



**COMPREHENSIVE DEVELOPMENT FRAMEWORK
REPORT OF STATE OF WEST BENGAL**

YOUTH PEACE AND DEVELOPMENT FORUM

NEW DELHI

JULY 2026

© 2026 Youth Peace and Development (YPD) Forum. All Rights Reserved.

This publication has been independently prepared and published by the **Youth Peace and Development (YPD) Forum**, a non-profit, non-partisan, youth-led public policy and research organization. The contents of this publication reflect independent research, analysis, and policy recommendations developed by members and contributors of the YPD Forum.

This publication **does not represent, and should not be construed as representing, the official views, policies, positions, or opinions of the Government of India, any State Government, government ministry or department, public institution, international organization, diplomatic mission, or any other governmental or intergovernmental body**, unless expressly stated otherwise.

The preparation, publication, and dissemination of this document have **not been funded, sponsored, commissioned, or formally endorsed by any government, political party, corporation, foreign government or entity, international organization, or external funding organization**, unless expressly disclosed in this publication. The document is the outcome of voluntary research and policy work undertaken by young researchers and students committed to advancing peace, development, public policy, and international cooperation. The views and recommendations expressed in this publication are those of the respective authors or contributors and do not necessarily reflect the views of every member, office-bearer, associate, or institutional partner of the YPD Forum.

No part of this publication may be reproduced, republished, distributed, transmitted, adapted, or stored in any form or by any means, whether electronic or mechanical, without appropriate acknowledgment of the **Youth Peace and Development (YPD) Forum**, except where such use is permitted under applicable copyright law, including fair dealing, fair use, educational use, or other applicable statutory exceptions, provided that proper attribution and citation are given.

FOREWORD

The state of West Bengal occupies a unique and vital position within the broader narrative of Indian civilizational progress. Endowed with profound natural wealth, dense ecological reserves, and a deeply rooted cultural heritage, the state is currently navigating a critical transition. It is moving steadily toward a modernized and diversified economy. The Comprehensive Development Framework Report of the State of West Bengal captures the essence of this historical juncture. It maps a future where the traditional strengths of the region are harmonized with the modern imperatives of proactive governance, rapid infrastructure development, and comprehensive technological integration.

When we examine the evolution of statecraft and regional development, it becomes increasingly clear that effective policymaking requires far more than basic macroeconomic forecasting. True governance demands a nuanced understanding of social behavior, community incentives, and the historical continuities that shape public life.

Traditional rational choice models often fail to account for the complex realities of human decision making at the grassroots level. This framework succeeds precisely because it aligns structural economic models with the lived, everyday realities of the people. By focusing on equitable resource distribution, institutional capacity building, and targeted poverty alleviation, the report offers a detailed blueprint. It bridges the critical gap between aggregate economic growth and genuine human flourishing.

At the Youth Peace and Development Forum (YPD FORUM), our core conviction is that sustainable development cannot be achieved without social cohesion and the active, structural engagement of the next generation. Peace and development are inherently mutually reinforcing concepts. Neither can endure if a society fails to integrate its youngest members into its socio-political fabric.

West Bengal is on the cusp of a significant demographic shift, with its working age population projected to expand rapidly over the coming decade. This presents a narrow but immensely powerful window of opportunity. The true test of any development framework will be its ability to translate physical infrastructure and industrial expansion into tangible, accessible opportunities for the youth, empowering them as the primary stakeholders in the future of the state.

The Comprehensive Development Framework Report acknowledges these shifting dynamics by prioritizing human capital. It recognizes that the wealth of a state lies not only in the minerals beneath its soil but in the potential of its people. The policies outlined herein reflect a deep understanding of behavioral economics, recognizing that citizens are not merely passive recipients of government aid but active participants whose choices must be nurtured through sound policy architecture. By mitigating risks for small enterprises, incentivizing educational attainment, and ensuring that development reaches the most marginalized districts, the framework creates a foundation for sustainable, long term stability.

A crucial component of this vision is the integration of the state's tribal and rural populations into the mainstream economic narrative without erasing their socio-cultural identities. The cultural identity of West Bengal must remain a guiding force as the state modernizes. The preservation of local traditions alongside the adoption of modern industrial practices is not a contradiction but a necessary synthesis.

Development policies must respect the historical context of the communities they serve, ensuring that progress feels organic rather than imposed. The framework thoughtfully addresses this balance, proposing strategies that elevate local communities while connecting them to the broader national and global economy.

Furthermore, we must recognize that true peace is not merely the absence of conflict but the presence of justice, equity, and opportunity. In regions that have historically faced developmental deficits, building physical infrastructure must be accompanied by the building of trust in public institutions. This report outlines actionable methodologies to enhance administrative transparency and accountability. It understands that when citizens see fair distribution of resources and opportunities, the foundations of lasting social peace are strengthened.

This comprehensive document is a vital intervention in the ongoing discourse regarding state capacity and regional transformation in India. It provides policymakers, corporate investors, and civil society leaders with the analytical rigor and empirical data required to drive meaningful, systemic change. It serves as a reminder that the ultimate goal of economics and political thought is the elevation of the human condition.

Dheeraj G. N.
Chairman
Youth Peace and Development (YPD) Forum
New Delhi

ACKNOWLEDGEMENT

The Youth Peace and Development Forum (YPD Forum) expresses its sincere gratitude to all individuals whose dedication, expertise, and commitment made the preparation of The Comprehensive Development Framework Report of the State of Chhattisgarh possible.

This report forms part of a larger national initiative undertaken through the Council for Comprehensive Development Frameworks (CDF Council), constituted by the YPD Forum to facilitate the fast-track preparation of comprehensive development frameworks for all 28 States of India. The Council represents the Forum's commitment to promoting evidence-based policymaking, strategic planning, and long-term developmental thinking across the nation.

The Forum places on record its deep appreciation to **Dheeraj GN**, Chairman of the Youth Peace and Development Forum, for his vision, leadership, and initiative in conceptualizing and guiding this ambitious project. The Forum also extends its heartfelt thanks to **Aravind Saj**, Vice Chairman of the Youth Peace and Development Forum, for his constant support and encouragement throughout the execution of this initiative.

Special appreciation is due to **Aman Chauhan**, Resource Person of the Council for Comprehensive Development Frameworks, for his valuable coordination support. The Forum further acknowledges the contributions of **Monish Krishna**, Secretary-General of the Youth Peace and Development Forum, whose administrative leadership, organizational support, and commitment have been instrumental in the successful implementation of the Council's activities.

The Youth Peace and Development Forum also records its appreciation for the dedicated incharges of the Council for Comprehensive Development Frameworks: **Pranav P, Suraj Kumar, Akshit Dehariya, Meeth R, Mihikha Mathur, Rishi Gurug, Vishvesh, Kashinath Rajagopal, Siddhart Singh Solanki, and Tanvi Harivanam**. Their research efforts, intellectual contributions, teamwork, and commitment to public policy and development studies have significantly strengthened the quality and substance of this report.

The Forum acknowledges the commitment, intellectual curiosity, and sense of responsibility demonstrated by each member of the Council. Through research, analysis, discussion, drafting, review, and continuous engagement with developmental issues, these members contributed significantly to the realization of the Council's objectives. Their willingness to dedicate their time and talents to a national developmental initiative reflects a commendable spirit of public service and constructive citizenship.

The Forum also recognizes that the preparation of a comprehensive development framework requires engagement with a wide range of ideas, perspectives, and sources of knowledge. Accordingly, sincere appreciation is extended to all researchers, academicians, policy experts,

development practitioners, government publications, statistical agencies, think tanks, and public institutions whose work provided valuable insights and reference material for this report. Their contributions to the broader body of knowledge on governance, economics, social development, environmental sustainability, infrastructure, education, healthcare, and public policy have enriched the quality and depth of this framework.

The Youth Peace and Development Forum is particularly grateful to the students, young researchers, and volunteers associated with the Forum who continue to demonstrate that youth can play a constructive role in addressing national challenges. Their enthusiasm, creativity, and commitment to public causes embody the ideals upon which the Forum was founded and reaffirm the importance of empowering younger generations to participate actively in nation-building.

The Forum further extends its appreciation to all well-wishers, supporters, advisors, and stakeholders who encouraged this initiative and contributed to its successful completion. Whether through guidance, feedback, consultation, or moral support, their contributions helped strengthen the quality and relevance of this work.

This report represents more than a policy document; it reflects a collective effort to envision a better future. It is the product of shared aspirations, collaborative research, and a common belief that informed planning and constructive dialogue can contribute to meaningful social, economic, and institutional progress. While the recommendations contained herein are intended to support the development of West Bengal, they also form part of a broader national effort to strengthen the foundations of a developed, inclusive, sustainable, and prosperous India.

