

SECTOR ASSESSMENT (SUMMARY): AGRICULTURE, NATURAL RESOURCES AND RURAL DEVELOPMENT

(RURAL INFRASTRUCTURE SUBSECTOR)

Sector Road Map

1. Sector Performance, Problems, and Opportunities

1. Maharashtra state's population was about 112 million as of 2018, equal to 9.3% of India's population. Maharashtra is the second-most populous and the third-largest of India's states, with a land area of 308,000 square kilometers (km²). Over half (55%) of the population is rural according to the 2011 census. Maharashtra is also the most industrialized state in India. The state's contributes an average of 14.3% of India's nominal gross domestic product (GDP), the highest among India's states. During 2012–2019, the state's GDP grew at an average of 5.8% per year, compared with the national average growth rate of 7% over the same period. During 2019–2020 (i) agriculture and allied activities in Maharashtra are expected to grow by 3.1%, vs. 2.8% in real gross value added in this sector at the national level; (ii) growth in the industrial sector is projected at 3.3% in Maharashtra and 2.5% nationally; and (iii) growth in the services sector is projected to be 7.6% in Maharashtra and 6.9% nationally. Growth in the state is driven by industry, which grew by an average of 6.2% per year during 2012–2019, and services, with an average annual growth rate of 8.1% over the same period.¹

2. Agriculture plays an important role in the state's economy and supports rural livelihoods, accounting for 53% of rural employment. The share of agriculture in the state's GDP has been declining, and was 11% in fiscal year (FY) 2017. Agriculture recorded 2.2% growth per year during the 2012–2019, which was below the annual national growth rate for agriculture of 3.2%. Maharashtra's sectoral share of agriculture and allied activities in terms of gross value added in 2012–2019 has been consistently below the national average. Poverty is pronounced in rural areas, where on average about 24% of the population lives below the poverty line (in some districts the figure is as high as 40%) (footnote 1).

3. **Small landholding.** Maharashtra ranks 11th in average size of operational holding (1.34 hectares) among all states in India according to the Agriculture Census 2015–2016.² Small and marginal (up to 2.0 hectares) operational holdings totaled 12.2 million in number (79.5% of the total), and 9.2 million hectares in area (45% of the total area).

4. **Agriculture challenges.** Challenges related to agriculture in the state include: (i) a relatively low share of irrigated land, and a dependency on rain-fed agriculture; (ii) small farm sizes and an increasing number of marginal and small farmers; (iii) low productivity; (iv) infrastructure gaps in transport and storage; (v) a lack of effective marketing and agro-processing chains; and (vi) a lack of research and development.³ Because of low cereal yields, there has been a shift to cash crops such as sugarcane and cotton, and to horticulture—almost 30% of the crop value is generated through horticulture. The sector continues to be vulnerable to the challenges posed by climate change and degradation of productive land. Erratic rains, changing weather conditions, reduction in the size of operational holdings, high input costs, and market

¹ State Government of Maharashtra, Planning Department, Directorate of Economics and Statistics. 2018. [Economic Survey of Maharashtra, 2019–2020](#). Mumbai.

² Government of India, Ministry of Agriculture & Farmers Welfare. 2020. [All India Report on Agriculture Census 2015–16](#). Delhi.

³ State Government of Maharashtra, Planning Department. 2018. *Vision 2030*. Mumbai.

uncertainties leading to non-profitability continue to be the prime concerns relating to the state's agriculture sector. Efficient and effective use of water resources, enhancement of agro-processing capabilities, empowerment of small and marginal farmers, reduction in the waste of agricultural produce, better-value chain market mechanisms, reduction in desertification and degradation of land, and protection and improvement of biodiversity are essential to ensure sustainable development of agriculture.

5. **Road network.** The state's road network totals about 301,267 kilometers (km); about 64.6% (194,643 km) are rural roads, comprising other district roads and village roads. At the state level, the Department of Rural Development and Panchayat Raj manage the rural road network.⁴ More than 80% of passengers and 60% of freight traffic use roads as the dominant transport mode. Over half of rural roads are unsealed, making travel inefficient. Many rural communities still rely on earthen tracks, which are unsuitable for motorized traffic and can easily become impassable during the rainy season. Community members—including women, children, and seniors—rely on these roads to access health care and educational facilities. The Mukhya Mantri Gram Sadak Yojana (MMGSY) was launched by the state government in FY2016 to link unconnected settlements and upgrade existing rural roads. As of October 2019 the road length sanctioned for upgrading totaled 30,400 km; 11,500 km had been upgraded at a cost of ₹62.5 billion.

