INCLUSIVE AND SUSTAINABLE GROWTH ASSESSMENT

1. The growth assessment for India (i) describes the nature and trajectory of economic growth; (ii) assesses impediments to higher, inclusive, and sustainable growth as well as the government’s response to these impediments, including reforms through flagship schemes and programs; and (iii) discusses possible implications for Asian Development Bank (ADB) engagement with India. The objective is to identify critical challenges faced by India and their implications for ADB operations under the country partnership strategy (CPS), 2023–2027.

A. Recent Growth, Poverty, Inequality, and Environmental Dynamics

2. Adverse global outlook complicates challenges. Despite a sharp contraction of 5.8% in gross domestic product (GDP) caused by the coronavirus disease (COVID-19) pandemic in FY2020-2021, India remains among the fastest-growing major economies in the world.¹ Its GDP growth rebounded to 9.1% in FY2021-2022, and despite global economic headwinds, GDP is expected to grow by 6%–7% over the next 2 years. However, India needs to sustain high growth for its GDP to return to pre-pandemic levels (Figure 1). Growth needs to be driven by investments and higher exports via integration into global value chains. India faces an uncertain global macroeconomic environment and geopolitical setting, largely because of the pandemic’s lingering impact and the Russian invasion of Ukraine in February 2022. The global growth estimate from January 2023 is 2.9% for 2023 and is expected to slightly rise to 3.1% in 2024. With global supply shocks, increasing oil prices, and rising food prices, consumer inflation will remain elevated.

Figure 1: Real Gross Domestic Product


Sources: ADB and MOSPI.

3. Sound macroeconomic management through the pandemic. The government’s fiscal deficit widened to 13.1% in FY2020-2021 because of the pandemic, as health care spending and support for vulnerable households and enterprises rose to counter pandemic-induced declines in economic activity and employment. It moderated to 10.3% in FY2021-2022 and is estimated at 9.4% for FY2022-2023, with the government plans to further reduce the fiscal deficit by FY2025-

¹ FY denotes the year in which the fiscal year ends. FY2022 begins on 1 April 2021 and ends on 31 March 2022.
2026. The government launched its COVID-19 vaccination campaign on 16 January 2021 and by May 2022, 88% of the total population had been fully vaccinated.²

4. **Stable debt as share of gross domestic product, rising interest burden.** While India’s debt remains largely stable and sustainable given the large proportion of domestic debt held by residents, the interest burden has risen to 3.5% of GDP and requires a concerted effort to raise revenues and rationalize expenditures. On the fiscal side, strengthening the finances and capacity of local government (considered the weakest link in India’s federal structure), raising public investments in infrastructure, and improving subsidy targeting are welcome steps. However, tax revenues at 17.5% of GDP in 2017–2018 have remained unchanged since the 1990s.³ External assistance in the form of loans from multilateral and bilateral sources have been at 2.0% of the country’s total receipts through much of the past decade, and net official development assistance transfers have been at 0.1% of the gross national income.

5. **Proactive approaches and measures to curb inflation.** India officially adopted a policy of flexible inflation targets in 2015 and set up the Monetary Policy Committee to maintain price stability. Inflation decelerated from 8.9% in FY2010–FY2014 to 4.5% in FY2016–FY2020 as the government introduced a target of 4.0% inflation within a 2.0%–6.0% band from 5 August 2016 to 31 March 2021. Pandemic-related supply shocks, the Russian invasion of Ukraine’s impact on energy and commodity prices, and weather-related factors impinging on domestic agricultural production have raised inflationary pressure. With inflation breaching 6.0% for much of 2022, the Reserve Bank of India (RBI) hiked its policy rate by 40 basis points in May and 50 basis points each in June and August 2022 after maintaining the status quo for nearly 2 years.

6. **Judicious management of the external sector.** India’s current account deficit averaged 2.2% of GDP in 2009–2019, when the merchandise trade deficit reached 7.3% of GDP and the trade balance on services maintained a surplus of 3.3% of GDP. Capital flows financed the current account deficit. In the first half of FY2022-2023, net capital inflows more than tripled to $65.6 billion, or 4.5% of GDP, compared with the previous corresponding period, because of foreign direct investments (FDIs) and foreign portfolio investments.⁴ Foreign exchange (forex) reserves covered 10.9 months of imports on average in 2015–2019, increasing to $642.45 billion in early September 2021. Remittances mainly from Gulf countries stood at 1.7% of GDP in 2015–2022. However, the United States Federal Reserve’s policy rate increases caused foreign capital outflows and downward pressure on the Indian rupee. The RBI introduced measures during 2022, including currency market interventions, that led to the biggest forex reserves drawdown since the global financial crisis. India’s forex reserves were $578.78 billion as of 24 March 2023. The foreign trade policy (2023) targets annual exports at $2 trillion by 2030 from the $750 billion levels.

7. **Scope for further reduction in poverty levels.** India’s growth has been inclusive but has further scope for improvement. Poverty, based on the international poverty line of $2.15 per day, has declined since 2004 (Figure 2).⁵ The multidimensional poverty index (MPI)—a more holistic methodology covering health, education, and standard of living—also shows declining poverty.

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² Inaugurated on 16 January 2021, the COVID–19 Vaccination Intelligence Network, an app, initially covered data analytics and dashboards but was later scaled up to track real-time vaccination activities, such as registering for vaccinations, tracking the vaccine status of beneficiaries, and generating digital certificates.


