period, three sovereign projects (all road projects) and four nonsovereign projects (three in finance and one in transport) were tagged by ADB as supporting the RCI theme, although other projects (e.g., other road and rail projects) were also sometimes considered by ADB as regional in nature by virtue of having a regional dimension or enabling a positive regional impact—even if they fall entirely within India’s borders and are not tagged by ADB operations as RCI projects. In the CPS, 2013–2017, ADB indicated that support for RCI during the period covered by the previous CPS, 2009–2012 had gained momentum, but this was limited to one road project in lagging states and a cross-border information and communications technology project (footnote 25). To some extent, this is understandable given India’s large size and diversity, and ADB’s ongoing focus on connectivity within the country, with a majority of projects in lagging states. It is also understandable given the political complexities of cross-border projects and initiatives, and the need to coordinate and reach consensus among multiple parties. Moreover, ADB’s focus on infrastructure connectivity, while still limited, makes sense since this is a critical barrier to greater trade linkages.

168. ADB has provided ongoing support to SASEC and continued engagement with other regional entities. Since its establishment in 2001, and with support from ADB (which serves as the secretariat), SASEC has played a role in networking across its member countries and assisting in identifying areas where all can benefit from greater mutual cooperation. ADB support to SASEC has been phased and incremental, (i) focusing initially on dialogue and identifying priority areas, (ii) then undertaking studies to identify feasible projects, (iii) and finally supporting projects of mutual interest. This follows the same phased approach taken by ADB in the Greater Mekong Subregion. In the area of trade facilitation, several national and subregional projects are being undertaken through the SASEC Trade Facilitation Strategic Framework, 2014–2018. SASEC projects specifically for India since 2007 have been relatively limited, consisting of eight loans and five TA operations in the transport and energy sectors.\textsuperscript{127} While some of these are not cross-border projects, they are characterized by ADB and SASEC as having regional characteristics (para. 169). ADB has also continued its cooperation with other subregional entities such as the South Asian Association for Regional Cooperation and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation.

169. India is supporting several cross-border projects with neighboring countries, with more being conceptualized. TA was provided to the Study on a South Asia Regional


\textsuperscript{127} A list of SASEC loans and TA projects is available upon request.
Power Exchange;¹²⁸ and to the Turkmenistan–Afghanistan–Pakistan–India Gas Pipeline Project, which ADB has supported from its conceptualization.¹²⁹ This multibillion dollar gas pipeline project is now coming to fruition. It aims to export up to 33 billion cubic meters of natural gas per year through a proposed approximately 1,800 km pipeline from Turkmenistan to Afghanistan, Pakistan, and India (India being the major off-taker). India has also contemplated other challenging regional initiatives, such as a road connection through Myanmar to Thailand; the Bangladesh–People’s Republic of China–India–Myanmar initiative has renewed its interest in pursuing an expressway link to connect India with Bangkok.

170. ADB has undertaken knowledge work on regional issues with relevance to India. For all ADB publications that included content on India, RCI was the most consistent thematic topic.¹³⁰ IED analysis of ADB knowledge products for India shows that ADB has undertaken RCI-themed studies since 2013, and that such studies were among the most downloaded India-related publications in recent years, comprising those focused on labor migration and remittances in South Asia, infrastructure connectivity, climate change, energy cooperation, and financial markets.

171. Knowledge work on economic corridors has been operationally relevant. Since 2013, ADB has undertaken significant knowledge work on economic corridors in India, providing a good example of how knowledge work can help influence the thinking of ADB and client countries on major new RCI investments. ADB’s analytical work on economic corridors began in 2013 and helped to shape decisions leading up to the September 2016 approval of the Visakhapatnam–Chennai Industrial Corridor Development Program,¹³¹ a $631 million investment into India’s East Coast Economic Corridor. ADB’s analytical work was reflected in the May 2016 flagship publication Scaling New Heights: Vizag–Chennai Industrial Corridor, India’s First Coastal Corridor.¹³² ADB has also conducted analytical work on proposed corridors along the Rajasthan Productive Clusters in the Delhi–Mumbai Industrial Corridor.

3. Assessment

172. ADB support for RCI is relevant, but should be much more prominent going forward. ADB’s work on RCI in India and the subregion has grown over time, in line with (i) growing demand from Government of India; (ii) new opportunities that have arisen for supporting regional integration (through SASEC and other platforms); and (iii) greater focus on regional integration as an ADB strategic agenda, especially under Strategy 2020. With (i) India’s growing influence, (ii) the significant potential benefits that will accrue from further integrating South Asia (both internally and with neighboring subregions), and (iii) the growing number of public goods issues that are affecting development (especially climate change), ADB will want to further strengthen its support for RCI.

173. ADB support for RCI over the evaluation period was overall limited, but it is well positioned to strengthen its contributions in the next decade. With limited support for RCI over most of the evaluation period, especially in terms of regional investments, ADB’s

¹³⁰ Based on IED analysis of ADB’s K-Nexus database.
¹³¹ ADB. 2016. Report and Recommendation of the President to the Board of Director: Proposed Multitranche Financing Facility, Policy-Based Loan, Technical Assistance Grant, and Administration of a Grant to India for the Visakhapatnam–Chennai Industrial Corridor Development Program. Manila.
overall impact on this strategic agenda has likewise been limited; this results in a less than satisfactory assessment on development impact. While ADB has stepped up its strategic and operational focus on RCI, its impact over the evaluation period has been moderate. Nevertheless, with the pipeline of RCI-focused investments within India (including cross-border investments and economic corridors) set to expand, ADB has an opportunity to make a much larger contribution going forward, for the benefit of India, South Asia, and the wider Asia and the Pacific. As such, the next CPS for India (2018–2022) should articulate a clear approach to strengthening ADB’s support for RCI, building on the core focus of infrastructure connectivity (which is still a major need) and adding value through complementary support in other critical areas. The CPS should also reflect the priorities set out in the SASEC Operational Plan, 2016–2025, which proposes a range of transport and energy infrastructure, and trade facilitation projects.133

D. Special Priority: Knowledge and Capacity Development

1. Context

174. Knowledge and innovation are key to raising productivity and growth and to help India become a more competitive economy. To raise productivity, accelerate economic growth, and help India become a more competitive knowledge economy, the government has given increased attention and support to innovation, research and development, and technology. This emphasis on knowledge and innovation is clearly reflected in the Twelfth Five Year Plan, major government sector strategies, and in recently adopted flagship programs such as Digital India, Make in India, and Skill India.134 As stated in the Twelfth Five Year Plan, “India has unique challenges and large unmet needs across diverse areas such as health, education, skills, agriculture, urban and rural development, energy and so on...all of which require innovative approaches and solutions, and looking beyond the conventional way of doing things. Innovation is going to be central to providing answers to the most pressing challenges and for creating opportunity structures for sharing the benefits of the emerging knowledge economy,” (footnote 8).

175. Government expects development partners to follow the Finance Plus approach and make significant contributions through knowledge, innovation, leveraging, and catalytic projects. With ODA now representing less than 0.3% of India’s GDP, and in line with the drive toward a more competitive knowledge economy, the government has called on development partners to make significant contributions—over and above the basic provision of finance—through knowledge and innovation and support for catalytic projects and activities that would not otherwise happen through local interventions. This is expressed through the “finance plus” approach adopted by the Department of Economic Affairs to ensure that the development impact of ODA is larger than the value of financial support. Similarly, the government has emphasized since 2013 the “innovation impulse with investment” approach, which calls for (i) leveraging best practice experiences to drive systemic transformations, (ii) innovating and piloting new approaches that can be replicated, and (iii) introducing innovative financing instruments and leveraging finance from third parties.135 As a major development partner, ADB is expected to clearly demonstrate these value-adding approaches. This section assesses ADB support for the three related areas of knowledge work, capacity development, and innovation—all of which have been emphasized in the recent three ADB country

135 Footnote 25, para. 12.
strategies (CSPU, 2006–2008; CPS, 2009–2012; and CPS, 2013–2017) and through the government’s “finance plus” and “innovation impulse with investment” concepts.

2. ADB Strategy and Support

176. Recent ADB strategies have paid clear attention to knowledge and capacity development, with growing emphasis on innovation. The 2007 CAPE was generally critical about ADB support for knowledge and capacity development in India, rating economic and sector work partly successful, arguing that this work had been less effective in supporting sector operations or in raising ADB’s visibility and profile. The CAPE indicated that ADB was not considered a knowledge leader by the government or domestic research institutions. Recent strategies have paid more attention to knowledge and capacity development, and to some extent to introducing innovative technologies, approaches, and practices. The CPS, 2009−2012 introduced the concept of knowledge solutions, following Strategy 2020’s adoption of this as a driver of change. It pledged to focus more on documenting and disseminating relevant development experience, devoting more resources for knowledge products, and exposing staff of executing agencies to best practices. The CPS, 2013−2017 went further by adopting a stand-alone knowledge management action plan (KMAP) that emphasized operations-specific knowledge and analysis of critical development issues, with some indicative directions for supporting knowledge and innovation in key sectors.