As India advances towards the centenary of its independence in 2047, the Youth Peace and Development Forum remains committed to fostering research, dialogue, and innovation in support of national development. It is hoped that this report will serve as a useful resource for policymakers, administrators, researchers, civil society organizations, industry leaders, and citizens, and that it will contribute meaningfully to the ongoing pursuit of inclusive growth, good governance, and sustainable development.

Media and Publication Division

Youth Peace and Development Forum

TABLE OF CONTENT

Preface	pg no. 13
Executive Summary	pg no. 15
Chapter 1 : State profile - Geography, Demography and Society	pg no. 17
1.1 Geographic and Ecological Characteristics of the state	
1.2 Administrative Divisions: Districts, Divisions and Sub-State Units	
1.3 Demographic Structure: Population, Density, Growth and Composition	
1.4 Linguistic, Ethnic, Religious and Cultural Profile	
1.5 Human Development Index: State Ranking and Trend Analysis	
1.6 Poverty, Inequality and Multidimensional Deprivation Indices	
1.7 Intra-state disparities: Aspirational districts and Backward region identification	
1.8 State's Position in National Rankings Across Key Development Indicators.	
Chapter 2 : Fiscal architecture of the state.....	pg no. 26
2.1 Revenue Framework: Own Tax Revenue, Non-Tax Revenue and Devolution	
2.2 Expenditure Profile: Composition, Quality and Efficiency	
2.3 Capital Expenditure: Infrastructure Investment and Asset Creation	
2.4 Fiscal Deficit, Primary Deficit and Debt Sustainability	
2.5 State's Borrowings, Guarantees and Off-Budget Liabilities	
2.6 Finance Commission Awards: Allocation and Utilisation	
2.7 GST Implementation: Revenue Impact and Compensation Status	
2.8 Public Financial Management Reforms and Audit Compliance	
2.9 Centre-State fiscal relations: Trends and themes	
Chapter 3: Economic Structure, Growth and Sectoral Performance.....	pg no. 32
3.1 Gross State Domestic Product: Trends, Growth Rate and Sectoral Share	
3.2 Per Capita Income and Purchasing Power Analysis	
3.3 Primary Sector: Agriculture, Horticulture, Animal Husbandry and Fisheries	
3.4 Secondary Sector: Industry, Manufacturing and Mining	
3.5 Tertiary Sector: Trade, Finance, Real Estate and Services	
3.6 Informal Economy: Size, Significance and Integration Challenges	
3.7 Labour Market: Employment, Unemployment and Workforce Quality	
3.8 Inflation, Price Stability and Consumer Welfare	
3.9 Growth Corridors: engines of economic expansion	

Chapter 4: Investment, Industry and Private Sector Development.....pg no. 43

- 4.1 Investment Climate Assessment and Ease of Doing Business
- 4.2 Industrial Policy Framework and MSME Development
- 4.3 Large and Anchor Industries: Sectoral Analysis
- 4.4 Special Economic Zones, Industrial Corridors and Clusters
- 4.5 Foreign Direct Investment: Inflows, Sectoral Distribution and Policy
- 4.6 Public Sector Undertakings: Performance and Reform Agenda
- 4.7 Public-Private Partnership Framework and Pipeline
- 4.8 Regional cooperation: Shared region and growth

Chapter 5: Education — Access, Quality and Future Readiness.....pg no. 50

- 5.1 Elementary Education: Enrolment, Retention, Dropout and Learning Outcomes
- 5.2 Secondary and Senior Secondary Education: Transition and Achievement
- 5.3 Higher Education: Institutional Capacity, Gross Enrolment and Quality
- 5.4 Technical, Vocational Education and Training (TVET) Ecosystem
- 5.5 Teacher Recruitment, Training and Professional Development
- 5.6 Digital Education, EdTech Integration and ICT in Schools
- 5.7 Special Education: Children with Disabilities and Inclusive Schooling
- 5.8 State-Specific Educational Challenges and Reform Priorities

Chapter 6: Health, Nutrition and Population.....pg no. 60

- 6.1 Public Health Infrastructure: Facilities, Human Resources and Gaps
- 6.2 Epidemiological Profile: Communicable and Non-Communicable Disease Burden
- 6.3 Maternal and Child Health: MMR, IMR, Under-5 Mortality and Nutrition
- 6.4 Universal Health Coverage: State Health Assurance Schemes
- 6.5 Mental Health Services: Availability, Access and Stigma Reduction
- 6.5a Migration, Family Structure and Psychosocial Health
- 6.6 Nutrition Programmes: ICDS, Mid-Day Meal and Poshan Abhiyan
- 6.7 Population Stabilisation and Family Planning
- 6.8 Health System Strengthening and Future Preparedness

Chapter 7: Social Justice, Inclusion and Community Welfare.....pg no. 70

- 7.1 Scheduled Castes: Demographic Profile, Deprivation and Development Programmes
- 7.2 Scheduled Tribes: Rights, Forest Dwelling Communities and Welfare Measures
- 7.3 Other Backward Classes: Identification, Reservation and Social Mobility
- 7.4 Gender Equity: Women's Participation in Education, Economy and Governance
- 7.5 Child Rights, Protection and Development: POCSO, Child Labour and Nutrition
- 7.6 Welfare of Elderly Persons: Pension, Care Infrastructure and Policy

- 7.7 Persons with Disabilities: Rights, Accessibility and Empowerment
- 7.8 Minority Communities: Development, Representation and Welfare
- 7.9 Social Security and Beneficiary-Linked Welfare Architecture

Chapter 8: Transport and Connectivity Infrastructure.....pg no. 76

- 8.1 Road Network: National Highways, State Highways and Rural Roads
- 8.2 Railways: Existing Network, Pending Projects and Expansion Proposals
- 8.3 Aviation: Airport Infrastructure and Air Connectivity
- 8.4 Ports, Inland Waterways and Logistics Hubs
- 8.5 Urban Mass Transit: Metro, Bus Rapid Transit and Integrated Mobility
- 8.6 Multimodal Logistics: Last-Mile Connectivity and Freight Corridors

Chapter 9: Energy, Power and Renewable Transition.....pg no. 86

- 9.1 Power Generation: Installed Capacity, Mix and Dependence Profile
- 9.2 Transmission and Distribution: Infrastructure, Losses and Reliability
- 9.3 Rural and Household Electrification: Coverage and Quality
- 9.4 Renewable Energy Potential: Solar, Wind, Hydro and Biomass
- 9.5 Energy Efficiency, Conservation and Demand-Side Management
- 9.6 State Electricity Regulatory Framework and Tariff Policy

Chapter 10: Water, Sanitation and Solid Waste Management.....pg no. 96

- 10.1 Drinking Water Supply: Coverage, Quality and Infrastructure
- 10.2 Irrigation Infrastructure: Command Area, Efficiency and Water-Use Productivity
- 10.3 Sanitation and Open Defecation Free Status: Post-ODF Sustainability
- 10.3a Comparative State Performance and Lessons
- 10.4 Solid Waste Management: Municipal, Biomedical and Hazardous Waste
- 10.5 Liquid Waste and Sewerage: Urban and Peri-Urban Treatment Infrastructure

Chapter 11: Urban Development, Housing and Smart Cities.....pg no. 106

- 11.1 Urbanisation Trends and Urban Governance Architecture
- 11.2 Urban Local Bodies: Financial Health, Capacity and Service Delivery
- 11.3 Housing: Demand Assessment, Affordability and Flagship Schemes
- 11.4 Smart Cities Mission and AMRUT: State-Level Implementation Review
- 11.5 Heritage Cities, Cultural Landscapes and Urban Tourism
- 11.6 Urban Poverty, Slum Rehabilitation and In-Situ Upgradation

Chapter 12: Rural Development and Decentralised Governance.....pg no. 116

- 12.1 Panchayati Raj Institutions: Structure, Devolution and Capacity
- 12.2 VB G-Ram-G (MGNREGA): Coverage, Wage Trends and Livelihood Outcomes
- 12.3 Rural Housing: PMAY-Gramin and State Schemes
- 12.4 Livelihood Promotion: SHGs, Cooperatives and Rural Enterprise
- 12.5 Rural Infrastructure: PMGSY, Connectivity and Market Linkages
- 12.6 Community-Based Development Institutions and Participatory Planning

Chapter 13: Environment and Natural Resource Governance.....pg no. 126

- 13.1 Forest Cover, Biodiversity and Wildlife Conservation
- 13.2 Land Use Change, Soil Degradation and Land Resource Management
- 13.3 Water Bodies, Wetlands and River Ecosystem Health
- 13.4 Mining and Mineral Resource Governance
- 13.5 Pollution: Air, Water, Noise and Soil — Status and Regulatory Response
- 13.6 Coastal and Marine Resource Management (where applicable)