⁴ Computer software and hardware attracted the highest FDI inflows while Singapore and the United States were the top investing countries during the period.

The proportion of multidimensionally poor fell from 54.7% in 2005–2006 to 25.0% in 2015–2016. While the proportion of regular wage and salaried employees increased from 2011–2012 to 2018–2019, casual wage (on average the lowest earning category of workers) and self-employed workers remain high (Figure 3). Human development indicators such as life expectancy, literacy rates, and infant mortality have improved (Figure 4). India can improve its poverty reduction efforts by providing more regular jobs with better pay. To create quality jobs, it needs to improve its skilling and education ecosystem to cater to industry needs.

Figure 2: Poverty Estimates ($2.15/day)


Figure 3: Self-Employment and Casual Labor Levels


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8. **Sustained efforts to reduce inequality.** India’s long-term effort to reduce income inequality includes measures such as the major expansion of household access to bank accounts, cooking gas, toilets, and electricity; housing for low-income households; and better execution and targeting of related policies and programs on improving inclusion. This builds on India’s social protection programs covering food subsidies, school meals, national rural drinking water or Jal Jeevan Mission, and the Mahatma Gandhi national rural employment guarantee program, among others. Data from the last official nationally representative household expenditure survey, conducted in 2011–2012, show a Gini coefficient of 0.28 in FY2011 in rural areas and 0.37 in urban areas. Scope for improvement remains, especially in terms of gender inequality and intersecting dimensions of exclusion and vulnerability, including disability, old age, social identity, sexual orientation, income status, and geographical location. The intersection between gender inequality, exclusion, and vulnerability is evident in the gaps in access to services by women and girls and vulnerable groups of the population.

9. **Sector economic growth drivers and employment structure.** India’s export-led growth has graduated from less skill-intensive and low value-added agriculture exports to more skill-intensive and service-led exports. Even within the service sector, growth has been predominantly focused on highly skilled and information technology (IT)-enabled subsectors. FDI trends also reflect this pattern. Cumulative FDI in 2016–2021 has clustered in the service sector, such as computer services (17%), financial and business services (31%), and other services (25%); manufacturing, including transport-related FDI, accounted for 26%. India’s employment structure has yet to catch up to the growth in skill-intensive sectors. About 42.5% of the workforce is in agriculture, where labor productivity is 37% of the national average and wages are 40%. While India has made concerted efforts to boost manufacturing competitiveness, it has a long way to go to generate more jobs and production from formal manufacturing firms. Manufacturing workers account for 12% of total employment, and 65% of manufacturing jobs are in small firms that largely operate in the informal sector. These firms cannot adopt productivity-enhancing technologies and skills and are weakly integrated with markets and regional and global value chains. India needs structural transformation in its growth drivers and employment structure to ensure job-led growth.

10. **Spatial differences in growth and inequality.** The country’s development trajectory has been marked by spatial differences among the states in terms of their size, income, and growth (Figure 5), leading to a growth–inclusiveness imbalance. India’s most populous states, which
have accounted for a large share of the poor (as captured through the MPI for 2015–2016), grew slowly over the past 15 years. Further, while higher-income states with greater per capita income levels have lower MPI incidence, they have considerable variations within them, as certain in-state locations have a disproportionate number of poor people. Lagging states and lagging districts in higher income states represent the core of income inequality.

**Figure 5: Improving, Leading, Weakening, and Lagging States**

(Populations over 5 million)

GDP = gross domestic product.
Note: From 2015–2016 to 2019–2020, the average GDP per capita is ₹99,515 and the average growth rate is 6.7%.
Source: Centre for Monitoring Indian Economy data.

11. **Low female labor force participation rates and post-pandemic opportunities.** Labor force participation fell from 60.0% in 1997 to 52.1% in 2019 as female participation dropped from 32.0% to 22.3%. Women, including educated and skilled urban women, remain reluctant or disinclined to work outside the home. They have limited incentive to join or stay in the workforce as flexible work arrangements are rare, and women earn 62% of men’s income for the same jobs. This pay gap explains why women’s labor income share is equal to only 18%. Key gender and social inclusion constraints stem from the fact that informal segments dominate the economy with limited good jobs for women. Safety and security of women is a challenge as reflected in that there was a 15.3% rise in domestic violence and sexual violence cases against women in 2021. Rising household incomes also disincentivize women to enter the labor-force. Elderly care is becoming an increasing concern as this cohort is to increase from 8% of population (2015) to 19% (2050). Discrimination against persons with diverse sexual orientation and gender identity has also remained an issue. However, opportunities may be nurtured to increase female participation. The pandemic manifested the important role of women in health care given the large number of female frontline health workers. At 11%, women’s participation in pharmaceuticals and health care is a scale-up opportunity. Similarly, participation rates may be scaled up in other sectors such as IT and e-commerce. Skills and entrepreneurship development is an entry point for women’s economic advancement in various industries.