6. **Traffic and road safety.** As of January 2020, Maharashtra had more than 37 million registered vehicles; two-wheeled vehicles accounted for 73.2%, other passenger vehicles for 18.1%, and cargo vehicles for 8.7%. The number of registered vehicles grew at an average rate of 8.5% per year during 2014–2018. The number of registered two-wheeled vehicles and cars grew at about 9.0% per year, followed by cargo vehicles (about 7%) and buses (6%). The growth rate in the number of registered vehicles in the state was slightly higher than the national growth rate.⁵ Road safety is a serious concern—in 2017, Maharashtra accounted for 7.7% of total road accidents and 8.3% of total fatal crashes in India. In 2019, there were 7 accidents per 10,000 vehicles in the state. The number of accidents has declined (35,853 in 2017, 35,717 in 2018, and 32,925 in 2019), but Maharashtra ranked third in India in terms of the number of people killed in road accidents in 2017, and ranked second in 2018. Improving road safety on rural roads is critical, as 60% of accidents and 70% of fatal accidents occur in rural areas. The most vulnerable road users—pedestrians, including women and children—were involved in about 11% of the road crashes in Maharashtra in 2017.⁶

2. Government's Sector Strategy

7. Maharashtra's Vision 2030 strategy (footnote 3) is based on achieving the United Nations Sustainable Development Goals and identifies five areas for development: agriculture and allied

⁴ The Panchayati Raj functions as a system of governance in which *gram panchayats* are the basic units of local administration. The system has three levels: *gram panchayat* (village level); *mandal parishad*, *block samiti*, or *panchayat samiti* (block level), and *zila parishad* (district level).

⁵ State Government of Maharashtra, Planning Department, Directorate of Economics and Statistics. 2013. *Economic Survey of Maharashtra, 2012–2013*. Mumbai; State Government of Maharashtra, Planning Department, Directorate of Economics and Statistics. 2014. *Economic Survey of Maharashtra, 2013–2014*. Mumbai; State Government of Maharashtra, Planning Department, Directorate of Economics and Statistics. 2015. *Economic Survey of Maharashtra, 2014–2015*. Mumbai; State Government of Maharashtra, Planning Department, Directorate of Economics and Statistics. 2016. *Economic Survey of Maharashtra, 2015–2016*. Mumbai; State Government of Maharashtra, Planning Department, Directorate of Economics and Statistics. 2017. *Economic Survey of Maharashtra, 2016–2017*. Mumbai; State Government of Maharashtra, Planning Department, Directorate of Economics and Statistics. 2018. *Economic Survey of Maharashtra, 2017–2018*. Mumbai.

⁶ Government of India, Ministry of Road Transport and Highways. July 2018. *Road Accidents in India–2017*. New Delhi.

activities, industry, infrastructure, the social sector, and governance. The strategy envisages promoting sustainable agriculture and ensuring the availability and sustainable management of water. Accordingly, the strategy seeks to enhance crop productivity by improving yields, improving the quality of horticulture and floriculture, introducing integrated farming systems, promoting group farming, conserving soil and water for moisture security, creating quality infrastructure for storage and processing to control waste, introducing post-harvest technology for value addition, boosting exports of agricultural produce, and mitigating credit risk for agriculture. In addition to more than 30 major initiatives for agricultural development, the state government launched eight new initiatives in FY2018 with the objective of achieving the Vision 2030 goals.

8. Under Vision 2030, the state government targets equitable access for all by providing quality, reliable, sustainable, and safe roads that support economic development and human well-being. The strategy targets development of major corridors as well as rural road networks, using both its own resources and assistance from international development partners. Rural connectivity is considered a key component of agricultural and rural development. Considering the importance of addressing climate change, Maharashtra has become the first state to launch its own electric vehicle policy that supports the production and use of 500,000 vehicles in the state; it demonstrates the state's commitment to clean fuel and addressing global warming by encouraging a sustainable transport system (footnote 1).