Chapter 14: Climate Change and Ecological Security.....pg no. 136

- 14.1 State Climate Vulnerability and Risk Profile
- 14.2 State Action Plan on Climate Change: Review and Second Generation Reforms
- 14.3 Disaster Risk Profile: Hazard, Exposure and Vulnerability Mapping
- 14.4 Disaster Risk Reduction: Institutional Mechanisms and Preparedness
- 14.5 Post-Disaster Response, Relief and Reconstruction Framework
- 14.6 Green Economy Transition: Opportunities and Structural Challenges

Chapter 15: Administrative Governance Reform.....pg no. 146

- 15.1 Structure of State Administration and Inter-Departmental Coordination
- 15.2 Anti-Corruption Framework: Lokayukta, Vigilance and Enforcement
- 15.3 Legal and Judicial Administration: Pendency, Access and Reform
- 15.4 Police Modernisation and Internal Security Management
- 15.5 Regulatory Governance: Quality, Consistency and Independence
- 15.6 Reduction of Red-tapism: Simplification and way forward
- 15.7 Civil service strength: Vacancy rates and Training institutions

Chapter 16: Technology-Enabled Service Delivery.....pg no. 156

- 16.1 Digital Infrastructure: Broadband, Optical Fibre and Connectivity Coverage
- 16.2 e-Governance Architecture and Digital Public Infrastructure
- 16.3 Citizen Service Delivery: CSCs, Service Portals and Mobile Governance
- 16.4 Data Governance, Open Data Policy and Privacy Framework

- 16.5 Cybersecurity: State-Level Institutional Mechanisms
- 16.6 Emerging Technologies: AI, Geospatial Systems and Smart Governance

Chapter 17: Innovation, Research and Knowledge Economy.....pg no. 166

- 17.1 State Innovation Ecosystem: Startups and Accelerators
- 17.2 Research and Development: Academic-Industry Linkages
- 17.3 Intellectual Property: Awareness, Registration and Commercialisation
- 17.4 Knowledge Institutions as Engines of Development
- 17.5 Building a Youth Innovation and Research Ecosystem
- 17.6 Skill Development, Employability and Workforce Alignment

Chapter 18: Agriculture, Allied Sectors and Food Security.....pg no. 176

- 18.1 Cropping Pattern, Agricultural Productivity and Input Use
- 18.2 Irrigation and Water Use Efficiency in Agriculture
- 18.3 Agricultural Marketing, Price Realisation and Farmer Income
- 18.4 Food Processing Industry and Value Chain Development
- 18.5 Animal Husbandry, Dairy and Poultry: Economic Contribution
- 18.6 Fisheries: Inland, Marine and Aquaculture
- 18.7 Horticulture, Floriculture and Medicinal Plants
- 18.8 Agricultural Credit, Insurance and Risk Management

Chapter 19: Tourism, Culture and Creative Economy.....pg no. 186

- 19.1 Tourism Asset Inventory: Natural, Heritage, Religious and Adventure
- 19.2 Tourism Infrastructure: Hotels, Connectivity and Facilitation
- 19.3 Domestic and International Tourist Flows: Trends and Targets
- 19.4 Cultural Heritage Preservation and Institutional Framework
- 19.5 Creative Industries: Handicrafts, Performing Arts and Cultural Economy
- 19.6 Film, Media and Content Industries as Economic Drivers

Chapter 20: Cross-Cutting Themes and Integrated Policy Imperatives.....pg no. 196

- 20.1 Sustainable Development Goals of the state
- 20.2 Gender Mainstreaming Across Sectors
- 20.3 Youth Policy and Demographic Dividend Realisation
- 20.4 Migration: Internal, Inter-State and International Dimensions
- 20.5 Science, Technology and Innovation for Development

20.6 Statistical System Strengthening and Evidence-Based Policymaking

20.7 Public Participation: Behavioural Change and Citizen Engagement

Chapter 21: Vision 2047 — Strategic Priorities and Development.....pg no. 206

21.1 Long-Term Vision and Flagship Missions

21.2 Medium-Term Priority Action Plan (2025–2030)

21.3 Financing Strategy: Resource Mobilisation, Revenue Enhancement and Expenditure Rationalisation

21.4 Centre-State Partnership: Centrally Sponsored Schemes and Special Grants

21.5 Inter-State Cooperation: Regional Development Councils and River Boards

21.6 International Collaboration: Common Development Agenda and Global Partnership

21.7 Monitoring, Evaluation and Results Framework

21.8 Accountability Architecture: Legislature, Civil Society and Citizens

End Note.....pg no. 211

Reference Listpg no. 213

PREFACE

West Bengal occupies a distinctive position in the Indian Union, both historically and structurally. It has been a gateway between eastern India and the northeastern region, a bridge to Bangladesh and Bhutan through international land borders, and a state whose economic and cultural imprint on the subcontinent long precedes the modern Indian republic. This report, the Comprehensive Development Framework for the State of West Bengal, is prepared in the same standardized format used for comparable state-level development documents, so that policymakers, researchers, and citizens can read West Bengal's development trajectory against other Indian states on a common template.

The purpose of this framework is not merely descriptive. It is intended to serve as a working reference for departments of the state government, for the Planning Department, for Members of the Legislative Assembly, for civil society organizations, and for scholars of Indian federalism and regional development. Each chapter follows the same internal logic: a review of the current status of the sector, an assessment of performance against national benchmarks, an identification of persistent gaps, and, in the concluding chapters of the report, a synthesis into a forward-looking vision through 2047, the centenary year of India's independence.

West Bengal's development story is one of contrasts. It is home to Kolkata, one of India's oldest and most culturally significant metropolitan centers, and simultaneously to some of the most persistently underdeveloped districts in eastern India, including parts of Purulia, Malda, and the two Dinajpur districts. It combines a strong historical base in education, publishing, and the arts with a manufacturing sector that has struggled to regain the industrial primacy it held in the mid-twentieth century. It has among the highest population densities in the country and a demographic profile shaped by decades of cross-border migration, Partition, and, more recently, out-migration of working-age labor to other states.

This report draws on the most recent data available at the time of writing in 2026, including Census of India baseline data from 2011 (the last conducted decennial census, since Census 2021 was postponed and has not yet been completed), population projections issued by the Census Bureau's Technical Group under the National Commission on Population, NITI Aayog's Sustainable Development Goals India Index, the National Multidimensional Poverty Index, and Reserve Bank of India state finance data, supplemented by state government budget documents and departmental reports.

Pranav P.

In-charge, West Bengal Development Framework Project
Council for Comprehensive Development Frameworks
Youth Peace and Development Forum

Executive Summary

West Bengal enters this report as a state of contrasts. It is the sixth largest state economy in India by nominal output, yet its per capita income has trailed the national average by roughly a fifth for years. It carries one of India's strongest human development legacies, in literacy, land reform, and public health, yet its institutional credibility has been tested by a major teacher recruitment scandal. And it is now navigating its first change of ruling party since independence, following the 2026 assembly elections that brought a Bharatiya Janata Party led government to power under Chief Minister Suwendu Adhikari.

Geographically, the state spans a narrow but diverse territory from the Darjeeling Himalayas to the Sundarbans delta, organized into 23 districts and home to a population projected at just over 100 million. Its demographic transition is comparatively advanced, with fertility already below replacement level and one of the lowest population growth rates among major states. Developmental lag concentrates persistently in one recurring cluster of districts, Purulia, Bankura, and Jhargram in the west, and Malda, Murshidabad, and the two Dinajpurs in the north, a pattern that repeats across poverty, health, education, and minority welfare indicators alike.

On fiscal management, the state shows genuine, if incomplete, consolidation, with both the revenue deficit and fiscal deficit narrowing in the 2026-27 budget. This progress sits against a structurally weak own-revenue base, a debt stock exceeding 8 lakh crore rupees, and heavy reliance on transfers from the Centre, all of which constrain capital spending on the infrastructure the state needs.

Economically, independent analysts describe West Bengal's growth as premature tertiaryisation: services generate over half of output while employing barely a third of the workforce, while agriculture still employs more than a third of workers for about a fifth of output. Manufacturing has never recovered its mid-twentieth-century strength, and investor caution, rooted partly in the Singur land acquisition episode, continues to weigh on the state's industrial climate. A newly approved Industrial Policy, expanded MSME credit, a proposed single-window investment mechanism, and a new Global Capability Centre strategy signal renewed reform intent, but the real test will be whether announced investment finally converts into completed projects, a conversion that has often lagged in the state's recent history.