177. Sector program assessments found some examples of introducing and sharing best practices and innovation, but no systematic approach to introducing innovative and catalytic technologies and projects. While sector program assessments found some examples of introduction of best practices, this varied across sectors, with no consistent or systematic process for identifying critical development challenges and demands, and encouraging innovation or supporting catalytic pilot programs. Some examples of introducing best practices and innovation include a road accident response system (transport), PPP models for state highways (transport), trenchless technologies (WUS), and new financial instruments (finance). Several examples were also found in ADB’s private sector operations. ADB has also stepped up its cross-learning efforts by facilitating the sharing of best practices, innovation, and experiences among executing and implementing agencies. Nevertheless, ADB can go further in terms of articulating a clear and more systematic approach to (i) drive transformations in its major sector programs; (ii) innovate and pilot new approaches that can be replicated, as called for under the “finance plus” approach, and (iii) provide practical knowledge, based on global best practices. Sector road maps and results frameworks, for example, can take a more systematic approach to identifying and introducing innovative and catalytic technologies and projects. This was also indicated by Indian authorities.

178. Capacity development has been a major focus of ADB in India, with an emphasis on strengthening basic capabilities to improve project implementation and ensure compliance with ADB procedures. Capacity development support is delivered through sector operations, project and policy-based loans (as components embedded within the larger projects, attached or stand-alone TA, occasional TA loans, and ADB’s Capacity Development Resource Centre (CDRC) programs. During 2007–2015, 74% of sovereign projects had governance and/or capacity development components, suggesting a strong focus over the entire evaluation period. During the evaluation period, $152 million was approved for 195 TA operations, with 79 (41%) focused on preparing a project and 116 (59%) focused on generating knowledge, advice, and capacity, although a significant proportion of non-project preparatory TA operations also went to supporting project implementation. CAPE sector program assessments found a range of examples of
capacity and institutional development efforts. The primary objective of these efforts, whether they are embedded in projects or through TA, was to strengthen executing agencies’ core institutional capabilities; prepare, implement, and support ADB projects; and familiarize executing agencies with ADB processes and procedures. These efforts addressed the need to strengthen project management to ensure timely disbursements and delivery of development outcomes, and to address the deteriorating portfolio performance that started in 2012.

179. ADB established the CDRC to directly address skills gaps among counterpart agencies. Prior to 2011, ADB’s formal capacity development offerings were limited and ad hoc, with training needs assessments showing significant capacity and skills gaps in counterpart agencies. ADB’s growing portfolio has required it to engage with an expanding set of executing agencies with more diverse capabilities, many of which have had limited or no experience working with ADB or managing large projects. This warranted a more scaled-up and institutionalized approach, which led to the initial piloting and ultimate establishment of the CDRC in 2011. The CDRC has emerged as a unique example of a stand-alone and institutionalized platform for capacity development in a client country setting. It has offered a formal, year-round program of structured courses, with a primary focus on ADB processes and procedures (such as procurement, consultant selection, disbursement, and safeguards) as well as project implementation and thematic topics. The CDRC has also organized business opportunity seminars in 2012, 2014, and 2015, with courses covering some advanced topics such as trenchless technologies for urban projects. CDRC seminars have been attended by participants from Afghanistan and Bhutan, and the resident mission has supported the replication of CDRC in the Nepal Resident Mission. Almost 1,000 participants take CDRC courses every year.

180. The CDRC was designed to help improve portfolio performance, but this has been difficult. The intended outcome of the TA project that has financed the CDRC is improved capacity of executing agencies in implementing ADB-financed projects, to be measured by (i) shortened processing time of procurement, consultancy selection, and disbursement-related documents, and (ii) improved compliance level of safeguard-related documents. While CDRC courses have helped improve individuals’ capacities, aggregate portfolio performance indicators have not shown major improvement in the past 5 years. Thus, while the immediate objective of training staff is being achieved, translating this into the higher objectives of introducing cutting-edge innovation, and improved operational effectiveness and portfolio performance remains difficult.

181. The proposal to outsource training programs is sensible. Under the current CPS, 2013–2017, ADB was to institutionalize capacity building programs at selected academic institutes. ADB is proposing to shift the program from its current in-house management arrangement to management by an external anchor institution, the Administrative Staff College of India. With financial and staffing support from ADB, this College would take the lead in conducting programs as well as continue with capacity needs assessments, developing training curricula, and other functions. This is a sensible approach from a sustainability perspective. Consideration should be given to more rigorous measurement of learning, including pre- and post-testing to measure the value addition of the training, and possible tracer studies to identify how participants are applying the knowledge in their work. Moreover, while training for individuals will remain critical, support for organizational-level capacity development for executing agencies will be equally

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136 Project implementation topics include contract management, construction management, project management, detailed project report preparation, highway maintenance, and irrigation water scheduling. Thematic topics include road safety, water demand management, trenchless technologies, and municipal accounting reforms.
important if portfolio performance is to improve. This demands that ADB strengthens TA support to executing agencies and effectively coordinates efforts at both the individual and organizational levels.

182. ADB has produced a growing number of knowledge products on India. In the 2013–2015 period, ADB issued around 30 publications that exclusively focus on India, based on a review of ADB’s K-Nexus database. Over the entire evaluation period, the overall volume of knowledge products (in particular, publications) grew. As discussed under RCI (para. 171), studies on economic corridor development are among the high-profile publications issued in recent years. These products are financed by a range of TA operations (including major regional TA projects managed by ADB’s South Asia Department). While the total numbers were fairly consistent during 2013–2015, there was a notable decline in publications in 2015. While preliminary 2016 numbers show a slight rebound in publications, the overall downward trend looks to have continued. The decline in publications has been compensated by increased production of databases and multimedia products and other types of knowledge products (Table 12). ADB staff indicated that the decline in publications may have been caused by the 2015 introduction of more stringent government guidelines for studies conducted by MDBs. ADB and the government may consider a stepped-up knowledge programming approach that builds on the informal and formal processes in place to consider and preapprove batches of potentially useful studies. This may expedite approval and strengthen the likelihood that knowledge products will be useful.

<table>
<thead>
<tr>
<th>ADB Knowledge Products with ANY India Content</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publications (books, reports, technical or working papers)</td>
<td>45</td>
<td>47</td>
<td>28</td>
<td>120</td>
</tr>
<tr>
<td>Databases and multimedia products</td>
<td>45</td>
<td>53</td>
<td>65</td>
<td>163</td>
</tr>
<tr>
<td>Others (minor publications or documents, other products)</td>
<td>17</td>
<td>18</td>
<td>27</td>
<td>62</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>107</strong></td>
<td><strong>118</strong></td>
<td><strong>120</strong></td>
<td><strong>345</strong></td>
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<table>
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<tr>
<th>ADB Knowledge Products on India ONLY</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publications (books, reports, technical or working papers)</td>
<td>15</td>
<td>10</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td>Multimedia products</td>
<td>9</td>
<td>13</td>
<td>26</td>
<td>48</td>
</tr>
<tr>
<td>Others (minor publications or documents, other products)</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
<td><strong>26</strong></td>
<td><strong>36</strong></td>
<td><strong>90</strong></td>
</tr>
</tbody>
</table>

ADB = Asian Development Bank.
Source: ADB Independent Evaluation Department, analysis of K-Nexus database as of 26 May 2016 (completed publications only).

183. Assessing the influence of major knowledge products is a challenge. ADB has improved its tracking of knowledge products, knowledge-related activities (e.g., presentations and learning events), and online activity (e.g., downloads and page views) related to India. While these tracking indicators measure the reach of ADB’s knowledge work, it is more difficult to assess how knowledge work and products are being used and even more difficult to assess how they influence or impact decisions and

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137 K-Nexus was introduced in 2013 and provides a more comprehensive and reliable inventory of ADB knowledge products each year, including details such as how they were financed and their demand profiles.

138 In January 2015, the Ministry of Finance issued new guidelines for India-specific and regional studies conducted by MDBs. The guidelines seek to “ensure time-bound and structured consultation/engagement with sectoral-line ministries at each stage from concept stage to preparation of the final report.” The guidelines apply to all studies conducted by MDBs with any India content, except for studies that have separate protocol of their own. Government of India, Ministry of Finance. 2015. Guidelines for processing cases of India-specific and regional studies Conducted by Multilateral Development Banks. Office Memorandum. Delhi. http://www.dea.gov.in/sites/default/files/Guidelines_MDB_01012015.pdf
results. ADB has no current system in place to measure and monitor use, influence, and impact. ADB staff provided examples of several major knowledge products that they suggest have been useful and influential in India, such as the compendium *Facilitating Infrastructure Development India: ADB’s Experience and Best Practices in Project Implementation*[^139] ADB’s economic corridor analyses, and ADB’s analytical work and publications on small and medium-sized enterprises. To further improve the monitoring and assessment of the value addition of its knowledge work, ADB should consider a better system for tracking the use and influence of its major knowledge works, including through follow-on surveys with target end-users and key clients.