12. **Gaps to achieve the Sustainable Development Goals.** India ranked 121st out of 163 countries in the Sustainable Development Goal (SDG) Index. India’s performance scores for three of the 17 SDGs exceeded 75%: SDG 4 on quality education, SDG 12 on responsible

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consumption and production, and SDG 13 on climate action. The performance scores for 11 SDGs ranged from 50% to 75%. India scored less than 50% in three SDGs: SDG 9 on industry, innovation, and infrastructure; SDG 10 on reduced inequality; and SDG 5 on gender equality, which has the lowest score. Actions to improve SDG performance include monitoring local levels, developing the capacity of stakeholders, increasing SDG financing given that estimated funding requirements are at 6.2% of GDP up to 2030, and improving the statistical system.\textsuperscript{10}

13. **Ambitious climate change targets.** India updated its nationally determined contributions in August 2022, after the initial commitments at the 26th United Nations (UN) Climate Change Conference of the Parties in November 2021. The revised targets aim to increase the cumulative electric power installed capacity from non-fossil energy resources to 50% by 2030 (from 35%), reduce the emission intensity of GDP by 45% below 2005 levels by 2030 (from 35%), and enable behavioral changes through LiFE–Lifestyle for Environment.\textsuperscript{11} The government identified six emissions reduction pathways: (i) low-carbon development of electricity systems; (ii) integrated and efficient low-carbon transport systems; (iii) industrial decarbonization; (iv) adaptation in urban design, and energy and material efficiency in buildings; (v) carbon dioxide removal and engineering solutions; and (vi) increased forest cover. Most of these pertain to climate mitigation and will be challenging. Carbon pricing could help reduce greenhouse gas (GHG) emissions cost-effectively while mobilizing resources.\textsuperscript{12} The government adopted India’s Sovereign Green Bonds framework in November 2022, with issuance proceeds to be used for public sector projects.\textsuperscript{13}

14. **Effects of disaster risks on growth trajectory.** India ranks second in the world on disaster impacts in absolute numbers. From 1980 to 2018, India experienced an increasing number of catastrophic events in which hydrometeorological and climatological ones dominate.\textsuperscript{14} Annual loss for slow-onset events (drought), extreme events, and biological hazards averaged at 3.4% of GDP. Drought contributes more than 70% to risks, followed by floods, cyclones, and earthquakes. The government recognizes the need for holistic approaches to adaptation and disaster risk resilience. The 15th Finance Commission takes conditionalities into account on climate-related subjects as part of devolving finances to the states, particularly on improving disaster preparedness. Recognizing infrastructure as a key driver of sustainable development and in building resilience, India launched in 2019 a global partnership to promote the resilience of infrastructure systems through the Coalition for Disaster Resilient Infrastructure.\textsuperscript{15}

**B. Key Impediments to Inclusive and Sustainable Growth**

15. **Challenges to achieve inclusive and sustainable growth.** Despite having shown resilience amid global uncertainty, India faces several challenges to inclusive and sustainable development. First, COVID-19 has had a disproportionate impact on economic and population subgroups such as those in the service sector, the informal segment, women, and disadvantaged groups, highlighting the urgent need for good jobs and greater inclusiveness. Second, exports and investments stagnated in FY2012–2013 to –FY2019–2020, with growth led more by consumption. Given this, it is imperative to unleash an investment–jobs cycle that could also


\textsuperscript{11}Government of India, Ministry of Environment, Forest and Climate Change. 2022. *India’s Long-Term Low-Carbon Development Strategy*.

\textsuperscript{12}The Ministry of Environment, Forest and Climate Change has tasked the Bureau of Energy Efficiency to plan and implement a national carbon market. In 2021, it released a blueprint for a voluntary market with cap and trade.

\textsuperscript{13}India started issuing green bonds in 2015 and as of February 2020, the outstanding amount was $16.3 billion.


\textsuperscript{15}As of April 2023, the Coalition for Disaster Resilient Infrastructure had 32 member states and twelve UN agencies and multilateral development banks.
provide a strong foundation for consumption growth. Third, growth has not been all encompassing and has not trickled down to larger states with higher poverty levels. Better-performing states have lower MPI indexes although there is a degree of variability with pockets of in-state poverty. Fourth, engagement with the global economy has been driven by capital-intensive sectors or high-skilled subsectors. Fifth, India needs to achieve its ambitious climate change targets to ensure renewable energy capacity additions, significant investments in energy storage, and reduction in carbon emissions and carbon intensity. To surmount these challenges, India needs (i) a convergent approach toward an industry–urban–skills–logistics nexus, (ii) public–private synergies to deepen social and economic inclusiveness, and (iii) a framework and implementation plan for climate change and environmental sustainability especially at the state level.

1. **Convergent Approach toward an Industry–Urban–Skills–Logistics Nexus**

16. **Limited multidisciplinary approaches.** India’s higher, inclusive, and sustainable growth hinges on the government’s organizational and implementation ability to catalyze higher-quality growth led by the private sector and good jobs, prioritize new growth drivers, develop sector-specific policies, and crowd in private sector investments. New growth drivers may emerge when economic opportunities are identified based on evolving comparative advantages and feed into different sectors to boost manufacturing and services competitiveness, increase export sophistication, and create good jobs. This strategy needs to integrate policy action on gender dimensions to create and strengthen opportunities for women-owned businesses and to enhance women’s skills for higher-paying technical and managerial jobs, instead of the siloed approach toward developing such growth strategies across sectors. ADB’s experience suggests that competitive growth of economic activity along growth centers and nodes needs to be supported by a multidimensional framework covering comprehensive urban planning (including for peri-urban areas), infrastructure investments (including power and logistics), skills development, and a conducive business environment. The synchronization and convergence of these components is critical for sustainable industrial growth and an orderly urbanization process, boosting economic competitiveness and enabling cities and towns to fulfill their potential as engines of growth.