In education, strong foundational literacy and improving elementary retention sit alongside a persistent secondary school participation gap, foundational learning shortfalls despite high enrolment, and the unresolved fallout from the School Service Commission scandal, in which courts invalidated more than 25,000 teacher appointments. In health, maternal and child indicators have improved substantially, with infant mortality nearly halved over the past decade, but adolescent pregnancy remains the second highest of any Indian state, concentrated in the same five districts, Purulia, Birbhum, Murshidabad, Malda, and Uttar Dinajpur, flagged by a World Bank health financing programme approved in January 2026.

Swasthya Sathi has achieved near-universal nominal insurance coverage, though out-of-pocket costs remain high for many families.

On social justice, Kanyashree Prakalpa stands out as a genuine success, measurably shifting adolescent girls' educational aspirations, though these gains have not yet carried through into commensurate female labour force participation. Scheduled Caste, Scheduled Tribe, and minority welfare needs cluster in the same lagging districts identified throughout this report.

Infrastructure investment is expanding meaningfully: a proposed Raxaul-Haldia expressway, a five-line, 73-kilometer Kolkata Metro network, and continued port and rail modernization. But the state's unusually large number of rural habitations, over 41,000 villages, creates a structurally bigger last-mile task than most large states face, visible across roads, water supply, and electrification alike. On energy, the state remains heavily dependent on coal even as it builds a more accommodating framework for rooftop solar, a tension sharpened by the proposed Deucha-Pachami coal block, one of Asia's largest reserves.

Water and sanitation coverage has lagged the national Jal Jeevan Mission pace, though the state's Jal Mitra digital monitoring platform has drawn national recognition. Kolkata's metropolitan area, among the densest in the world, faces mounting housing affordability and municipal coordination pressures. Rural governance is being reshaped by the new national rural employment guarantee law, which expands the annual guarantee to 125 days.

Environmentally, the Sundarbans and the Darjeeling Himalayan belt are the state's most climate-vulnerable zones, having sustained combined cyclone losses exceeding 1.47 lakh crore rupees from three major storms between 2019 and 2021 alone. This vulnerability sits in direct tension with the state's continued coal-dependent industrial strategy, one of the most consequential unresolved contradictions running through this report.

On governance and technology, administrative recruitment is being scaled up substantially across police, Panchayat, and education systems following the recruitment scandal's disruption, while digital governance, cybersecurity capacity, and a reinvigorated startup and innovation policy represent the state's main levers for converting its historic knowledge institution strength into contemporary economic advantage. In agriculture, Krishak Bandhu and Bangla Shasya Bima provide substantial income and insurance protection to farmers, while a diversified tourism strategy is extending beyond Kolkata and Darjeeling into Santiniketan, Bishnupur, and Purulia.

Looking toward 2047, five priorities recur throughout this report: converting the state's economic scale into broad-based income growth; translating investment policy into realized manufacturing employment; resolving education's institutional credibility crisis; building climate-resilient infrastructure in the Sundarbans and Darjeeling; and closing the intra-state disparity gap concentrated in the same handful of districts named above.

Chapter 1: State Profile — Geography, Demography and Society

1.1 Geographic and Ecological Characteristics of the State

West Bengal is situated in the eastern part of the Indian subcontinent, extending from the high Himalayan foothills in the north to the Bay of Bengal coastline in the south, a span that gives the state an unusually diverse range of ecological zones within a comparatively narrow, elongated territory. The state covers an area of approximately 88,752 square kilometers, making it one of the smaller major states of India by area even though it ranks among the most populous. It shares international borders with Bangladesh to the east, Bhutan and Nepal to the north, and domestic borders with Sikkim, Assam, the state of Bihar, Jharkhand, and Odisha, giving it one of the most complex boundary geographies of any Indian state.

The state's geography can be broadly divided into five physiographic regions. The northern hill region, comprising Darjeeling and Kalimpong, rises into the lower Himalayan ranges and includes tea-growing hill slopes at elevations exceeding 2,000 meters. South of the hills lies the Terai and Dooars region, a belt of forests, tea gardens, and alluvial plains that transitions into the vast Gangetic plains covering most of central West Bengal, including the districts around Malda, Murshidabad, Nadia, and the two Bardhaman districts. To the west lies the Rarh region, an undulating lateritic plateau extending into Purulia, Bankura, and Jhargram, geologically continuous with the Chota Nagpur plateau of Jharkhand. In the south lies the Sundarbans delta, the world's largest mangrove forest system, shared with Bangladesh, and one of the most ecologically sensitive and climate vulnerable zones in South Asia.

The Ganga, known locally as the Bhagirathi-Hooghly in its distributary form, is the dominant river system, and its delta formation has shaped both the agricultural fertility and the flood vulnerability of the southern districts. Other significant rivers include the Teesta, Torsa, Jaldhaka, and Mahananda in the north, and the Damodar, Ajay, and Rupnarayan in the west and south, the Damodar in particular having been central to the state's coal and industrial belt around Asansol and Durgapur.

The state experiences a tropical monsoon climate with strong regional variation, ranging from the sub-alpine climate of Darjeeling to the humid, cyclone-prone coastal climate of the Sundarbans and Digha coast. Average annual rainfall varies from around 1,500 millimeters in the western plateau districts to over 3,000 millimeters in parts of the Dooars, a variation with direct implications for cropping patterns and water management. The state's coastal and deltaic geography also places it among the Indian states most exposed to cyclonic activity from the Bay of Bengal, a vulnerability that recurs in the discussion of climate risk in Chapter 14.

1.2 Administrative Divisions: Districts, Divisions and Sub-State Units

As of 2026, West Bengal is administratively organized into 23 districts, following a series of district bifurcations carried out over the past decade, including the creation of Jhargram out of West Midnapore, Kalimpong out of Darjeeling, and the division of undivided Bardhaman into Purba (East) and Paschim (Paschim) Bardhaman districts. These districts are grouped into five administrative divisions for the purposes of state administration: Presidency Division, Burdwan Division, Jalpaiguri Division, Malda Division, and Medinipur Division. Each division is headed by a Divisional Commissioner who coordinates inter-district administration below the level of the state secretariat in Kolkata, popularly known as Nabanna.

Below the district level, the state's rural areas are organized through a three-tier Panchayati Raj structure consisting of Gram Panchayats, Panchayat Samitis at the block level, and Zilla Parishads at the district level, a structure discussed in greater depth in Chapter 12. Urban areas are governed through a mix of Municipal Corporations, the largest being the Kolkata Municipal Corporation, Municipalities, and Notified Area Authorities. Kolkata, the state capital and the seventh most populous metropolitan area in India, anchors the Kolkata Metropolitan Area, which extends across parts of North 24 Parganas, South 24 Parganas, Howrah, and Hooghly districts and functions as a distinct planning unit under the Kolkata Metropolitan Development Authority.

The bifurcation of districts over the past two decades reflects an administrative logic common across Indian states in this period, namely the attempt to bring governance closer to the citizen by reducing the population and area each district administration must serve. However, this fragmentation has also created challenges of coordination, particularly in infrastructure planning and law and order management in border districts such as North 24 Parganas and Murshidabad, which border Bangladesh and carry a heavy load of border security and cross-border trade administration in addition to ordinary civil governance.

1.3 Demographic Structure: Population, Density, Growth and Composition

According to the Census of India 2011, West Bengal had a population of 91,276,115, comprising 46,809,027 males and 44,467,088 females, with a sex ratio of 950 females per 1,000 males, above the national average of 943 for that census (Directorate of Census Operations, West Bengal, 2011). This made West Bengal the fourth most populous state in India, after Uttar Pradesh, Maharashtra, and Bihar. The decadal growth rate between 2001 and 2011 was 13.84 percent, itself a notable deceleration of 3.93 percentage points from the 2001 growth rate over 1991, indicating that West Bengal had already entered a phase of demographic transition toward slower population growth well before most other large Indian states (StatisticsTimes, 2026).

Because the decennial Census scheduled for 2021 was postponed and has not been conducted as of 2026, current population figures for the state rely on projections issued under the methodology of the Census Bureau's Technical Group on Population Projections, constituted under the National Commission on Population. On this basis, the Technical Group's projection places West Bengal's population at approximately 100.63 million as of July 1, 2026, with a projected growth rate for the year of around 0.43 percent, among the lowest population growth rates of any major Indian state (StatisticsTimes, 2026). This estimate should be read as a projection rather than an enumerated count and is cited here on that basis. The projected sex ratio for 2026 under the same methodology is approximately 968 females per 1,000 males, continuing the state's above national average trend, with an estimated 51.2 million males and 49.4 million females (StatisticsTimes, 2026).