184. While tracking of knowledge work has improved, ADB is not monitoring implementation and results of the KMAP 2013–2017. ADB has improved its ability to track discrete knowledge products and activities as well as its monitoring of knowledge and results derived from operations. However, it is not actively monitoring implementation of the KMAP, which was adopted as part of the current CPS, 2013–2017 to guide its support for knowledge, capacity development, and innovation. The KMAP presents two major tracks consisting of nine components (five under track 1 and four under track 2). This makes it difficult to assess the KMAP’s effectiveness as an action plan.

185. ADB operations in India are under-resourced on TA. As discussed in Chapter 2 (para. 39), whereas loan approval trends have risen over the evaluation period, there has been a decline in knowledge- and capacity-related TA (non-project preparatory TA) from $11.6 million to $8.0 million[^140]. During the period, for every $100 in approved lending in India, around $0.57 in knowledge-related TA was provided. This put India second to the bottom, after Pakistan, among ADB’s top five borrowers in 2008 and 2010–2015.

3. Assessment

186. ADB support for basic capacity development is appropriate, but its overall approach to knowledge and innovation has been *less than relevant*. ADB has been responsive to the need to support capacity development, as this is clearly needed in India. It has also strengthened both its support for and tracking of knowledge work. It has demonstrable examples of introducing innovation and best practices, although this can be strengthened and made more systematic. The lack of effort to monitor the implementation and results of the KMAP suggests limited ADB responsiveness to this agenda and to the high expectations set out in the “finance plus” approach.

187. Available evidence suggests *satisfactory* contributions and development impacts. Assessing the true impact of ADB support for knowledge work, capacity development, and innovation is difficult; available evidence suggests that ADB has made satisfactory contributions in these areas. The evidence is partly derived from a review of ADB’s knowledge products and activities, interviews with government staff that showed appreciation for capacity development work, and observations of agencies’ growing experience with ADB and MDB practices. The CDRC programs point to appropriate mainstreaming of training of government staff in project management techniques.

188. A stronger effort will be needed to identify the most critical knowledge needs and track use and impact of knowledge work. Given the more stringent requirements set by the government for India-related studies, ADB should strengthen its identification of


[^140]: This excludes several major TA operations that financed knowledge and capacity development work in India, including two major regional TA projects that cover South Asia.
critical knowledge demands and needs, and better track the use and impact of major knowledge products. Better identification of high-demand knowledge work up front will help to maximize its usefulness later on. For major knowledge works and initiatives, ADB should make greater efforts to document how knowledge is used (by key target clients) and what influence it has on projects, policies, or any other outcome. ADB’s next country KMAP should articulate its priorities for knowledge solution generation and capacity development. ADB’s ability to step up its value addition in these areas will depend on the availability of TA resources, so it must address the decline in TA resources.

189. While support for basic capacity development is clearly needed, developing a more systematic approach to supporting advanced and innovative practices and technologies is also encouraged. A continued focus on core project management capacities will be responsive to the needs of many executing agencies, particularly in lagging states with limited experience with modern management practices. This approach also means that support for more advanced and value-adding capacity development and technologies may remain relatively limited. The focus on core project management capacity also fits the nature of many ADB-supported projects, which during the evaluation period were of a rehabilitation nature in transport, a transmission and distribution nature in energy, and a basic water supply and sanitation nature in urban areas. There has therefore been somewhat of a mismatch in rhetoric and practice in ADB’s routine interventions, which aim to be innovative and cutting-edge, but which are in areas that demand tried and tested approaches that are replicable and doable for agencies with basic capacities. While the evaluation found some examples of best practices and innovation introduced and shared through ADB operations (para. 177), going forward there is scope to significantly strengthen the focus on supporting innovative practices and technologies in areas where this can be absorbed or where this simplifies operations. Doing this would help ADB better achieve the high expectations set out by the government through the “finance plus” approach.

E. Special Priority: Gender Equality

1. Context

190. India has made significant progress in reducing gender disparities in primary and secondary education and in improving health indicators for women, with some states doing better than others. There is, however, a long way to go in the other two dimensions of the results framework for gender equality (Figure 16): (i) Equal access to human development; (ii) access to economic resources and opportunities, assets, and resources; and (iii) equal voice and security. The South Asia Department five dimensions in two parameters, as follows: (i) institutions and organizations-related parameters [enabling policy and institutional environment]; (ii) beneficiaries-related parameters: (a) equitable access to basic infrastructures, (b) human capital development, (c) economic empowerment, and (d) participation in decision making. This evaluation uses a 3-dimensional framework adapted from the World Bank. 2012. World Development Report 2012: Gender Equality and Development. Washington, DC.
The weak status of gender equality in the country is particularly reflected in these two dimensions. A detailed review of ADB support on gender is in the supplementary linked document 14.\(^{142}\)

191. India is ranked 87th out of 144 countries on the World Economic Forum’s Global Gender Gap Report 2016, up from 108th position in 2015. However, the country is ranked 136th out of 144 countries in terms of women’s economic participation and opportunity.\(^{143}\) In 2012, almost 60% of the female labor force worked in the agriculture sector, with the others fairly equally distributed in the service and manufacturing sectors. About 96% of female employment is in the informal sector.\(^{144}\) In 2010, 85% of women (and 79% of men) worked in what is called vulnerable employment, without any security or protection.\(^{145}\)

192. Women today are active as elected representatives at different levels of local government (collectively referred to as the Panchayat Raj Institutions in the rural areas and municipalities, or nagar panchayats in the urban areas). The number of female functionaries exceeded 300,000 during the Eleventh Five Year Plan. These grassroots women functionaries are emerging as development leaders, with their presence influencing the choice of rural projects, investment allocations, and monitoring of projects in many parts of India. Their numbers at the local level, however, are yet to translate into higher numbers at the state or national levels. While the global average for women in parliament stands at 22.4%, India is 103rd out of 140 countries, with a 12% representation.

193. The government strongly supports the empowerment of women. It adopted a national policy for this in 2001 to bring about gender justice and gender equality, which is currently being updated. The Department of Women and Child Development, initially set up within the Ministry of Human Resource Development in 1985, became a full-fledged ministry (the Ministry of Women and Child Development) of its own in 2006. The National Commission for Women was established by the central government in 1992. States have set up their own departments to look after women’s issues, and state-level commissions have also been established. The National Mission for Empowerment of Women was launched by the Government of India in 2010 to strengthen overall processes that promote all-round development of women.

2. ADB Strategy and Support

194. ADB’s Strategy 2020 highlights gender equality as a key driver of change, recognizing that the empowerment of women promises enormous economic and social gains. The CPS, 2003–2006 recognized that there is a “significant gender dimension to the entire gamut of social and economic processes and public policies which must be taken into consideration because ignoring the implications for women can have perverse results of otherwise well-intentioned policies.” All three country strategies during the period (CSPU, 2006–2008; CPS, 2009–2012; and CPS, 2013–2017) addressed gender.

\(^{142}\) Gender Equality in India (accessible from the list of supplementary linked documents in the Appendix).


\(^{145}\) Vulnerable employment is defined by the International Labour Organization as the sum of own-account workers and contributing family workers. Data were taken from the International Labour Organization’s labor market database on Global Employment Trends, January 2010.
Gender mainstreaming improved during the evaluation period. Of the 117 projects reviewed, 35% were categorized as having a gender equity theme or effective gender mainstreaming (meaning that the project needs to include a GAP). Table 13 presents gender mainstreaming in project operations at a sector level. Gender mainstreaming (i.e., projects classified as having a gender equity theme or effective gender mainstreaming) more than doubled from 18% during 2007–2010 to 46% during 2011–2015. This was probably in response to (i) ADB’s revised corporate targets in this area and the enhanced monitoring of the progress, and (ii) the establishment of a gender focal point in the India Resident Mission. The quality of gender mainstreaming was mixed when assessed by available GAPs. GAPs prepared in and after 2011 improved, were more time-bound, and spelt out responsibilities better, providing better guidance for implementation. The April 2014 Midterm Review of Strategy 2020, however, notes that “although gender assessments were routinely included in CP5s and sector diagnostics and road maps, the quality of gender strategies and their meaningful integration into country programs and overall results frameworks require more work.”

### Table 13: Projects in Each Gender Category by Sector (%)

<table>
<thead>
<tr>
<th>Sector Programs (no. of projects)</th>
<th>GEN</th>
<th>EGM</th>
<th>GEN + EGM</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANR (9)</td>
<td>11</td>
<td>44</td>
<td>56</td>
</tr>
<tr>
<td>Education (2)</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Energy (33)</td>
<td>12</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Finance (10)</td>
<td>20</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>Health (1)</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Industry (1)</td>
<td>100</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>PSM (5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport (29)</td>
<td>17</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>WUS (27)</td>
<td>74</td>
<td>74</td>
<td></td>
</tr>
</tbody>
</table>

ANR = agriculture, natural resources, and rural development; EGM = effective gender mainstreaming; GEN = gender equity theme; PSM = public sector management; WUS = water and other urban infrastructure and services.