17. **Suboptimal role of cities as growth engines and lack of integrated planning.** With India undergoing rapid urbanization, it is critical for cities, towns, and peri-urban areas to be managed better. ADB estimates that for developing Asia, a 1 percentage point increase in urbanization is associated with a 3%-5% higher real GDP per capita.\(^\text{16}\) The urban sector must become a strong growth engine for India to become an upper middle-income country, generating economic activity, creating jobs, improving competitiveness and livability, and protecting the environment.\(^\text{17}\) Weakness in master planning, including lack of integrated planning with industrial clusters, stringent application of land use planning regulations, and unsynchronized economic and spatial planning in cities and regions, could weaken the economic benefits of agglomeration and get overwhelmed by the forces of congestion and weak planning. Strategic intervention is required to optimize land use, boost economic productivity, and maximize benefits from urban agglomeration. Linking infrastructure development with risk-sensitive land use management can strengthen a city’s climate and disaster resilience. Improved mobility with transit-oriented development can help realize urban economic potential by connecting people to jobs, educational opportunities, and social spaces. Further, cities need to enhance institutional and financial capacity to deliver sustainable municipal services. Municipalities can create a virtuous cycle by

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\(^{17}\) By 2047, nearly half of India’s population will live in urban areas. However, a sizable proportion of urbanization in the country is unacknowledged and unaddressed. Almost half of 7,933 urban settlements are census towns that share the demographic and economic characteristics of urban settlements, but are governed as rural entities.
implementing sector reform, developing high-quality infrastructure, ensuring consumer support for the services, and recovering operation and maintenance costs.

18. **Low private investments in urban development.** The average annual capital expenditure required for the urban sector during FY2021–FY2025 is expected to be $45.7 billion, equal to 1.5% of GDP. However, central and state governments have limited capacity to fund only a portion of it, and the sector is still in the early stage of implementing public–private partnerships (PPPs). Private investments in urban services have been negligible in the past because of lack of equitable risk allocation. This led to bankability issues, reflecting inadequate municipal reform for sustainable operations, limited mobilization of nontax revenues, and constrained staff capacity to deliver PPP transactions. Quality service delivery by the third tier of government is crucial, but delegation of functions and finances is uneven. Prioritizing public outlays and tracking the quality of spending and outcomes need improvement until private sector participation expands.

19. **Government reforms in the urban sector.** As part of the reform for COVID-19 recovery, the government intends to accelerate reforms in the urban sector. The foundation for urban reform was set by past national urban missions, notably the Jawaharlal Nehru National Urban Renewal Mission, Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Swachh Bharat Mission (SBM) or Clean India Mission, Smart Cities Mission, and the Pradhan Mantri Awas Yojana—Urban. The government launched Pradhan Mantri Awas Yojana—Urban to provide affordable rental housing complexes for urban migrants, industrial workers, working women, and poor people residing in unorganized settlements. In October 2021, the Ministry of Housing and Urban Affairs launched AMRUT 2.0 and SBM–Urban 2.0. These reforms should be operationalized in states and cities. The Union Budget 2022–2023 has also emphasized urban sector policies, capacity building, implementation and governance, and urban planning support for states, including modernization of building bylaws, town planning schemes, and transit-oriented development. These complement the central government's financial support for mass transit projects, including multimodal connectivity in cities.

20. **Sustainability issues of the power sector.** High power costs for commercial and industrial customers and the lack of a reliable power supply have hurt India’s competitiveness in global markets. Distribution companies under the purview of state governments suffer from high technical and commercial losses, limited cost recovery, and unsatisfactory service quality. Gaps persist between the average cost of supply and average realized revenue, leading to losses and huge past due to generation companies. These high losses derive from unmetered connections to residential and agricultural users, overloaded and suboptimal network design that leads to high technical losses, widespread illegal connections, and delayed payment of electricity bills by state government entities. The government’s Revamped Distribution Sector Scheme a reforms-based and results-linked scheme, will finance investments such as metering infrastructure, including through central government grants. Disbursement will be based on improvements in corporate governance, aggregate technical and commercial loss reduction, and renewable energy.

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19 ADB. 2022. Sector Roadmap—Urban and Water Sector in India (2023–2027). Manila (internal document). AMRUT 2.0 aims to achieve, in 5 years, universal coverage for piped water supply in urban areas and improved sanitation in 500 larger towns. SBM–Urban 2.0 aims for garbage-free cities with segregation of municipal solid waste at the source; adherence to reduce, reuse, and recycle; scientific management of solid waste; plastic waste reduction; and remediation of legacy dumpsites for land reclamation.
integration through power market reforms and incentivized solar energy use in irrigation through the Kisan Urja Suraksha Evam Utthan Mahabhiyan scheme.  

21. **Employability and emerging skills requirements.** The education and skills of the workforce are especially crucial in promoting technology adoption and innovation for the economy to move from simple to high value-added production. Rapid technology advances such as Industry 4.0 technologies (e.g., IT-based equipment and automated system engineering) are transforming manufacturing and service sectors, creating new and evolving skills requirements; low-skilled jobs are being replaced with artificial intelligence technologies and automation, while higher-level technical and cognitive skills are increasingly in demand for the future workforce. COVID-19 has accelerated the pace of technology adoption and the changes in jobs across industries, generating continuous needs for reskilling and upskilling. There is a need to build the capacity of small firm owners or those owning or operating micro, small, and medium-sized enterprises (MSMEs) and facilitate their access to financial and nonfinancial services essential to business expansion. This is particularly applicable to women owning or operating MSMEs.