9. The state government has been implementing the Pradhan Mantri Gram Sadak Yojana (PMGSY), a national plan to provide all weather road connectivity to eligible unconnected settlements in rural areas, since 2000.⁷ As of November 2019, the state had built 27,548 km of rural roads connecting 10,842 settlements under this scheme. During FY2016, the state government launched the MMGSY following the PMGSY model (para. 5). The Maharashtra Rural Road Development Association, under the Department of Rural Development and Panchayat Raj, is entrusted with implementing the PMGSY and MMGSY programs, with a mandate to maintain the roads for 10 years after they are completed before turning them over to local government agencies.

10. **Maintenance of rural roads.** The budget allocation for maintenance of rural roads has been insufficient to maintain the upgraded roads at an adequate condition. The state's focus has been on building and upgrading roads, but not on timely and adequate maintenance of these roads. The details of the maintenance budget allocation and the estimated maintenance needs, including for rehabilitation of roads, is in the table. The average maintenance allocation during 2015–2018 was about 8.4% of the estimated need. In the special case of PMGSY roads, the maintenance budget was significantly higher (35.1%), indicating the priority given to maintenance of these roads. The rural road maintenance budget increased only marginally during 2015–2018. During the same period, capital investment for rural road works averaged over ₹15 billion per year, or more than three to five times the allocation for maintenance. The PMGSY and MMGSY programs will upgrade a large portion of the core rural road network; following the completion of work under these programs, the state government will need to shift its budget allocations from construction to maintenance to sustain the investments being made in upgrading rural roads.

⁷ Government of India, Ministry of Rural Development. 2019. [Prime Minister's Rural Road Development Program](#). Delhi.

Allocation of Maintenance Funds in Maharashtra
(₹ million)

Fiscal Year	Rural Roads excluding PMGSY					PMGSY				
	Budget need ^a	Allocation	% of need	Amount Spent	Utilization	Budget need ^b	Allocation	% of need	Amount Spent	Utilization
2015						3,455	1,105	32.0	1,105	100%
2016	50,000	3,744	7.5	3,369	90%	3,584	1,365	38.1	1,365	100%
2017	50,000	4,131	8.3	3,718	90%	3,718	1,289	34.7	1,289	100%
2018	50,000	4,128	8.3	3,755	91%	3,856	1,322	34.3	1,322	100%
2019	54,070	5,128	9.5	4,610	90%	4,000	1,460	36.5	1,460	100% ^c

PMGSY = Pradhan Mantri Gram Sadak Yojana.

^a Includes rehabilitation

^b Estimated for routine and periodic maintenance

^c Projected

Source: Maharashtra Rural Road Development Association.