The WUS program had high levels of gender mainstreaming, and the design of some projects followed good practice. For example, the Rajasthan Urban Sector Development Program (2014), through meaningful consultation with and adequate participation of women, focused on policy issues to ensure that rationalization of tariffs does not further disadvantage the poor and vulnerable. The policy matrix of the program (i) aimed to improve governance through “benchmarking of urban services, and a gender-disaggregated consumer database operationalized for 25 cities”; and (ii) required establishing the gender focal point in the corporate structure to oversee project implementation. The skills training programs in Kerala and Meghalaya also mainstreamed gender well, although these projects are still in the early stages.

The energy and finance portfolios had the lowest levels of gender mainstreaming, but the levels improved after 2011 (Box 2). Integration of gender work

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146 Seven projects, including five in the energy sector, were not categorized in the system. After a rapid review, they were retrofitted and categorized as having no gender elements.


and indicators in the transport program increased considerably, but during the early part of the evaluation, the gender sections in projects often suggested that women would automatically benefit from road projects because of easier access to schools, health facilities, and markets. ADB’s 2013 Gender Equality Diagnostic of Selected Sectors notes that this is generally an “assumed benefit” and the linkages need greater clarity in the analysis as well as an identification of the tangible benefits for women. Eight out of 10 projects in the sovereign finance sector were infrastructure financing facilities ($2.1 billion) and only 2 out of 10 meaningfully mainstream gender considerations.

### Box 2: Integrating Gender into Energy Projects

Three energy projects (totaling $602 million) have been categorized as gender mainstreamed. The 2011 Gujarat Solar Power Transmission Project included initiatives to enable women to participate in employment, skills training, and energy-based alternative livelihoods, and in some cases to strengthen self-help groups. The 2011 Madhya Pradesh Energy Efficiency Improvement Investment Program proposed to improve business opportunities for an estimated 20,000 women-headed home-based enterprises. This included providing regular power supply, access to business development services, and capacity development of self-help groups. The 2013 Rajasthan Renewable Energy Transmission Program stands out as an innovative, ambitious gender action plan that, among other things, proposed to set up a community development fund for solar park operations, contributing to the empowerment of women and girls, and the increased participation of women. All these have significant demonstration impact in India, where most infrastructure departments are generally still not fully cognizant of the gender potential of hard-core infrastructure.

The projects are still ongoing, and there is no information on results. However, in Gujarat, the Asian Development Bank funded the United Nations entity for Gender Equality and the Empowerment of Women to pilot a small initiative called the Gujarat Solar Vocational Training and Livelihoods Project ($60,000). The Entity implemented the project along with a nongovernment organization called the Self Employed Women’s Association, which does significant work with grassroots women entrepreneurs. The pilot imparted skills development and training for 136 rural women in mobile phone repair, energy conservation, kitchen gardening, and construction of smokeless stoves. This pilot training was apparently successful since it was not supply-driven but demand-driven, in that women chose the type of training they wanted to undergo.


198. There is scope for improving the quality of gender mainstreaming in newer areas such as climate change, and in systematically supporting women and marginalized groups to benefit from the increased economic opportunities generated by ADB supported projects. While projects may find it difficult to support gender equality in all cases, it could follow and build on the example set by the Himachal Pradesh Clean Energy Development Investment Program – Tranche 4, where the implementing agency has agreed to tap into the many available socioeconomic support programs for women as part of the resettlement plan.

199. ADB’s 2013 India Gender Equality Diagnostic of Selected Sectors was highly relevant and served several purposes (footnote 138). Although it came late in the evaluation period, it helped reinforce the momentum for gender mainstreaming that was created in 2011. Its focus on the economic participation and voice dimensions, the weaker aspects of gender equality in India, was justifiable. It demonstrated how gender issues could be mainstreamed into different sectors and, although evidence is difficult to find, the increased mainstreaming in ADB support can probably be attributed to this gender analysis. Nevertheless, an explicit results framework for gender equality and women’s empowerment is missing and would have made the analysis stronger. Such an analytical framework would have been most helpful in the design and monitoring of all

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149 ADB. 2013. *India: Gender Equality Diagnostic of Selected Sectors.* Manila. p. 94.
ADB projects, as it would have raised the quality of the diagnostic to an institutional or country level, rather than remaining at a sector level.

200. The evaluation concurs with the finding in ADB’s 2013 Gender Equality Diagnostic of Selected Sectors that there was a gradual weakening of intentions and commitment to gender equality as projects moved from the initial plans to implementation and then to the monitoring cycle. Projects also often lacked a good gender analysis at the local level. With renewed focus on gender categorization and mainstreaming during 2011–2012, gender mainstreaming, including the preparation of GAPs, improved in quality and quantity over the rest of the evaluation period. Since 2012, with the appointment of a dedicated social development/gender specialist in the India Resident Mission, the implementation and monitoring of the action plans gradually improved. With regular support from the resident mission, staff capacity of several project monitoring units was strengthened. Additionally, attention was paid to gender issues in ADB-supported infrastructure projects.

201. A rapid survey of beneficiaries (encroachers and squatters) of the Bihar State Highways Project found that the majority of women had received compensation. Women were more satisfied than men with the process of identifying loss and providing compensation. When asked, however, about improvements in their lives due to the project, a higher percentage of women than men felt their lives had not improved as a result of the road with compensations, which was consistent with another finding that the road project had not automatically led to greater economic opportunities for women.

202. ADB’s finance sector program promoted gender development primarily through supporting MSMEs. Through ADB’s indirect lending, 60% of 9,007 sub-borrowers were women. The loan was complemented by a capacity development Japan Fund for Poverty Reduction grant that targeted female micro and small entrepreneurs. The grant project sought to enhance the capacity of female entrepreneurs and women’s associations to enable more systematic access to financial resources, services, and market opportunities. Through this support, 1,384 low-income women entrepreneurs were trained, exceeding the target of 1,200. Meanwhile, the direct lending component earmarked at least 30% of the loan proceeds for direct lending to qualified women micro and small entrepreneurs. Only $0.71 million, or 4% of the $15.00 million allocation for direct lending, was utilized. The target was not achieved due to limitations on capacity (e.g., lack of human resources) and branch networks to reach to target beneficiaries of direct lending. The envisaged khadi industry reforms also sought to address gender equality by introducing in the design direct measures for enhancing income and empowering artisans, the majority of whom are rural poor women. These outcomes have yet to be fully realized given the unmet tranche conditions under the program.

3. Assessment

203. ADB support for gender and development in India, predominantly through gender mainstreaming, was relevant owing to (i) ADB’s program- or project-level approach, coupled with its sector- or country-level approach of demonstrating and disseminating good practices in supporting gender equality; (ii) India’s wide-ranging

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150 “There seems to be a tendency toward a gradual ‘evaporation’ of intentions and commitment to gender equality as a project moves from initial plans through the implementation and monitoring cycle.” Footnote 149.

151 ADB. 2010. Proposed Grant Assistance to India for Supporting Microentrepreneurship for Women’s Empowerment. Manila. The grant is classified under industry and trade sector.
socioeconomic differences; (iii) India’s federal arrangements for supporting gender equality; and (iv) the Government of India’s total control.

204. The quality and quantity of gender mainstreaming improved over the evaluation period. Projects classified as having gender as a theme or effective gender mainstreaming more than doubled, although only six projects (including three grant projects) were classified as having gender as a theme. More could have been done on that count. The quality of gender mainstreaming improved over the same period with (i) decreasing assumptions that infrastructure projects would automatically benefit both women and men equally, (ii) increasing supplementary support for GAPs in infrastructure projects, and (iii) crisper and better monitored GAPs that include responsibilities and timelines.

205. ADB’s attention for gender development has contributed to satisfactory development impacts. ADB’s infrastructure projects have positively contributed to gender development by enabling more girls to go to schools, enabling more women to go to health facilities, and creating employment opportunities. Four beneficiary surveys in different parts of the country confirm this finding. However, women have been unable to seize the new economic opportunities as well as men can due to the limitations resulting from the more traditional roles assigned to women. This requires special efforts to be made through GAPs. Such special components to support women are found in some energy and infrastructure projects after 2009, and ADB support is therefore likely to have a more equalizing impact in the future. In the social sectors, the projects are still under implementation, and in the finance sectors, the contribution to development impact is mixed, since the planned institutional changes did not fully materialize.