22. **Skills ecosystem's limited quality and responsiveness.** The Ministry of Skill Development and Entrepreneurship was created in 2014 to converge skills programs across ministries in terms of quality assurance, training, and assessment standards. The National Policy for Skill Development and Entrepreneurship, 2015 provides an umbrella framework for all skills-related activities with common standards and aligns the supply–demand for skills. These efforts aimed to support the Make in India and Skill India initiatives, with emphasis on skilling at scale with speed, quality, and relevance. However, the country continues to face a shortage of skilled workers, and many college graduates suffer from low employability caused by a lack of job-ready skills. Most of India’s technical and vocational education training (TVET) institutes have limited capacity to provide the job-ready skills required by industry. Sector-focused centers of excellence or advanced TVET institutes can address the increasing need for higher-level, industry-relevant training in emerging technology-related skills for fast-changing industries or evolving development needs (e.g., MSME clusters, climate change), in partnership with industry. It is also crucial that the skills development ecosystem be transformed and realigned with the gig and platform economy, where penetration of technology, including mobile telephony, has created new jobs, business models, and working arrangements. This could incorporate platform-led skilling models in the Skill India Mission, promote financial proficiency, and accelerate training for women.

23. **Focus needed to strengthen foundational learning outcomes.** Primary education has become nearly universal, and secondary education progressed in 2006–2018. The gross enrollment ratio increased from 52% to 80% for secondary grades (9–10) and from 29% to 56% for senior secondary grades (11–12). Gender parity has also been achieved across most states. However, learning outcomes remain a concern, as students are not achieving the proficiency required at each grade, such as foundational literacy and numeracy. Early learning deficits become amplified as students move to higher grades, with more than half of higher-grade students failing to perform in required language and math skills. Students with disabilities are

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21 Launched in 2019, the scheme has three components. Component A will set up 10,000 megawatts of decentralized grid-connected renewable energy power plants on barren land. These will be installed within a 5-kilometer radius of the substations to avoid the high cost of sub-transmission lines. Local distribution companies will buy the generated power at a prefixed tariff. Component B will install 1.75 million stand-alone solar agriculture pumps. Component C will solarize 1 million grid-connected agriculture pumps. The scheme’s scope was modified based on the lessons from the first year of implementation.


likely to drop out of school because of inadequate infrastructure and facilities. Besides foundational skills, soft skills are becoming essential for emerging and future jobs, such as critical thinking, problem solving, collaboration, and socio-emotional skills. The National Education Policy 2020 focuses on providing integrated quality education to nurture cognitive and noncognitive skills and prepare young people for India’s future economy. Building strong foundational learning and enhancing access to quality secondary education should form part of the agenda to develop a competent future workforce enabled to learn, relearn, and reskill.

24. **Push required on modal shift in freight movement.** About 75%—90% of passenger traffic and 71% of freight is transported by road. The construction of national highways and roads since 2014 has seen consistent increases with 13,327 kilometers (km) of roads built in FY2020–2021 compared with 10,237 km in FY2019–2020. The extent of daily road construction also increased from 28.0 km per day in FY2019–2020 to 36.5 km in FY2020–2021. However, the ambitious target of the government’s Bharatmala Pariyojana to increase the length of the national highway network from 132,499 km in 2019 to more than 200,000 km would require significant private sector investments. Improving intrastate and city connectivity and making transport safe and user-friendly for people with disabilities, older people, and women are equally crucial.

25. **Critical need to accelerate shift to other transport modes.** The country’s national rail plan includes targets to increase the modal share of railways in freight from 26%–27% to 40%–45%, including by constructing dedicated freight corridors (DFCs) to move freight rakes faster and at lower carbon modes than the road sector. Five DFCs are at different development phases. Of these, the Eastern Dedicated Freight Corridor and the Western Dedicated Freight Corridor are under construction and will total 3,300 route kilometers (RKM). The East Coast Corridor (1,115 RKM), East–West Sub Corridors (1,867 RKM), and the North–South Sub Corridor (975 RKM) are new DFCs. India’s 7,500 km of coastline and 14,500 km of inland waterways remain relatively unexplored because of perennial challenges of inadequate depth, air draft, and water shortage. Ports account for about 90% of India’s international trade by volume and more than 70% by value, but the lack of hinterland connectivity and logistics infrastructure need to be addressed to enable economic corridors to boost manufacturing and attract FDIs. High logistics costs have deterred the country from positioning as a global manufacturing hub.

26. **Nascent efforts at targeted logistics development.** Logistics efficiency is critical to improve manufacturing competitiveness. To enhance the competitiveness and productivity of manufacturing, services, and trade, a modern and efficient logistics network is indispensable. The efficient movement of goods from production and distribution centers to markets enables economic growth and higher employment by making trade more competitive, improving producer margins, reducing transaction costs, increasing demand, and reducing carbon emissions.