West Bengal's population density, at 1,028 persons per square kilometer as recorded in the 2011 Census, remains among the highest of any large Indian state, roughly two and a half times the national average density of that year. Density is highly uneven across the state, ranging from extremely high concentrations in the Kolkata Metropolitan Area and the districts of North and South 24 Parganas and Howrah, to comparatively sparse settlement in the hill districts of Darjeeling and Kalimpong and the plateau district of Purulia. This unevenness has direct implications for infrastructure planning, discussed further in Chapters 8 and 11, since urban services in the Kolkata conurbation face congestion pressures markedly different from those in the state's western and northern peripheries.

In terms of age structure, West Bengal's population has an age composition broadly similar to the all-India pattern but with a somewhat more advanced demographic transition, reflected in a lower total fertility rate than the national average and a growing share of the working-age population, a feature explored further in the discussion of the demographic dividend in Chapter 20. Literacy, as recorded in the 2011 Census, stood at 76.26 percent overall, with male literacy at 81.69 percent and female literacy at 70.54 percent, a gender gap of roughly 11 percentage points that had narrowed compared to previous censuses but remained a policy concern (Directorate of Census Operations, West Bengal, 2011). Urbanization, at approximately 31.9 percent as per the 2011 Census, is lower than the all-India figure of 31.2 percent for that year on a broadly comparable basis, though this understates the functional urban footprint of the Kolkata Metropolitan Area, which extends well beyond formally classified urban local bodies.

1.4 Linguistic, Ethnic, Religious and Cultural Profile

Bengali is the principal language of the state and the mother tongue of the overwhelming majority of the population, and it holds constitutional recognition as an official language of the state alongside English, Nepali (in the hill districts), and, more recently, several other languages recognized for administrative purposes in specific districts, including Kamtapuri, Rajbanshi, Kurmali, and Ol Chiki for the Santali-speaking population. This linguistic layering reflects the state's ethnic diversity, which includes Bengali Hindu and Muslim populations forming the demographic majority, a substantial Nepali-speaking population concentrated in

Darjeeling and Kalimpong, Rajbanshi and Koch communities in the northern districts, and tribal populations including Santal, Munda, and Oraon communities concentrated in the western plateau districts of Purulia, Bankura, and West Midnapore, many of whom trace their presence to labor migration during the colonial tea and coal economy.

On religious composition, the 2011 Census recorded Hindus at 70.54 percent of the population, Muslims at 27.01 percent, the second highest Muslim population share of any major Indian state after Assam and Jammu and Kashmir, and small but historically significant Christian, Sikh, Jain, and Buddhist populations, together accounting for just under 2 percent (Directorate of Census Operations, West Bengal, 2011). The Muslim population is geographically concentrated, with the highest shares recorded in Murshidabad, Malda, and Uttar Dinajpur districts, all of which border Bangladesh, a pattern with implications for both social welfare targeting and border security administration discussed in Chapter 15.

Culturally, West Bengal occupies an outsized place in Indian intellectual and artistic history relative to its population share, owing to the Bengal Renaissance of the nineteenth and early twentieth centuries, the legacy of Rabindranath Tagore, and the state's continuing role as a center for Indian cinema, literature, and the performing arts. This cultural inheritance is a significant, if difficult to quantify, development asset, contributing to the state's creative economy discussed in Chapter 19 and to its enduring, if declining relative to other states, position in Indian higher education and publishing.

1.5 Human Development Index: State Ranking and Trend Analysis

West Bengal's human development performance presents a mixed picture when compared with peer states. On NITI Aayog's Sustainable Development Goals India Index, which functions as India's principal composite tracker of subnational progress toward the 2030 Agenda and correlates closely with underlying human development indicators, West Bengal has historically occupied a middling position among major states. In the 2019 edition of the index, the state was ranked 14th nationally, a position that then Vice Chairman Rajiv Kumar noted understated the state's underlying strength given its historical performance in education, suggesting the state's education outcomes had not translated fully into composite score gains at that time (Gulf News, 2019). By the 2023-24 edition of the index, West Bengal was recorded among the ten new entrants to the front-runner category of states, those scoring 65 or above on the composite index, indicating a marked improvement in the state's SDG trajectory over the intervening years (Press Information Bureau, 2024).

This improvement is consistent with broader national trends. India's own SDG India Index composite score rose from 57 in 2018 to 71 in 2023-24 (Press Information Bureau, 2024), and West Bengal's movement into the front-runner category suggests the state broadly tracked this national improvement, though it should be read alongside the caveat that front-runner status is a threshold category covering a wide range of underlying scores, and West Bengal's precise rank within that category as of the most recent edition available in 2026 requires disaggregated indicator level data beyond the composite classification.

West Bengal's underlying human development strengths and weaknesses are uneven across dimensions. The state performs comparatively well on indicators of basic literacy, historical educational infrastructure, and certain health outcomes such as institutional delivery rates, reflecting decades of investment in primary health infrastructure. It performs less well on indicators tied to per capita income, formal sector employment generation, and industrial value addition, areas taken up in Chapters 3 and 4. Intra-state human development disparities are also substantial, with Kolkata and its metropolitan periphery, along with Hooghly and Purba Bardhaman, showing human development indicators comparable to India's more advanced states, while western plateau districts such as Purulia and northern border districts such as Uttar Dinajpur and Malda lag well behind the state average, a pattern examined further in Section 1.7.

1.6 Poverty, Inequality and Multidimensional Deprivation Indices

India's National Multidimensional Poverty Index, jointly developed by NITI Aayog, the United Nations Development Programme, and the Oxford Poverty and Human Development Initiative using the Alkire-Foster methodology, provides the most current sub-national poverty benchmarking exercise for Indian states. The baseline MPI report, released in 2021 using National Family Health Survey round 4 data, and the progress review released in 2023 using National Family Health Survey round 5 data, recorded a national decline in the Multidimensional Poverty headcount ratio from 24.85 percent in 2015-16 to 14.96 percent in 2019-21, with roughly 135 million people nationally lifted out of multidimensional poverty over this period (NITI Aayog, 2023; News on Air, 2023).

West Bengal's own multidimensional poverty headcount, while not detailed in the sources drawn upon for this report at the granular percentage level, is understood from the broader progress review to have declined over the same period in line with the national trend, though the state was not among the fastest-improving states identified in the 2023 review, a distinction accorded to Uttar Pradesh, Bihar, Madhya Pradesh, Odisha, and Rajasthan (News on Air, 2023). This suggests West Bengal's poverty reduction trajectory, while positive in absolute terms, has been comparatively steady rather than accelerating relative to some of the historically poorer northern and central Indian states that have been the particular focus of the Aspirational Districts Programme.

Within the state, poverty and deprivation are markedly uneven. The western plateau districts of Purulia, Jhargram, and Bankura, along with the northern border districts of Uttar Dinajpur, Dakshin Dinajpur, and Malda, and the deltaic Sundarbans blocks of North and South 24 Parganas, consistently show higher deprivation across nutrition, sanitation, and housing indicators than the state average, while Kolkata, Hooghly, and the industrial belt around Durgapur and Asansol show comparatively lower deprivation, though pockets of urban poverty persist even within these more prosperous districts, particularly in informal settlements on the periphery of Kolkata.

Income inequality within the state also reflects the divide between the industrial and metropolitan core and the agrarian and plateau periphery, with landholding patterns, historically shaped by West Bengal's early and comparatively thorough implementation of land reform under Operation Barga in the 1970s and 1980s, having reduced extreme rural inequality relative to some other states even as urban and metropolitan income growth has since outpaced agricultural incomes, a dynamic examined further in the discussion of the informal economy in Chapter 3.

1.7 Intra-State Disparities: Aspirational Districts and Backward Region Identification

Under the Aspirational Districts Programme launched by NITI Aayog in 2018, and its subsequent extension into the Aspirational Blocks Programme covering sub-district units, several West Bengal districts have been identified as requiring focused developmental attention on account of persistently lagging indicators across health, nutrition, education, agriculture, water resources, financial inclusion, and basic infrastructure. Purulia district, on the western plateau bordering Jharkhand, has consistently been identified among the state's most developmentally lagging districts, alongside portions of Malda, Uttar Dinajpur, and South 24 Parganas, particularly in the Sundarbans blocks.

These districts share common structural disadvantages, including greater dependence on rain-fed agriculture, weaker connectivity to state highways and rail networks, higher out-migration of working-age males in search of employment outside the state, and, in the case of the Sundarbans blocks, exposure to cyclones, tidal flooding, and soil salinity that constrains agricultural productivity. The Aspirational Blocks Programme, which extends the district-level logic to the block level, has identified specific blocks within otherwise moderately performing districts, recognizing that district-level averages can mask severe intra-district disparities, a pattern especially pronounced in West Bengal given the size and population of its constituent blocks.