206. Despite some good progress, several areas need strengthening. First, to enhance institutional accountability for results, a gender-aware monitoring framework is essential, which links the expected outputs to the desired outcomes. Second, infrastructure projects, which comprise the bulk of ADB support, allow simultaneous contribution to all dimensions of the gender equality and women’s empowerment framework. There is a need for more systematic and expanded mainstreaming into all projects, given the high levels of inequality in India. Not doing this would result in significant missed opportunities. Third, ADB’s contribution is small compared to the government’s own investments. If ADB is to make a dent in gender inequalities, strengthening government capacity for mainstreaming gender into development projects is critical, as is effective dissemination of lessons and scope for replicability based on evidence-based monitoring. TA projects are a powerful instrument in achieving these objectives, and there is potential to use them further to achieve this purpose. The gender team in the India Resident Mission also plays an important role in this regard, but is currently stretched in terms of capacity.

F. Special Priority: Catalyzing Infrastructure Investment and Public–Private Partnerships

1. Context

207. The Government of India sees the private sector as playing a key role for faster, more inclusive, and sustainable growth. PPPs have been an important source of economic

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152 The three grant projects were (i) ADB. 2010. Proposed Grant Assistance to India for Improving Small Farmers’ Access to Market in Bihar and Maharashtra. Manila; (ii) ADB. 2012. Proposed Grant Assistance to India for Livelihood Improvement for River Erosion Victims in Assam. Manila; (iii) ADB. 2010. Proposed Grant Assistance to India for Supporting Microentrepreneurship for Women’s Empowerment. Manila.
Several studies indicate that the interaction between private and public investment during the past 3 decades has changed from one of “crowding out” to “crowding in” (Figure 17).153 Public investment initiatives that target the infrastructure sector and those that result in completion tend to have a more pronounced positive impact on private investment.154

PPP arrangements have been an important source of infrastructure financing in India.155 The need to encourage private sector participation in development projects highlights the importance of a healthy investment climate that creates opportunities for domestic and foreign investors. PPP financing is often provided via special purpose vehicles, typically a consortium of banks and other financial institutions, set up to combine and coordinate the use of their capital and expertise. Most of the 1,200 projects implemented through PPPs remain unfinished or under litigation. According to the Government of India Economic Survey, 2014–2015, the value of the public and private investment projects, mostly in infrastructure, that had stalled as of the end of December 2014 stood at ₹8.8 trillion (7% of GDP).156 The economic survey also reported that infrastructure investment had slowed, with a likely shortfall of 30% in investment under the Twelfth Five Year Plan period. The volume of PPP investment in infrastructure declined from over $55 billion in 2010 to $5 billion in 2015.157

Myriad institutional issues have led to regulatory uncertainties, government unfamiliarity in negotiating long-term projects, and inadequate attention paid to the

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156 These problems may have contributed to a drop in gross fixed capital formation from 35.0% of GDP at current market prices in FY2011 to 29.7% in FY2013.

allocation of rights and risks among the partners at the outset.\textsuperscript{158} Insufficient due diligence has also caused problems and led to bids being accepted without consideration of (i) the bidder’s overall financial health, (ii) government clearance delays, (iii) project implementation capacity, and (iv) the efficacy of the dispute resolution process.\textsuperscript{159} In response to these issues, the government is considering the recommendations of the November 2015 report on improving the PPP arrangements by the Kelkar Committee for revisiting and revitalizing the PPP model of infrastructure development.\textsuperscript{160} The report recognizes that efficiency gains are greatest when the risks of both parties are clearly defined and in line with their capacity and role, and private parties manage the risks better than the public sector. It recommends approaches to (i) resolving legacy issues, and proper identification and allocation of risks among stakeholders, (ii) strengthening PPP-related policy, governance, and institutional capacity; and (iii) revitalizing contractual processes.\textsuperscript{161}

210. To encourage PPP arrangements in the infrastructure sector, the government has established several institutions. The most prominent is IIFCL, in operation since 2006.\textsuperscript{162} The operations of IIFCL were further expanded by a National Investment and Infrastructure Fund under the 2016–2017 budget law and the Infrastructure Debt Funds.

211. Financial instruments and institutions to finance private investments are needed to fund India’s economic and social infrastructure. The key constraints on financing private investment for infrastructure are (i) the absence of a vibrant corporate bond market and innovative financial instruments and modalities; (ii) the insufficient quality of projects, which makes it difficult for them to access long-term funds; and (iii) exposure limits and increasing asset liability mismatches across banks for infrastructure financing. The government needs to address these constraints if it is to close the infrastructure investment gap, estimated at $113 billion for 2012–2017.

2. **ADB Strategies and Support**


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\textsuperscript{158}Risks include (i) construction risk (design problems, building cost overruns, and project delays); (ii) financial risk related to changes in interest rates, exchange rates, and other factors affecting financing costs; (iii) performance risk related to the continuity and quality of service provision; (iv) demand risk related to the ongoing need for services; and (v) residual value risk related to the future market price of an asset. Investment in infrastructure is of a high-risk, long-term, capital-intensive nature, reflected in the creation of durable assets with high sunk costs. Such investment decisions can be subject to a time inconsistency problem.

\textsuperscript{159}It is suggested that a more detailed technical analysis on the root causes of current problems that impede private investment infrastructure be undertaken in a separate study.


\textsuperscript{161}As a step in implementing the recommendations, a bill on insolvency and bankruptcy was presented to the Parliament in December 2015, which includes a legal framework for dispute resolution and renegotiations of PPP projects and public utility contracts. Financial support to make PPP infrastructure projects commercially viable were also introduced, including the Scheme for Financial Support to PPPs in the Infrastructure Viability Gap Funding Scheme, whereby the central government provides (i) a grant of up to 20% of the capital costs for a PPP project, and (ii) enhanced access to the India Infrastructure Project Development Fund for a pipeline of bankable PPP projects.

\textsuperscript{162}IIFCL is expected to facilitate the provision of stable, long-term, predictable, mostly private sector financing for infrastructure. It can participate in the syndicated loans for PPP projects, contributing up to 20% of resources. Increasingly, IIFCL is providing take-out finance, which involves taking over the outstanding amount of the banks’ loans to the developer after the completion of the project.
to help sustain India’s economic growth. The CPS, 2009–2012 highlighted the need for expanded volume and outreach of capital markets, and better financial intermediation for PPP infrastructure. The CPS, 2013–2017 is aligned with the government’s strategy of promoting PPPs in infrastructure finance.

213. Among the key outcomes envisaged in the finance sector results frameworks were (i) more infrastructure investment and better financial intermediation for PPP infrastructure as provided in the CPS, 2009–2012; and (ii) increased infrastructure (economic and social) investment to sustain high growth and financial system soundness, efficiency, and access improved as targeted in the CPS, 2013–2017. The key targets were (i) growth of 30% in private sector investment in infrastructure during 2009–2012 and an increase in the private sector’s share of infrastructure investment to 48% during 2012–2017, and (ii) an increase in infrastructure investment to 9.0% of GDP in 2016 from 6.5% in 2011.

214. In response to the need for increased private investments to help meet the large funding gap for infrastructure development during the evaluation period, ADB provided financial intermediary loans. Infrastructure finance had the largest share in the finance sector program portfolio. Of the $2.3 billion approved loans to support India’s finance sector during 2007–2015, $2.1 billion (91%) went to infrastructure finance, including clean and renewable energy finance through financial intermediation MFFs. The MFFs approved were the India Infrastructure Project Financing Facility I\(^\text{163}\) and II,\(^\text{164}\) and the Accelerating Infrastructure Investment Facility\(^\text{165}\) for IIFCL; and the Clean Energy Finance Investment Program for the Indian Renewable Energy Development Agency.\(^\text{166}\) The loans were complemented by TA projects supporting infrastructure finance, including clean energy and renewable energy. In addition, ADB has provided TA to help government develop PPP regulatory, institutional, and capacity development, both at the national and state levels.

3. Assessment

215. ADB support for catalyzing infrastructure investments is considered relevant—the mix of projects was directed at operationalizing the ADB strategy for infrastructure development through private sector participation. In line with government strategy, ADB provided financial intermediary support for catalyzing private infrastructure investments, including in clean and renewable energy. The finance sector program was tilted towards infrastructure finance through MFF loans because of both the strong demand for long-term funds for infrastructure and the difficulty banks have in providing such loans as a result of exposure limits and asset–liability mismatches. In nonlending operations, a few TA projects supported infrastructure finance.\(^\text{167}\) The TA on pension reforms was part of ADB’s continuing efforts since 2000 to assist in the development of a robust capital market. Its objective was not only to achieve an inclusive sustainable

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\(^{165}\) ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to India for Accelerating Infrastructure Investment Facility in India*. Manila.

\(^{166}\) Infrastructure finance projects were generally well designed. For the India Infrastructure Project Financing Facility I, though, the project validation report noted some limitations on project design and formulation.