27. The government has introduced reform measures to transform the logistics sector and to boost economic competitiveness and employment. First, the Gati Shakti national master plan for multimodal connectivity was launched in October 2021 to integrate transport infrastructure development plans for ports, airports, highways, railways, and inland waterways. It incorporated intermodal connectivity facilities such as logistics hubs and parks, and promoted integrated and coordinated planning and implementation of these facilities. Advanced digital tools are used for real-time monitoring of Gati Shakti implementation. Gati Shakti will integrate economic corridors and multimodal logistics development programs to support longer-term economic transformation and to boost competitiveness and employment. Second, the National Logistics Policy was approved by the cabinet and launched in September 2022. It laid down an overarching, cross-sector, and comprehensive policy framework for the logistics sector. Aiming to raise India’s Logistics Performance Index ranking to the top 25 by 2030, and complementing Gati Shakti, the
National Logistics Policy will develop a technologically enabled, integrated, cost-efficient, resilient, and sustainable ecosystem for more efficient logistics services, through streamlined processes, a regulatory framework, digital technology adoption, and skills development.

28. Further leveraging regional cooperation and integration through the ADB-led South Asia Subregional Economic Cooperation (SASEC) and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation would be critical for coordinated connectivity investments, logistics improvements, and trade facilitation in the context of the government’s Act East Policy.

2. Public–Private Synergies to Deepen Social and Economic Inclusiveness

29. Limited corporate investments in agriculture. Agriculture employs nearly half of India’s workforce, including a high proportion of rural women. The agriculture and allied sectors’ share of the total gross value added at FY2019–2020 prices stood at 17.8%. However, agriculture remains constrained by fragmented landholding; inefficient water and input use; inadequate infrastructure; and lack of access to finance, market linkages, and fair market price for produce particularly for primary growers. In FY2019–2020, the public investment-to-GDP ratio in agriculture was 2.2%, and the total investment in agriculture by all sources was 13.3%. Of the investments, 82.0% came from farming families and households; 17.5% from the public sector, mainly medium and large irrigation projects that do not translate into proportionate increases in areas under irrigation; and 0.5% from the private sector. Major central sector schemes, such as the Pradhan Mantri Kisan Samman Nidhi, subsidy to the Food Corporation of India under the Food Security Act, and decentralized procurement of food grains, outstrip spending on infrastructure development in agriculture. Regulatory restrictions on marketing deter corporate investment in agriculture production and marketing, leading to slow changes, dominant traditional marketing channels, and weak linkages between pre- and post-harvest phases.

30. Low private sector participation in health infrastructure. In the face of the pandemic, the government strengthened its comprehensive primary health care system by setting up health and wellness centers under the Ayushman Bharat umbrella program. It launched the Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (formerly Pradhan Mantri Atmanirbhar Swasth Bharat Yojana) in 2021 to shore up the pandemic response and strengthen the health infrastructure. The emphasis has been on making health systems more responsive, reliable, and robust to changing emergency needs, particularly in future pandemics and disasters, while ensuring quality health care delivery to women and disadvantaged groups. This has been done in tandem with the Ayushman Bharat national program and its health insurance scheme, Pradhan Mantri Jan Arogya Yojana, to accelerate the achievement of universal health coverage. With the need to increase social spending to ensure inclusive recovery, raising health infrastructure spending would need active private sector participation.

31. Critical issues on employability, skills ecosystem, and foundational learning. India’s working-age population is expanding fast. India is expected to have the world’s largest and

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youngest workforce by 2026.\textsuperscript{27} With a median age of 27, India’s young workforce poses critical opportunities and challenges for the country’s growth path. States have shown increasing interest in setting up skills universities to provide flexibility across TVET and other institutes and to rebrand the negative image of previous TVET programs.\textsuperscript{28} Primary education became nearly universal across states in 2016, secondary education saw progress in 2006–2018, and gender parity has been achieved in most states; female enrollment exceeding that of males at all levels of schooling. However, education quality, particularly learning outcomes, is still a concern. The Samagra Shiksha program, launched in 2018, aims to improve learning outcomes from pre-school to senior secondary levels. The National Education Policy 2020 intends to consolidate these goals.

32. **Multiple constraints to women’s economic advancement.** While substantial progress has been made on the health and education dimensions of gender equality, women’s economic empowerment remains a significant challenge. India’s female labor force participation rate fell from 32.0% in 1997 to 20.5% in 2019, one of the lowest in the region. Gender-based violence is still a serious concern. Crimes against women are increasing with most cases related to domestic violence and sexual violence. Consistent efforts are needed to ensure the safety of women and children as this has implications on their quality of life and adversely affects women’s participation in the workforce. India’s ranking on the human development index barely changed from 130th in 2016 to 131st in 2020. However, India slipped in the global gender gap index rankings, from 87th out of 144 countries in 2016 to 140th out of 156 countries in 2021 and 135th out of 146 countries in 2022.\textsuperscript{29} This may be attributed to the declining female labor force participation, disproportionate representation of women in leadership and decision-making, and gender gaps in skills and educational achievements. Strategic and budgetary interventions are needed to support women’s economic empowerment, specifically for skills development and employment.