Backward region identification in the state also intersects with tribal sub-plan areas, particularly in Purulia, Bankura, Jhargram, and West Midnapore, where the presence of Scheduled Tribe populations correlates with lower access to formal credit, irrigation infrastructure, and secondary school completion, issues that recur in the discussion of tribal welfare in Chapter 7. Addressing these intra-state disparities requires differentiated planning instruments beyond the district as the sole unit of analysis, an argument this report returns to in the discussion of decentralized governance in Chapter 12.

1.8 State's Position in National Rankings Across Key Development Indicators

Taken together, West Bengal's position across national rankings presents a state performing above the national median on several social indicators inherited from decades of investment in literacy, primary health, and land reform, while underperforming on indicators tied to industrial growth, per capita income, and private investment, an asymmetry that runs through

this entire report. On the SDG India Index, the state's movement into the front-runner category by 2023-24 places it among the majority of Indian states now classified in that tier, a reflection both of the state's own progress and of the compression of the national distribution as lagging states have improved faster than historically leading states (Press Information Bureau, 2024).

On demographic indicators, West Bengal's above-national-average sex ratio and comparatively advanced demographic transition, reflected in a lower population growth rate than most large states, position it favorably relative to states such as Bihar and Uttar Pradesh, though its per capita income and formal employment indicators, discussed in Chapter 3, place it below the middle of the national distribution among major states. On educational access indicators, discussed in depth in Chapter 5, the state's historical literacy advantage has not always translated into comparable higher education enrolment or learning outcome indicators in recent national assessments, a gap the state's own planning documents have identified as a priority area.

This composite picture, of a state with strong foundational social indicators but comparatively weaker economic dynamism and persistent intra-state disparities concentrated in its western, northern border, and deltaic peripheries, sets the framework for the fiscal, economic, and sectoral chapters that follow. Chapter 2 turns next to the fiscal architecture of the state, examining the revenue and expenditure structures that determine the state government's capacity to address the disparities identified in this chapter.

Chapter 2: Fiscal Architecture of the State

2.1 Revenue Framework: Own Tax Revenue, Non-Tax Revenue and Devolution

West Bengal's revenue framework rests on three broad pillars: the state's own tax revenue, its own non-tax revenue, and transfers from the Union government, comprising both tax devolution under the Finance Commission formula and grants-in-aid. A recurring feature of the state's fiscal profile, noted in NITI Aayog's own macro-fiscal assessment of the state, is that West Bengal collects less in own tax and non-tax revenue relative to the median Indian state, while transfers from the Centre, though themselves below the median state's level in absolute terms, constitute the largest single component of the state's total revenue receipts (NITI Aayog, 2025). This structural dependence on Central transfers, more pronounced in West Bengal than in several comparably sized states, has direct implications for the state's fiscal autonomy and its exposure to changes in Finance Commission awards or Union tax policy.

Own tax revenue in West Bengal is drawn primarily from State Goods and Services Tax collections, state excise on liquor, stamp duty and registration fees on property transactions, motor vehicle tax, and, to a smaller extent, electricity duty and taxes on professions and trades. Property-related levies, in particular stamp duty and registration, have historically been an important and somewhat volatile source of revenue, sensitive to the state of the real estate market in Kolkata and its metropolitan periphery. State excise, drawing on liquor sales, has also grown as a revenue source over the past decade as the state has periodically revised excise policy to capture a larger share of the beverage alcohol trade.

Non-tax revenue is comparatively modest and includes receipts from state public sector undertakings, mining royalties from the coal-bearing western districts, interest receipts, and fees from various departmental services. The state's mining royalty base, tied to coal production in the Raniganj and Asansol belt, is a notable but geographically concentrated non-tax revenue stream, and one exposed to the broader national conversation on the energy transition away from coal discussed in Chapter 9.

Devolution from the Union government follows the formula recommended by successive Finance Commissions, with the Fifteenth Finance Commission's award governing the period through 2025-26 and the incoming award of the Sixteenth Finance Commission expected to shape the fiscal architecture from 2026-27 onward. West Bengal's share under the horizontal devolution formula has been shaped by its population weight, area, income distance from the wealthiest states, and demographic performance criteria, with the state's declining population growth rate, discussed in Chapter 1, working in its favor under demographic performance criteria even as its comparatively lower per capita income relative to some southern and western states affects the income distance component in its favor as well.

2.2 Expenditure Profile: Composition, Quality and Efficiency

West Bengal's total expenditure, excluding debt repayment, was estimated at approximately 341,462 crore rupees for 2025-26, an increase of about 14 percent over the revised estimate for 2024-25, and rising further to a budgeted 384,169 crore rupees for 2026-27, an increase of roughly 23 percent over the revised estimate of the preceding year (PRS Legislative Research, 2025, 2026). This growth trajectory reflects both rising committed expenditure, in particular salaries, pensions, and interest payments, and expanding allocations to welfare schemes.

A defining feature of the state's expenditure profile in recent budgets has been the scale of allocation to social welfare. In the 2025-26 budget, the Women and Child Development and Social Welfare Department alone received an allocation of 38,762.03 crore rupees, reflecting the continued fiscal weight of flagship welfare schemes targeted at women, children, and vulnerable households (Business Standard, 2025). Dearness allowance for government employees, including teaching and non-teaching staff and pensioners, was raised by 4 percentage points effective April 1, 2025, taking the total dearness allowance to 18 percent in line with the recommendations of the state's Sixth Pay Commission, a decision with direct implications for the salary component of committed expenditure in subsequent years (Business Standard, 2025).

NITI Aayog's macro-fiscal review of the state notes that West Bengal's expenditure-to-GSDP ratio, at 16.5 percent, is lower than that of the median Indian state, a pattern the review attributes to the state's comparatively lower revenue base rather than to fiscal conservatism as such, since lower revenue receipts constrain the expenditure envelope even where developmental needs, particularly in the lagging districts identified in Chapter 1, would justify higher spending (NITI Aayog, 2025). This creates a structural tension in the state's fiscal position: elevated committed expenditure on salaries, pensions, and interest payments, combined with a below-median revenue base, leaves a comparatively narrow fiscal space for capital expenditure and discretionary developmental spending, an issue examined further in the following section.

2.3 Capital Expenditure: Infrastructure Investment and Asset Creation

Capital expenditure in West Bengal has historically lagged the levels seen in states with stronger own revenue bases, though recent budgets have sought to prioritize infrastructure investment through flagship schemes such as Pathashree, a rural and semi-urban road development program, which received an allocation of 1,500 crore rupees in the 2025-26 budget, and targeted bridge construction projects such as the 4.75 kilometer Gangasagar bridge, allocated 500 crore rupees in the same budget (News on Air, 2025). A further 200 crore rupees was allocated to riverbank erosion prevention works under a newly announced Nadi Bandhan scheme, addressing a longstanding vulnerability along the state's extensive riverine geography described in Chapter 1 (News on Air, 2025).

The state's capital expenditure has been partly supported by the Union government's scheme of fifty-year interest-free loans to states for capital expenditure, a facility that, under the fiscal framework for 2026-27, is treated separately from the state's own borrowing ceiling calculation, effectively expanding the resource envelope available for asset creation without adding to the state's own debt-servicing burden in the near term (PRS Legislative Research, 2026). This facility has become an increasingly important instrument for infrastructure financing across Indian states generally, and West Bengal's utilization of it bears directly on the pace of road, bridge, and irrigation asset creation discussed further in Chapters 8 and 10.

Despite these measures, the state's capital expenditure as a share of total expenditure remains constrained by the weight of revenue expenditure, particularly committed expenditure on salaries and pensions, which continues to absorb a large share of the state's own revenue receipts before any allocation can be made to asset-creating capital works. This dynamic is a recurring theme in the state's own Fiscal Responsibility and Budget Management Act compliance reporting, which tracks the composition of expenditure between revenue and capital heads as part of its statutory obligations (West Bengal Finance Department, 2025).

2.4 Fiscal Deficit, Primary Deficit and Debt Sustainability

West Bengal's fiscal deficit has shown a mixed trajectory over the past several budget cycles. As per revised estimates, the fiscal deficit for 2024-25 was expected to reach 4 percent of GSDP, higher than the budgeted target of 3.6 percent (PRS Legislative Research, 2025). For 2025-26, the fiscal deficit was budgeted at 3.6 percent of GSDP, equivalent to 73,178 crore rupees, though revised estimates for that year later placed the outturn at approximately 3.4 percent of GSDP, or roughly 67,774 crore rupees, indicating a modest improvement over the budgeted target (PRS Legislative Research, 2026; New Kerala, 2026). For 2026-27, the fiscal deficit is targeted at 2.9 percent of GSDP, equivalent to 62,421.37 crore rupees, continuing a gradual consolidation trend (New Kerala, 2026).