\(^{167}\) India Infrastructure Project Financing Facility—tranches 1 and 2; Second India Infrastructure Project Financing Facility—tranches 1, 2, and 3; Accelerating Infrastructure Investment Facility in India—tranches 1 and 2; and Clean Energy Finance Investment Program—tranche 1. (Footnotes 61, 62, and 63).
pension system, but also to bring in a large pool of domestic savings that could be mobilized in the capital market and infrastructure financing. ADB also provided other TA projects to support the development of the capital market, particularly the bond market.\textsuperscript{168} There are also recent initiatives, like the use of design–build–operate form of contracts in the WUS sector, that will help promote sustainability of projects.

216. Further, ADB is strategically well positioned to finance infrastructure PPPs. The TA projects provided by ADB in 2006 and 2007 for the mainstreaming of PPPs helped create an enabling environment that allowed IIFCL to play a catalytic role in infrastructure finance.\textsuperscript{169} ADB financial intermediation support for the infrastructure sector during 2007–2015 is substantial in MFF loans and in TA. This has added value to the sector (in particular to IIFCL) because of the availability of long-term funds for infrastructure, competitive pricing of the loans and the large loan sizes. ADB’s focus on developing the capital market, particularly the bond market through TA,\textsuperscript{170} further strengthens ADB’s position, as there is much need for alternative commercially viable sources of long-term funds. Further, ADB’s MFF loans for clean and renewable energy represent a strategic step toward ESG, a long-term development goal. The ADB program is consistent with the statement of India’s current finance minister, in which he asked ADB to continue to be a change agent by supporting innovative and catalytic infrastructure finance projects that would otherwise not happen.\textsuperscript{171} Going forward, ADB should also continue to support efforts to address constraints to PPPs, including its recent effort to develop a project completion risk guarantee program.

217. Development impacts of ADB support for promoting private investments in the infrastructure sector are considered \textit{satisfactory}—increased private sector investments contributed significantly to infrastructure development. The India Infrastructure Project Financing Facility supported by two MFFs increased the availability of physical infrastructure in India (highways, airports, and energy generation and transmission). The facility leveraged private investments to such an extent that their share of the total investment in infrastructure rose from 22\% in the Tenth Five Year Plan, 2002–2007 period to 38\% in the Eleventh Five Year Plan, 2007–2012 period. In the Twelfth Five Year Plan, 2012–2017 period, the targeted share of private investment to total investment in infrastructure is 48\%. The financing facility leveraged private investments to finance the construction and expansion of roads and highways spanning over 3,750 km, rehabilitate Delhi and Mumbai international airports, carry out a 4,000 MW power generation project, and build two power transmission lines.\textsuperscript{172} These MFFs amounting to a total of $1.2 billion contributed in catalyzing investments under a PPP modality of about $14.6 billion. The increase in private investments helped reduce the fiscal pressure on infrastructure financing and contributed directly toward India’s infrastructure development. While macroeconomic indicators show positive results of private

\textsuperscript{168}Specifically, Enhancing Bond Guarantee Structuring Skills in India and Preparing the Bond Guarantee Fund for India supported the development of new and innovative method of financing infrastructure through the bond market and helped in finding an alternative funding source. Footnote 64; ADB. 2012. \textit{Technical Assistance to India for the Preparing the Bond Guarantee Fund for India.} Manila.


\textsuperscript{170}These TA projects were (i) Preparing the Bond Guarantee Fund for India, (ii) Enhancing Bond Guarantee Structuring Skills in India, (iii) Enabling Monetization of Infrastructure Assets in India, and (iv) Implementing Pension Reforms in India.

\textsuperscript{171}Statement of Finance Minister and ADB Governor Arun Jaitley during the 49th ADB Annual Meeting in Germany in 2016.

investments in the infrastructure sector, subprojects supported by ADB financial intermediary loans (such as toll roads, airports, and renewable energy generation) were not directly monitored and these were not clearly specified in the design and monitoring frameworks. Compliance with environment, social, and safety standards of subprojects of financial intermediary loans was unclear because of weak documentation. ADB needs to review achievements of subprojects and draw lessons to improve project design and to strengthen regulatory framework and institutional capacity for PPP.

218. The PPP-related TA support contributed to policy, regulatory, and capacity strengthening. ADB has helped India develop a national PPP policy framework; a comprehensive PPP manual covering project development, procurement, and technical guidance; a national PPP body to provide guidance, oversight, and monitoring; and sector-specific regulatory inputs. Moreover, ADB TA support has also helped to promote alternative commercially viable sources for infrastructure financing, strengthen capacity of institutions and government officials, develop standard PPP documents, templates and toolkits; establish a PPP website and database; and develop standard state-level PPP policies. ADB has worked mostly with the PPP cell at the Department of Economic Affairs on this support. Officials in the Department of Economic Affairs PPP cell indicated that ADB was the key development partner supporting India’s efforts to improve the enabling environment for mainstreaming PPPs.

G. Summary

219. This chapter assessed the relevance and the development impacts of the IEG, ESG, and RCI agendas; and ADB’s special priorities—knowledge and capacity development, gender equality, and catalyzing infrastructure investment and PPPs. The evaluation found that ADB’s support for the strategic agendas and special priorities was mainly relevant and provided demonstrable development impacts, although relevance in the area of knowledge and impacts on the RCI agenda was relatively weak.

(i) A reasonable measure of success was achieved for the IEG and ESG agendas. ADB support improved economic opportunities and connectivity and access to public services. The four IED surveys found that locals appreciated the beneficial effects of rural roads and water supply. Energy and water use efficiency have been improved. However, responsiveness to climate change needs to be improved.

(ii) The evaluation considered the development impacts of RCI less than satisfactory for the limited support during the evaluation period. This agenda needs stronger strategic and operational focus. The SASEC Operational Plan 2016–2025 will is a long-term vision document for the country to scale up ADB support for RCI and has a set of project proposals.

(iii) ADB support for knowledge and innovation has been less than relevant. It needs to be anchored with a client-oriented approach, and ADB support should be visible for all relevant partners to share knowledge. More work is needed to make it more systematic in ADB’s programs in India by sharper focus on identifying critical development challenges and providing practical knowledge drawing on global best practices, innovation, and expertise.

(iv) ADB’s work on gender equality has progressed well, and gender considerations have been successfully mainstreamed into operations.

(v) ADB support catalyzed investment for infrastructure and PPPs, but this needs further support given the recent difficulties in the PPP market. The 2015 report of the Kelkar Committee recommended to the government the need to improve the PPP model.
220. This chapter summarizes performance of ADB program, and elaborated the recommendations based on the findings of the evaluation. The evaluation provides recommendations at the strategic and operational levels. The various sector program assessments attached to this report as supplementary linked documents provide more detailed recommendations directed mainly at operations at the sector level (Appendix).

A. Summary of Assessments

221. This evaluation concludes that ADB's strategy and supported operations have been successful overall. This is based on assessments of sovereign operations in the main sectors supported, NSO, and the relevance and impacts of ADB's strategic agendas and special priorities in India. This integrated assessment follows ADB's 2015 guidelines for country assistance program evaluations, which assign a proportional weight to the sectoral and cross-sectoral or thematic performance of the institution. A summary of the various assessments done is in the sections below (Supplementary linked document 19).

1. Sovereign Program

222. The overall sector assessment indicates that the India sector and project program is successful. Table 14 shows aggregated ratings of the sector program assessments. The sector weights reflect the volume of ADB support provided during 2007–2015 through loans, grants, and TA resources. The following is a summary of the assessments:

(i) ADB’s program is aligned with India’s development needs on faster, more inclusive, and sustainable growth, and ADB’s country and sector strategies. ADB focused on supporting inclusive and sustainable growth with continued emphasis on infrastructure development to improve core needs of connectivity and access. However, there is room to improve project design and monitoring.

(ii) Although ADB support achieved most or all envisaged outputs and outcomes, there were cost overruns and implementation delays in many projects. To maximize economic viability, process efficiency needs to be improved. Capacity limitations of executing and implementing agencies, consultants, and contractors affected project preparation and implementation, especially in the lagging states where executing and implementing agencies have limited experience working with international development partners. This demands that the significant capacity development and implementation support is continued and even expanded. Operations that have too wide a geographic spread under a single project, as is the case with some urban projects, pose challenges to implementation as well, but this problem can be avoided with better and more realistic project design. The Indian authorities requested greater use of country systems and further decentralization of
authority and resources from headquarters to the resident mission, including establishing a regional hub for South Asia in India. This would, in their view, improve process efficiency and provision of ongoing operational support.

(iii) The institutional and financial sustainability of most of the prominent sector program outcomes was likely, except for those of WUS operations. ADB support helped the government increase its O&M capacity in transport and energy, in particular. In WUS operations, while ADB made considerable efforts to improve institutional capacity of ULBs, many still lack institutional and financial capacity. ULBs could not introduce appropriate tariffs, and many financial schemes are therefore heavily dependent on subsidies.