33. **Elements of regulatory environment limit ease of doing businesses.** Elements of the regulatory environment governing businesses and factor markets, especially land, restrict the ease of doing business and limit Indian firms’ integration into national, regional, and global value chains. Access to finance remains an impediment for individuals, especially women, and MSMEs. The government has taken concerted efforts since 2014 to improve the regulatory environment under which Indian firms operate. These include introducing the insolvency and bankruptcy code, reducing corporate income tax rates to levels comparable with other dynamic economies, sensitizing and incentivizing state governments to make business regulations more streamlined, introducing reforms to labor regulations at the central level, and introducing the goods and service tax. India’s states must undertake complementary efforts to improve the ease of doing business at local levels, notify new labor regulations, and improve the functioning of land markets.

34. **Greater private sector participation in infrastructure.** Raising infrastructure spending from 5.8% to 7.0%–8.0% of GDP would depend on raising alternate sources of financing, including private sector participation. The national infrastructure pipeline envisages infrastructure investment of about $150 billion in FY2021 and FY2025, of which 15%–17% are to be sourced through initiatives such as the national asset monetization plan and the creation of a development finance institution. The national asset monetization pipeline was rolled out in August 2021 and achieved its FY2022 targets, with assets monetized in road and highways, power, and mining of coal and minerals. Subnational nontax resource mobilization, such as municipal bonds, may unlock additional financing for infrastructure. Official efforts at strategic disinvestment in public

\textsuperscript{27} According to population projections, India’s total population is expected to reach 1.4 billion by 2026 and about 900 million will be aged 15–59 years.

\textsuperscript{28} Footnote 25. It is crucial to align the skills ecosystem with the gig and platform economy where mobile telephony has created new types of jobs, business models, and working arrangements.

sector enterprises to promote privatization has gained momentum. The Public Sector Enterprise Policy, 2021 categorized public sector enterprises into strategic and nonstrategic sectors, with the intent to scale back government presence in nonstrategic sectors.\(^{30}\) Gross fixed capital formation at 30\%–34\% of GDP (three-fourths from the private sector) since 2011 is higher than the global average but lower than in other manufacturing hubs such as the People’s Republic of China.

35. **Increased private sector role in financial intermediation.** India’s aspirational target to grow its economy to $5 trillion by FY2025 requires private sector-led financial market development to play a pivotal role as public sector banks have remained the main providers of credit to corporates. Among the government’s policy initiatives are the RBI-led asset quality review of 2015 that covered the 36 largest banks that held more than 90\% of total loans, the Insolvency and Bankruptcy Code of 2016 that brought the treatment of corporates and individuals under a single law to reduce debt resolution to 180 days, and the creation of the National Asset Reconstruction Company Limited in 2021 that targeted nonperforming loans and distressed assets of public sector banks. The nonperforming advance ratios of scheduled commercial banks declined from 11.2\% (gross) and 6.0\% (net) in FY2019 to 6.9\% (gross) and 2.2\% (net) by September 2021.

36. **Domestic resource mobilization still a challenge.** India’s tax-to-GDP ratio has been at lower levels since peaking in 2007 and remains half of the Organisation for Economic Co-operation and Development average of 34.3\%. On government revenue as a share of GDP, India ranks 112th among emerging economies and 30th in developing Asia, indicating a need to improve. The 15th Finance Commission recommended (i) widening the tax base; (ii) improving revenue collection; and (iii) increasing resources for local bodies based on performance-linked grants tied to an online audit of accounts; improved air quality and service delivery for urban drinking water, sanitation, and solid waste management; and floor rate notification for property tax collections.\(^{31}\)

37. **Public financial management and procurement challenges.** The government’s fiscal planning and management need to be strengthened so that national and state tax and nontax revenues are more accurately forecast, and in-year budget adjustments and reallocations are minimized. Because medium-term estimates of revenue and expenditure were discontinued after 2020, the government’s medium-term perspective in budgeting has been limited. While outcome-based budgeting can be improved, it is unclear whether budgetary allocations are linked to the preceding years’ outcomes. Administrative delays remain an issue in procurement; it takes almost 5 months on average from bid opening to contract award. This can be partly addressed through harmonized standard bidding documents and procurement professionalization programs. No comprehensive e-procurement portal exists to capture end-to-end activities. Moreover, since arrears are not recorded nor monitored, commitments appear to be disconnected from payments.

3. **Robust Framework and Implementation Plan for Climate Change and Environmental Sustainability**

38. **Scope to raise clean energy levels.** Based on India’s energy consumption data from 2019, of 410 million tons of oil equivalent (MTOE) of energy, 46\% come from petroleum products, 27\% from electricity (including hydro, renewables and nuclear), 23\% from coal-based sources, 13\%

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\(^{30}\) The strategic sectors are (i) atomic energy, space, and defense; (ii) transport and telecommunication; (iii) power, petroleum, coal, and other minerals; and (iv) banking, insurance, and financial services.

\(^{31}\) India’s urban local bodies have limited fiscal autonomy and capacity to raise municipal resources and deliver civic infrastructure and services to meet growing urbanization and economic growth.
and 4% from natural gas. There is a huge scope to scale up green electrification. In terms of usage patterns, industry has the largest share of the country’s final energy consumption at 42% or 173 MTOE of energy. Industry’s energy needs are mainly from coal (55%) and petroleum products (15%), with the rest from electricity (28%) and natural gas (2%). Transport is the second-largest final consumer at 12% or 49 MTOE of energy, of which close to 90% is sourced from petroleum products. Residential and commercial buildings are the next big consumers, with a combined 66 MTOE of energy or 15% of final energy use, followed by agriculture with 20 million MTOE of energy or 5% of final energy use. About 96% of agriculture’s energy needs come from electricity. Given this final energy consumption pattern, carbon dioxide emissions from fuel combustion account for close to three-fourths of India’s total GHG emissions. The power segment (41%), industry (34%), transport (13%), buildings (6%), extractives and fossil fuel processing (4%), and agriculture (3%) are the key contributors.