The revenue deficit, which measures the gap between revenue receipts and revenue expenditure and is generally regarded as a more stringent indicator of fiscal health than the overall fiscal deficit since it reflects the state's inability to finance day-to-day expenditure from current receipts, was estimated at 1.7 percent of GSDP for 2025-26, equivalent to 35,315 crore rupees, an improvement on the 2.4 percent of GSDP, or 43,262 crore rupees, recorded at the revised estimate stage for 2024-25 (PRS Legislative Research, 2025). For 2026-27, the revenue deficit is budgeted at just 1.02 percent of GSDP, equivalent to 21,984.41 crore rupees, a further improvement on the revised estimate of 2.1 percent of GSDP for 2025-26 (New Kerala, 2026). NITI Aayog's macro-fiscal review, drawing on 2022-23 data, had earlier placed the state's revenue deficit at 2.6 percent of GSDP for that year, higher than the median Indian state, underlining that the improvement recorded in the 2025-26 and 2026-27 budget cycles represents a genuine, if still incomplete, consolidation relative to the state's recent fiscal history (NITI Aayog, 2025).

On debt sustainability, the state's Debt to GSDP ratio was reported to have declined from 40.65 percent in 2010-11 to 37.49 percent in 2022-23, a improvement the state government has cited as evidence of fiscal discipline (Business Standard, 2025), though NITI Aayog's own assessment for the same period placed the ratio at 38.4 percent, still above the median Indian state, and projected under its Debt Sustainability Analysis that the state's debt-to-GSDP ratio would continue on an upward trajectory under most scenarios absent further consolidation (NITI Aayog, 2025). By March 31, 2026, the state's accumulated debt stock, as per revised estimates, stood at approximately 762,326.6 crore rupees, projected to rise to approximately 815,891.35 crore rupees by March 31, 2027 under the 2026-27 budget estimates, an increase state officials attributed to debt accumulated under the previous administration (New Kerala, 2026).

It is notable in this context that the 2026-27 budget was presented by Finance Minister Swapan Dasgupta of a newly formed Bharatiya Janata Party led state government, the first such government in West Bengal since independence, which took office following the 2026 state assembly elections (New Kerala, 2026). This political transition has direct implications for the interpretation of the state's fiscal narrative, since the incoming administration has publicly attributed the accumulated debt burden to the preceding government while presenting its own budget estimates as a consolidation path forward, a framing this report notes descriptively without adjudicating the underlying political dispute.

2.5 State's Borrowings, Guarantees and Off-Budget Liabilities

Beyond the on-budget fiscal deficit, West Bengal's overall public liability position includes contingent liabilities in the form of government guarantees extended to state public sector undertakings and cooperative institutions. NITI Aayog's macro-fiscal review found the state's contingent liabilities, at 1.2 percent of GSDP, to be lower than the median Indian state, a relatively favorable position compared with several other states that carry substantially higher guarantee exposure through power sector and irrigation corporation borrowings (NITI Aayog, 2025).

Borrowing is governed under the state's Fiscal Responsibility and Budget Management Act of 2010, which prescribes a progressive reduction path for debt, revenue deficit, and fiscal deficit, and which has been amended over time to reflect changing Union government norms. The 2011 amendment to the Act required the state to reduce its debt-to-GSDP ratio from 40.6 percent in 2010-11 by approximately 6.3 percentage points over five years, while the 2020 amendment required the state to maintain a maximum debt-to-GSDP ratio of 34.3 percent for a subsequent period, with a temporary relaxation of the fiscal deficit ceiling to 5 percent of GSDP permitted in 2021 and 2022 in view of the fiscal pressures of the COVID-19 pandemic, before reverting toward tighter norms in the years since (West Bengal Finance Department, 2025).

Off-budget borrowing, undertaken through state-owned special purpose vehicles or corporations whose debt does not appear directly on the state government's own balance sheet

but for which the state carries an implicit or explicit repayment obligation, has been a subject of scrutiny by both the Comptroller and Auditor General and the Union Finance Ministry across Indian states generally in recent years, and West Bengal's own State Finances Audit Report has flagged the need for greater transparency in tracking such liabilities as part of the state's broader public financial management reform agenda, discussed further in Section 2.8.

2.6 Finance Commission Awards: Allocation and Utilisation

The devolution formula recommended by the Fifteenth Finance Commission, covering the period 2021-22 through 2025-26, allocated tax devolution shares to states based on a weighted combination of population, area, forest and ecology, income distance, tax and fiscal effort, and demographic performance criteria. West Bengal's share under this formula reflected its large population base and its comparatively lower per capita income relative to wealthier states, both of which work to increase its devolution share, offset in part by its performance on the tax and fiscal effort criterion, where the state's below-median own revenue collection, discussed in Section 2.1, has constrained its relative standing.

Grants-in-aid recommended by the Fifteenth Finance Commission, covering sectors such as health, disaster management, and local body strengthening, have supplemented the state's tax devolution receipts, with disaster management grants of particular relevance to West Bengal given its cyclone and flood exposure described in Chapter 1 and examined further in Chapter 14. The transition to the Sixteenth Finance Commission's award, expected to govern the period from 2026-27 onward, represents a significant point of fiscal uncertainty for the state's medium-term planning, since changes to the horizontal devolution formula, the treatment of the income distance criterion, or the balance between tax devolution and grants-in-aid could materially affect the state's resource envelope in the years covered by this report's planning horizon through 2047.

2.7 GST Implementation: Revenue Impact and Compensation Status

The Goods and Services Tax regime, implemented nationally from July 2017, restructured a significant share of West Bengal's own tax revenue base, replacing the erstwhile Value Added Tax and a range of other indirect state levies with a unified State GST collected on a destination basis. For West Bengal, a state with a comparatively large consumption base centered on the Kolkata Metropolitan Area, the destination-based nature of GST has generally been viewed as favorable relative to origin-based taxation, since the state captures GST revenue on goods and services consumed within its borders regardless of where they are produced.

The five-year GST compensation mechanism, which guaranteed states a 14 percent annual revenue growth rate over a 2015-16 base year and provided for compensation cess-funded transfers to cover any shortfall, expired in June 2022, after which states including West Bengal transitioned to relying solely on their actual State GST collections and devolved Integrated GST settlements without the compensation backstop. This transition has been cited

in the state's own fiscal policy documents as a factor contributing to revenue growth pressures in the years since, compounding the structural revenue base challenges discussed in Section 2.1 (West Bengal Finance Department, 2025).

2.8 Public Financial Management Reforms and Audit Compliance

West Bengal's public financial management architecture is anchored in the Fiscal Responsibility and Budget Management Act, 2010, and its associated rules, which mandate periodic disclosure of the state's fiscal position, including medium-term fiscal policy statements, macroeconomic framework statements, and fiscal policy strategy statements presented alongside the annual budget. The state's Finance Department has, in recent years, expanded its public disclosure of budget execution data, including monthly and quarterly expenditure tracking against budget estimates, a practice that supports both legislative oversight and independent policy analysis of the kind reflected in this report's reliance on PRS Legislative Research's budget analyses.

The Comptroller and Auditor General's State Finances Audit Reports for West Bengal have periodically flagged concerns regarding the state's inability to eliminate its revenue deficit in the period from 2016-17 to 2020-21, a period covering both the pre-pandemic and pandemic years, and have recommended stronger expenditure control on committed items such as salaries and pensions alongside efforts to broaden the state's own tax base (NITI Aayog, 2025). Strengthening treasury computerization, integrating departmental accounting systems with the state's centralized financial management information system, and improving the timeliness of local body fund utilization reporting remain ongoing reform priorities identified in the state's own public financial management modernization agenda.

2.9 Centre-State Fiscal Relations: Trends and Themes

Centre-state fiscal relations have been a recurring theme in West Bengal's political and administrative discourse, given the state's above-average dependence on Central transfers relative to its own revenue collection, as noted in Section 2.1. Disputes over the release of funds under various centrally sponsored schemes, including those relating to rural employment guarantee wage payments and rural housing, have periodically featured in the state's fiscal relationship with the Union government in recent years, with the state government at various points contesting the pace or conditionality of releases and the Union government citing compliance and utilization certification requirements as the basis for withholding or delaying transfers.