(iv) ADB’s IEG impact was significant principally because it supported lagging states, but the program’s responsiveness to (i) climate change threats, and (ii) the impact of the RCI agenda needs to be improved; both are limited in actual size and funding (although many operations are somehow tagged for climate change). The monitoring and evaluation of (i) projects for outcomes and impacts, and (ii) ADB’s agendas and special priorities, was often weak.

Table 14: Rating of Country Program and Country Partnership Strategy Objectives

<table>
<thead>
<tr>
<th>Sector Program Assessment</th>
<th>Relevance (20%)</th>
<th>Effectiveness (20%)</th>
<th>Efficiency (20%)</th>
<th>Sustainability (20%)</th>
<th>Development Impacts (20%)</th>
<th>Overall Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport (37%)</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1.80 Successful</td>
</tr>
<tr>
<td>Energy (30%)</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1.80 Successful</td>
</tr>
<tr>
<td>WUS (14%)</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1.60 Successful*</td>
</tr>
<tr>
<td>Finance (14%)</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1.80 Successful</td>
</tr>
<tr>
<td>PSM (5%)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2.00 Successful</td>
</tr>
<tr>
<td>Overall sector</td>
<td>2.00</td>
<td>2.00</td>
<td>1.05</td>
<td>1.86</td>
<td>2.00</td>
<td>1.78 Successful</td>
</tr>
</tbody>
</table>

PSM = public sector management, WUS = water and other urban infrastructure and services.
* Successful on the borderline.

2. Nonsovereign Program

223. The overall assessment of NSO is successful. ADB NSO increased participation of the private sector in energy, and contributed to an increase in energy supply and job opportunities. In addition, the increased efficiency of energy supply resulted in a significant reduction of CO₂ emissions. Financial market operations also promoted innovation and financial inclusion. Table 15 shows the overall rating of ADB NSO and ratings by different evaluation criteria, and below is a summary of the assessments:

(i) ADB support contributed to private sector development and economic performance. ADB-supported NSO energy projects in India leveraged greater private sector participation. It also contributed to an increase in renewable energy capacity and to climate change mitigation. ADB-supported finance projects likewise contributed to increased access of small farmers and women to credit and other financial services.

(ii) ADB loans are performing satisfactorily, but equity investments are expected to yield low returns. Of the 13 loans provided by ADB, 11 are expected to be paid as scheduled. On the other hand, most equity investments are underperforming. The expected returns on these investments may not be achieved upon exit due to weak financial performance of the project companies.
(iii) ADB ensured financial additionality by making available loans with terms of long tenors of 12–19 years and grace periods of up to 4 years. For nonfinancial additionality, ADB helped establish or strengthen management for safeguards by project companies.

(iv) ADB front-end work in some projects, including demand assessment, screening, and interaction with project companies, was not always good enough. The cancellation rate for NSO projects in India was high—double the ADB-wide average (excluding India). Inadequacies in ADB’s front-end work in nearly half of cancelled projects contributed to the high cancellation rate. Project preparation deficiencies were also found in about one-third of the 22 assessed projects.

Table 15: Overall Rating of ADB Nonsovereign Operations

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development results (40%)</td>
<td>2.00</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>ADB investment profitability (20%)</td>
<td>2.00</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>ADB additionality (20%)</td>
<td>2.00</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>ADB work quality (20%)</td>
<td>1.00</td>
<td>Less than satisfactory</td>
</tr>
<tr>
<td>Overall rating</td>
<td>1.80</td>
<td>Successful</td>
</tr>
</tbody>
</table>

ADB = Asian Development Bank.
Source: ADB Independent Evaluation Department.

3. Promotion of Strategic Agendas and Special Priorities

Table 16 shows ratings of relevance and development impacts of ADB’s three agendas and priorities. IEG, ESG, gender equality, and catalyzing infrastructure investment and PPPs were considered satisfactory; knowledge and capacity development was considered less than relevant; and the impact of RCI was less than satisfactory.

Table 16: Rating of Strategic Agendas and Special Priorities

<table>
<thead>
<tr>
<th>Item</th>
<th>Relevance</th>
<th>Development Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic Agendas</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inclusive economic growth</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Environmentally sustainable growth</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Regional cooperation and integration</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Special Priorities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge and capacity development</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Gender equality</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Infrastructure investment and PPPs</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

PPP = public–private partnership.
Notes: The rating categories for the evaluation criteria are as follows:
(i) Relevance: highly relevant (3 points), relevant (2 points), less than relevant (1 point), and irrelevant (0 point).
(ii) Development impacts: highly satisfactory (3 points), satisfactory (2 points), less than satisfactory (1 point), and unsatisfactory (0 point).

Inclusive economic growth. ADB support was relevant to the government plans and programs and to ADB’s Strategy 2020, and ADB support for IEG was considered satisfactory, helping to reduce the inequality between states. ADB support improved connectivity and access to services, and economic opportunities. ADB promoted IEG in India predominantly for lagging states, while in the second half of the period, ADB increased support in sectors with direct inclusion impact, such as education, health, and agriculture. NSO contributed to job creation, and also supported IEG by focusing on small farmers, low-cost affordable housing, and women’s access to financial services, but there are more opportunities to address agribusiness, education, health, and general
manufacturing in lagging states through NSO. Taking into account the critical poverty issues in the country, there is room to further focus on IEG in the next CPS period. Several options can be taken, particularly by improving sector balance, cross-sectoral approach, and inclusive project design.

226. **Environmentally sustainable growth.** ADB support was relevant, and its development impacts were satisfactory even though most projects were not designed for climate change mitigation or adaptation, and the number of TA projects was limited. A common objective was increased efficiency of transport, energy, and urban services, which promotes ESG and results in trickle-down effects on climate change, e.g., emission reductions from all sovereign energy projects were estimated at about 42 million tons per annum during the evaluation period. NSO supported renewable energy, accounting for 37% of the total NSO energy program after 2006. These projects will result in the avoidance of 10 million tons of CO\textsubscript{2} emissions per annum together with the Mundra Ultra Mega Power Project. ADB's sustained commitment to the renewables energy subsector enabled the significant support for ESG in NSO. Over the longer term, growth prospects are buffeted by the uncertainty of the adverse impact of climate change, especially on the poor. Responding to climate change uncertainty requires developing innovative policies and procedures. ADB’s sanitation and solid waste efforts need to be expanded in its urban program, as the success here has been limited and this is a dire need in India.

227. **Regional cooperation and integration.** ADB support for RCI was relevant, but should be much more prominent going forward. While ADB support has increased in recent years, over the entire evaluation period, it was relatively limited, leading to limited overall development impact and a less than satisfactory rating. Supporting RCI in India and South Asia more broadly will become increasingly relevant and ADB has a significant opportunity to generate a larger impact on this strategic agenda for the benefit of India, South Asia, and the wider Asia and Pacific. The next CPS for India should articulate a clear approach to strengthening ADB’s support for RCI, building on the core focus of infrastructure connectivity (which is still a major need) and adding value through complementary support in other critical areas.

228. **Knowledge and capacity development.** ADB support for capacity development, especially through the CDRC, has been helpful, but ADB support for knowledge and innovation is less than relevant. Visibility and client-orientation of support for knowledge and innovation was not sufficient. The development impacts of the capacity development work are satisfactory. An enhanced focus on knowledge solutions and innovation will strengthen ADB’s positioning going forward, including the achievement of the “finance plus” approach. Assessing the true impacts of capacity development support is difficult, but available evidence suggests that it has made satisfactory contributions in these areas, but with the need to strengthen support for innovative approaches and knowledge products. A stronger effort will be needed to identify the most critical knowledge needs and to track the use and impact of knowledge work.

229. **Gender equality.** ADB support for gender equality was relevant, and its contribution to development impacts satisfactory. ADB’s approach to gender mainstreaming, coupled with its sector- or country-level approach of demonstrating and disseminating good practices, was (i) appropriate and responsive to government demand, and (ii) consistent with ADB’s strategies. The implementation of ADB’s gender strategy in India improved after 2009, when both the number and quality of GAPs improved. ADB support helped to enhance women’s access to education and health services as well as strengthen the participation of women in community-level planning. Its contribution to the economic empowerment of women, however, was not equally successful. In the finance sector, results were mixed, and in the infrastructure sectors,
women could not automatically avail themselves of new economic opportunities generated due to gender-related social and economic limitations. ADB will need to (i) strengthen its monitoring framework with a focus on gender-related outcomes, (ii) continue to improve GAPs for infrastructure projects given the importance of addressing gender inequalities in India, and (iii) strategically disseminate lessons and scope for replicability based on evidence-based monitoring. TA projects are a powerful instrument in doing so, and there is potential to use them further to achieve this purpose. The gender team in the India Resident Mission also plays an important role in this regard, but is currently stretched in terms of capacity.