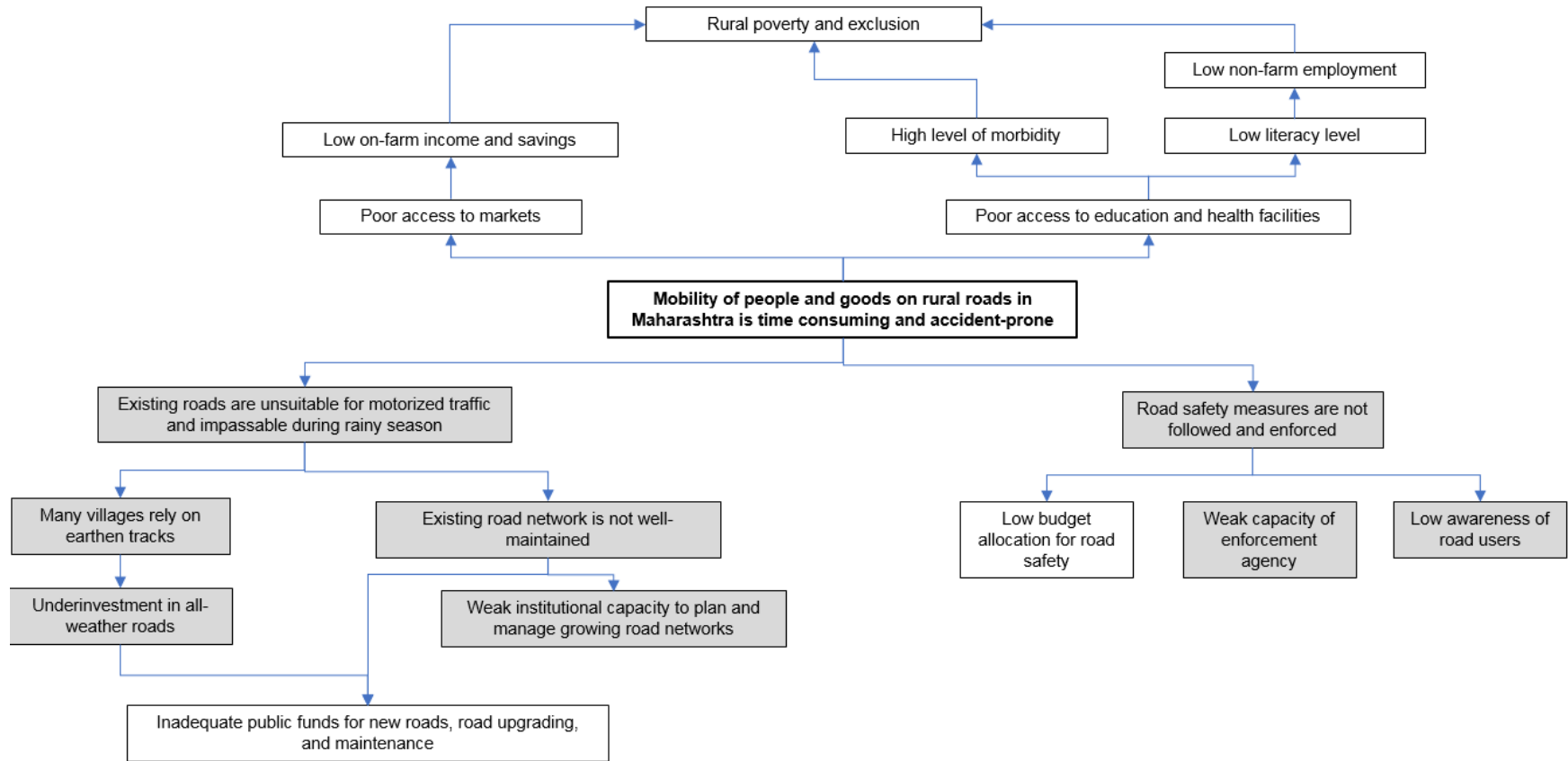
11. Realizing the importance of adequate and timely maintenance to sustain the improved road network, the Maharashtra Rural Development Department adopted a Policy on Maintenance of Rural Roads in August 2019.⁸ The policy commits the state government to fully funding routine maintenance, and to formulating an action plan that will ensure the time-bound removal of the rural road network maintenance backlog. The key strategies of the policy include (i) preparing an annual rural roads maintenance plan that will prioritize maintenance needs based on evaluations of existing road conditions; (ii) eliminating the road maintenance backlog for upgraded rural roads; (iii) implementing environment-friendly technologies in road maintenance; (iv) building the capacity of department staff and contractors for improved rural road maintenance; (v) developing a computer-based rural roads maintenance management system; (vi) undertaking a road user survey and using the feedback to improve maintenance performance; (vii) setting up a district-level quality control laboratory and improving quality control; and (viii) adopting innovative contracting in the form of performance-based contracting, technical innovations, and material innovations to improve productivity and reduce costs.

12. In line with Vision 2030, the proposed additional financing project will support the improvement of rural roads under the MMGSY. The project will improve about 2,900 km of rural roads and bridges to all-weather standards, serving agriculture and benefitting the rural population living in 34 districts. The project will strengthen the maintenance planning and asset management capacity of the Maharashtra Rural Road Development Association through technical assistance attached to the project. More broadly, the project will support the state government's agricultural strategy, as outlined in Vision 2030; improve mobility and accessibility in rural areas with poor connectivity; and reduce farmer distress in the state. The project is in line with the Asian Development Bank country partnership strategy for India, 2018–2022.⁹

⁸ Government of Maharashtra, Rural Development Department. *The Maharashtra Rural Roads Maintenance Policy* (Government Resolution No.: Grasayo-2019/C.R.77/Works-2). 2019. Mumbai.

⁹ Asian Development Bank. September 2017. *Country Partnership Strategy: India, 2018–2022—Accelerating Inclusive Economic Transformation*. Manila.

PROBLEM TREE



Legend:

= Project scope