39. **Need to ramp up renewable energy capacity.** India reached 159.7 gigawatts (GW) of renewable energy capacity (including hydro), equivalent to 39.7% of installed generation capacity, and will likely reach 175.0 GW by 2025. Solar contributed 56.9 GW (14.1%) to the renewable energy capacity, hydro 46.7 GW (11.6%), wind 40.7 GW (10.1%), biomass or cogeneration 10.2 GW (2.5%), small hydro 4.8 GW (1.2%), and waste to energy 0.4 GW (0.1%). Coal power plants with more than 8 GW capacity were decommissioned during 2016–2019, and annual incremental coal capacity decreased from 10–12 GW in 2010–2014 to about 5 GW in 2015–2020 compared. Even so, the draft national energy policy projects demand for coal to be at 1.3 billion–1.5 billion tons until 2030, and coal-fired power plants made up 55.4% of installed power generation capacity (60.6% in 2015) and 71.7% electricity generation in 2020 (80.8% in 2015). The transition to a low-carbon pathway is complex and requires central–state coordination to maximize favorable outcomes. Carbon pricing can be a key element of the broader climate policy architecture to help India reduce GHG emissions cost-effectively, while mobilizing fiscal resources for green recovery.

40. **Consolidation required in disaster risk management.** India has a robust mechanism for emergency response, but risk management and resilience building efforts are dispersed and uncoordinated, and subnational implementation is weak. Disaster loss has significantly increased. There has been a significant increase in post-disaster relief and recovery financing primarily through ex-post arrangements, which are often inadequate and leave a large protection gap. Investment in risk management (including risk mitigation) has been insufficient, and innovative ex-ante solutions are being explored. Recognizing infrastructure as a key driver of sustainable development and its role in building resilience, India launched a global partnership to promote the resilience of infrastructure systems through the Coalition for Disaster Resilient Infrastructure during the UN Climate Action Summit in 2019 (footnote 15).

C. **Implications for ADB Country Engagement**

41. Based on national development priorities, ADB’s comparative advantages built through successive engagements in India, and the recommendations in the final review of CPS, 2016–2021, three strategic objectives are identified for ADB’s CPS, 2023–2027 for India.34

(i) Accelerate structural transformation, featuring multidisciplinary approaches to amplify the industry–urban–skills–logistics nexus. Making cities economic growth engines will have multiplier impacts, including attracting labor from low-income

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34 External assistance forms a small share of India’s total receipts, underscoring the importance for value addition of ADB assistance.
regions. Regional cooperation through SASEC will promote coordinated connectivity investments, improved logistics, and trade facilitation in line with the government’s Act East Policy.

(ii) Catalyze climate-resilient green growth, prioritizing reforms and investments in mitigation, including just energy transition, renewable energy capacity additions, clean mobility solutions, and decarbonization of transport and industry, as well as equal attention to adaptation and disaster-resilient infrastructure. One objective would be to develop a framework for ADB engagement at the state level.35

(iii) Deepen social and economic inclusiveness in health, education, social protection, and other services, particularly in lower-income states. Findings from upstream studies will inform downstream sovereign and nonsovereign investment opportunities. ADB’s private equity funds and Microfinance Program could improve access to finance and reduce gender gaps.

42. These objectives align with the recommendations of the final review of CPS, 2016–2021, validated by ADB’s Independent Evaluation Department. The recommendations are to (i) deepen upstream strategic studies to deliver multisector downstream solutions for financing; (ii) use upstream findings to promote a one ADB approach of sovereign and nonsovereign collaboration; (iii) clarify ADB approaches to meet different needs of lower-income and higher-income states; (iv) support different approaches to urban development, such as transit-oriented development, multimodal integration, value capture finance with PPPs, and domestic resource mobilization for municipalities; (v) leverage SASEC to facilitate connectivity with global value chains and deliver regional public goods; and (vi) scale up ADB’s climate change response beyond mainstreaming climate considerations.

43. ADB could accentuate its differentiation from other development partners by creating a cohesive body of knowledge on prioritized topics, which would serve to link ADB’s India strategy with its India program. Besides its sovereign and nonsovereign lending windows, ADB could develop upstream strategic studies and leverage blended finance to support pilot projects that test proofs of concept and project scalability. ADB could develop a finance plus program in collaboration with the Department of Economic Affairs and through a structured call for proposals.

44. Spatial dimensions could be amplified through (i) tailor-made approaches for using the SASEC platform to improve connectivity with Southeast Asian markets and enhance the management of regional public goods; (ii) support for the economic corridors, including logistics sector development; and (iii) ongoing strategic engagement with five lower-income states. In its engagements with high-income states, ADB will emphasize policy-based lending, more sophisticated programs, and nonsovereign operations to reduce intra- and interstate disparity by creating formal employment and absorbing informal laborers from low-income districts and states. In high-income states, technical assistance will be provided on a cost-sharing basis to address complex development challenges and promote private sector development.

35 Background notes on energy transition, decarbonization of transport, disaster risk management, and climate change adaptation have been prepared.