230. **Catalyzing infrastructure investment and public–private partnerships.** ADB support in this area is considered *relevant*, with *satisfactory* development impacts. In line with the government’s general strategy, ADB provided financial intermediation support for catalyzing private infrastructure investments, including in clean and renewable energy. In addition to providing financial intermediary loans to help catalyze private sector financing for infrastructure, ADB also helped support key institutions such as IIFCL and provided consistent TA for improving the enabling and institutional environments for mainstreaming PPPs. ADB financial intermediation support during 2007–2015 was substantial and helped expand the availability of long-term funds for infrastructure. ADB’s focus on developing the capital market, particularly the bond market through TA, is also noteworthy. This helped to increase the availability of physical infrastructure in India through new highways, airports, and energy generation and transmission. However, this needs further support given the recent difficulties in the PPP market; the 2015 report of the Kelkar Committee identified the current regulatory and institutional issues related to PPPs, and recommended that the government improve PPP arrangements by revisiting and revitalizing the PPP model (para. 209).

B. **Recommendations**

231. While ADB performance in India is considered *successful* overall, the following recommendations can help enhance its development effectiveness in the relevant areas. In general, it is important for ADB to operate on the basis of a long-term vision and framework, as well as on a strongly focused set of programmatic engagements for supporting development in India.

1. **Strategic Level**

   a. **Inclusive Economic Growth**

232. **Ensure that the new CPS clearly specifies the approach that ADB will take to support the inclusive and sustainable growth agendas, as the 2016 CPS reforms now require.** A continued reduction of support to lagging states may affect ADB’s contribution to inclusive growth unless measures are taken to strengthen the agenda in other ways. Other approaches to promote inclusive growth could be based on greater attention for development of urban areas, the informal sector, rural areas, agriculture, and social sectors. The CPS could also specify whether any special attention is to be given in project designs to components or elements promoting inclusion. Support for projects in more advanced states can help inclusive growth if it is directed to lagging areas. Opportunities for supporting inclusive growth can be grasped by NSO if these pay special attention for instance to agribusiness, tertiary education, and skills development.

   b. **Climate Change**

233. **Increase environment and climate investment lending and TA support in the years ahead, and particularly strengthen ADB support for climate change adaptation.** The
increase should be commensurate to the size of the India portfolio, and is needed to support ADB’s target of doubling its support for climate change by 2020. On the mitigation side, there is room to expand lending support for the development of renewable energy sources, especially sovereign operations. In transport, this needs to involve more than simply climate proofing new road improvement and supporting green transport such as urban mass transit. India’s rapidly growing metropolitan areas will need increasing attention and support to (i) improve energy efficiency and urban resilience to climate impacts, and (ii) help these cities grow in an environmentally sustainable manner. On the adaptation side, it will be equally crucial to support programs that decrease the vulnerability of agricultural activities and food insecurity. Helping to address growing water scarcity problems is critical, which will likely also require institutional reforms as well as demand management.

c. Regional Cooperation and Integration

234. Intensify operational support for RCI in India and South Asia and scale up operations in line with the vision document developed by SASEC. ADB should aim to expand its support for RCI in the areas of infrastructure connectivity, trade facilitation, and cooperation on regional public goods issues. The Government of India’s recent push for stronger regional cooperation and for stronger linkages within South Asia as well as between South Asia and neighboring regions presents a clear opportunity for ADB to offer its assistance with the necessary coordination, particularly given its position as SASEC Secretariat. The next CPS should reflect and expand on the India-specific objectives set out in the ADB SASEC Operational Plan, 2016–2025 and articulate a clear approach to strengthening ADB’s support for RCI, building on the core focus of infrastructure connectivity (which is still a major need) but adding further value through complementary support in other critical areas, in particular on regional public goods.

d. Knowledge and Capacity Development

235. Strengthen knowledge needs identification, sharpen focus on cutting-edge global practices and innovation, by applying a client-oriented approach, and continue providing targeted capacity development support. ADB needs to be anchored with a client-oriented approach, and ADB support should be visible for all relevant partners to share knowledge. For knowledge work, ADB should better identify needs and track the use of major knowledge products. A greater effort is needed to identify opportunities to integrate and introduce cutting-edge practices and innovation in all sectors. This is also a clear interest of the MOF, which recommended ADB develop a long-term vision for its approach in India. The portfolio can go further toward supporting the government’s push for innovation and introduction of best practices. With a large and diverse portfolio, the need for continued capacity development support in India for executing and implementing agencies will remain strong, particularly first time such agencies, requiring sustained efforts through both projects and CDRC-facilitated training, especially targeting agencies with limited capabilities. Anticipating project implementation issues at the project design stage and preparing implementation schedules and arrangements to address these issues will help. ADB should ensure that the next CPS and its Country Knowledge Plan identify clear approaches for how ADB will support these related areas of knowledge, innovation, and capacity development. ADB should also ensure that adequate TA resources are available for this work.

2. Operational Level

a. Process Efficiency

236. Review the bottlenecks to the optimal performance of the MFF programs and more generally review the disbursement ratios in recent years; consider increasing
Conclusions and Recommendations

decentralization of decision making process and resources to the resident mission and creating a regional hub. ADB and the government need to find a solution that prevents slow start up, and bunching of work towards the end of the MFF programs and stand-alone projects. Incentive mechanisms for speeding up work may need to be found. The efficiency of MFFs needs a review; they were supposed to be more efficient but many are not. Further decentralization of authority and resources, and establishment of regional hubs could be considered to improve process efficiency, as was also suggested by the Department of Economic Affairs during a consultation meeting.

b. Gender Equality

237. Strengthen support for implementation of GAPs of projects, and for their monitoring as well as identification, dissemination, and replication of good practices. Although ADB support for gender equality has increased (particularly after 2010), there is room for further improvement. Such improvement would be stimulated by establishing a gender unit in the India Resident Mission and dedicating more staff to the subject than is presently the case. GAPs should be aligned with the design and monitoring frameworks outputs and outcome statements and related indicators, and progress made should be aggregated and reported systematically in the GAP Monitoring Progress Reports and Project Completion Reports. ADB should also ensure that a CPS results framework has one or more gender related indicator(s) and targets, and that progress is monitored at this level. This may require some investment.

c. Catalyzing Infrastructure Investment and Public–Private Partnerships

238. Strengthen the capacity of financial intermediaries to better implement and monitor frameworks for improved ADB’s PPP subprojects’ implementation, results, and compliance with safeguards, and work with government and other stakeholders to address identified constraints to PPPs and strengthen the regulatory framework and institutional capacity for PPPs. Macroeconomic indicators such as mobilization of private sector funds show positive results of private investments in the infrastructure sector. However, the evaluation recommends strengthening reporting and monitoring of compliance with environment, social, and safety standards, and results of subprojects supported by ADB financing. More broadly, greater consideration should be given to institutional issues that have led to regulatory uncertainties, subnational government’s unfamiliarity with negotiating long-term projects, and an inadequate attention to the allocation of rights and risks among the partners at the outset. ADB’s support for addressing institutional and other constraints to PPPs should continue.

d. ADB Work Quality in Nonsovereign Program

239. Continue to strengthen measures to address the high cancellation rate of India NSO projects, including strong quality-at-entry reviews. While it is recognized that the high rates of cancellation in the past occurred often due to factors beyond the control of ADB, an area for further improvement in front-end work includes better assessment of project sponsors’ capability and willingness to comply with ADB requirements. The discussion on ADB’s requirements with potential clients should start as early as possible during deal origination. This will help ADB better identify potential deal breakers and reduce the incidence of cancellations post Board-approval.
Appendix
APPENDIX: LIST OF SUPPLEMENTARY LINKED DOCUMENTS

1. ADB India Portfolio, 2007–2015

2. India: Country Context

3. Poverty Background Paper

4. Climate Change Background Paper

5. ADB Portfolio Analysis, 2007–2015
   https://www.adb.org/sites/default/files/linked-documents/5-India-Portfolio-Analysis.pdf

6. Sector Program Assessment: Energy (Sovereign)

7. Sector Program Assessment: Finance
   https://www.adb.org/sites/default/files/linked-documents/7-India-Sector-Assessment-Finance.pdf

8. Sector Program Assessment: Public Sector Management

9. Sector Program Assessment: Transport

10. Sector Program Assessment: Water and Other Urban Infrastructure and Services

11. Sector Program Real-Time Assessment: Social Sectors

12. Agriculture and Natural Resources Sector Program in India: A Background Paper and Desk Review

13. Nonsovereign Portfolio Assessment

14. ADB Support for Gender Equality

15. Involuntary Resettlement in ADB-Supported Projects in India

16. Beneficiary Survey—Rural Roads Sector II Investment Program (Project 2) in Odisha

17. Beneficiary Survey—Rural Roads Sector II Investment Program (Project 4) in the State of Assam—Difference in Differences

18. Beneficiary Survey—Knowledge, Attitude, and Practice about Water, Sewerage, and Sanitation in Indore City of Madhya Pradesh

19. Scoring of Country Assistance Program Evaluation