The change of government following the 2026 state assembly elections introduces a new dimension to this relationship, since a Bharatiya Janata Party led state government operating within a Bharatiya Janata Party led Union government coalition structure may experience a different pattern of Centre-state fiscal coordination than existed under the preceding state administration, potentially affecting the pace of centrally sponsored scheme fund releases, the negotiation of special assistance packages, and the state's engagement with national missions

referenced throughout this report, from the Aspirational Districts Programme discussed in Chapter 1 to the urban and rural infrastructure missions discussed in Chapters 11 and 12.

Chapter 3: Economic Structure, Growth and Sectoral Performance

3.1 Gross State Domestic Product: Trends, Growth Rate and Sectoral Share

West Bengal's Gross State Domestic Product was projected at approximately 20.32 lakh crore rupees, or around 236.56 billion United States dollars, for 2025-26, making it India's sixth largest state economy by nominal output (India Brand Equity Foundation, 2025). This scale, however, sits against a longer-term relative decline in the state's weight within the national economy, its share of India's national Gross Domestic Product having fallen from roughly 10.5 percent in 1960-61, when West Bengal ranked third among Indian states, to approximately 5.6 to 5.8 percent by the early 2020s (Grokikipedia, 2026; NITI Aayog, 2025).

NITI Aayog's summary assessment of the state found that West Bengal's real GSDP grew at an average annual rate of 4.3 percent during the period from 2012-13 to 2021-22, compared with a national average real growth rate of 5.6 percent over the same period, indicating that the state has consistently grown more slowly than the country as a whole across this decade (NITI Aayog, 2025). More recent nominal growth figures have been considerably higher, with the state budget for 2025-26 projecting average annual nominal GSDP growth of around 12 percent from the 2024-25 budget estimate (India Brand Equity Foundation, 2025), though nominal growth of this order reflects a combination of real output growth and price level increases rather than real growth alone, and should not be read as directly comparable to the real growth figures cited above.

In terms of sectoral composition, independent analyses converge on a broadly consistent picture for the recent period: the services sector contributes just over half of the state's Gross State Value Added, in the range of 55 to 57 percent depending on the year and data vintage examined, industry contributes approximately 23 to 24 percent, and agriculture and allied activities contribute approximately 20 to 21 percent (NITI Aayog, 2025; Grokikipedia, 2026; Observer Research Foundation, 2026). This composition places West Bengal's economy as more heavily weighted toward agriculture than India's most industrially advanced states, and correspondingly less weighted toward industry, a pattern discussed further in Sections 3.3 and 3.4.

3.2 Per Capita Income and Purchasing Power Analysis

West Bengal's per capita income has consistently trailed the national average over the past decade. As of 2021-22, the state's per capita income stood approximately 20 percent below the national per capita income (NITI Aayog, 2025), a gap that analysts examining the state's more recent trajectory have continued to identify as a persistent structural feature of the state's economy rather than a transitory shortfall (Observer Research Foundation, 2026). This per capita income gap exists despite the state's overall GSDP ranking sixth nationally,

reflecting the state's large population base, which dilutes aggregate output on a per person basis relative to states with smaller populations and comparable or lower absolute GSDP.

The gap between the scale of the state's aggregate economy and its per capita standing is a recurring theme in analyses of the state's development challenges, with one recent assessment characterizing the state's growth pattern as a case of "premature tertiarisation," in which the services sector's dominant share of output has emerged without a commensurate industrial base having first absorbed the state's agricultural workforce, leaving the majority of the working population still dependent on a sector, agriculture, that contributes barely a fifth of aggregate output, resulting in disguised underemployment and stagnant per-worker productivity in the rural economy (Observer Research Foundation, 2026). This mismatch between where the state's workforce is employed and where its output is generated is examined in greater depth in Section 3.7.

Purchasing power within the state also varies markedly by region, with the Kolkata Metropolitan Area, the industrial belt around Durgapur and Asansol, and the tea and tourism economy of Darjeeling showing materially higher average household consumption than the agrarian districts of the northern and western periphery identified as developmentally lagging in Chapter 1. This intra-state variation means that state-level per capita income figures, while useful for inter-state comparison, understate the depth of income disparity experienced within the state's own borders.

3.3 Primary Sector: Agriculture, Horticulture, Animal Husbandry and Fisheries

Agriculture and allied activities remain central to West Bengal's economy in employment terms even as their output share has declined relative to services. The state is India's largest producer of rice, with rice production recorded at 16.49 million tonnes in 2024-25 (India Brand Equity Foundation, 2025), a position built on the state's extensive Gangetic alluvial plains and its network of both rain-fed and irrigated paddy cultivation across the central and southern districts. Beyond rice, the state is a significant producer of jute, potatoes, and a range of vegetables, with its deltaic and riverine geography, described in Chapter 1, supporting multiple cropping cycles across much of the southern and central plains.

West Bengal is also the second largest tea-producing state in India and is home to the internationally recognized Darjeeling tea variety, cultivated on the hill slopes of Darjeeling and Kalimpong under agro-climatic conditions unique within the state (India Brand Equity Foundation, 2025). The tea economy of the northern hills, alongside the Dooars plantation belt, represents a distinct agricultural and labor market segment from the rice and jute economy of the plains, with implications for labor welfare and plantation labor law administration that recur in the discussion of the labour market in Section 3.7.

Fisheries form a further significant component of the primary sector, drawing on the state's extensive network of rivers, ponds, and its Bay of Bengal coastline, with West Bengal ranking among the leading states nationally in both inland and marine fish production, a

sector examined in further sectoral detail in Chapter 18. Animal husbandry, particularly dairy and poultry, has grown as a supplementary rural livelihood activity, though the state's dairy sector remains less commercially developed relative to states such as Gujarat and Punjab that have built cooperative dairy federations of national scale.

The 2025-26 state budget allocated 22,620 crore rupees to Agriculture and Allied Activities, within which 5,800 crore rupees was allocated to the Krishak Bandhu income support scheme for farmers and 1,200 crore rupees to crop insurance (India Brand Equity Foundation, 2025), reflecting the continued political and fiscal priority attached to direct income support for the state's large agrarian population even as the sector's share of aggregate output continues to decline.

3.4 Secondary Sector: Industry, Manufacturing and Mining

West Bengal's industrial sector carries a historical legacy considerably larger than its present relative weight within the Indian economy. In the mid-twentieth century, the state, and Kolkata in particular, was a preeminent center of Indian industry, anchored in jute manufacturing, engineering, and steel production, with the Durgapur-Asansol industrial belt developing as a significant center of public sector steel and heavy engineering production during the early decades of Indian planning (Grokopedia, 2026). This industrial base has since undergone substantial contraction and restructuring, a process analysts attribute to a combination of factors including labor unrest during the 1970s and 1980s, policy uncertainty, and the broader national shift of manufacturing investment toward western and southern states following economic liberalization (Grokopedia, 2026).

Manufacturing's contribution to the state's Gross State Value Added stood at approximately 23 percent as of the early 2020s (Grokopedia, 2026; NITI Aayog, 2025), a share that, while not insignificant, reflects the state's comparative underperformance relative to more industrially dynamic states such as Gujarat, Tamil Nadu, and Maharashtra. Within manufacturing, the Manufacturing sector recorded the highest sectoral growth rate among the state's economic activities during the period 2012-13 to 2021-22, at 6.8 percent per annum, exceeding the growth rate of the services sector at 4.8 percent per annum over the same period (NITI Aayog, 2025), suggesting a degree of underlying manufacturing dynamism even as the sector's overall output base remains comparatively modest.

Mining activity in the state is concentrated in the western districts, particularly around Raniganj and Asansol, where coal reserves forming part of the eastern Indian coal belt have historically supported both mining employment and downstream power generation and industrial activity. The state's installed power generation capacity, discussed further in Chapter 9, remains heavily weighted toward thermal generation drawing on this coal base, with 8,476.34 MW of the state's total installed capacity of 10,730.62 MW as of August 2025 attributed to thermal power (India Brand Equity Foundation, 2025).

3.5 Tertiary Sector: Trade, Finance, Real Estate and Services

The services sector is the largest single contributor to West Bengal's economic output, accounting for approximately 55 to 57 percent of Gross State Value Added in recent years (NITI Aayog, 2025; Grokipedia, 2026). Kolkata's role as a historic center of trade, banking, and professional services underpins much of this sectoral weight, with the city continuing to host regional headquarters of national banks, insurance companies, and professional services firms, alongside a large informal and formal retail trade sector serving both the metropolitan area and the wider eastern Indian hinterland for which Kolkata functions as a traditional wholesale and distribution hub.

Information technology and business process management services have grown as a distinct component of the tertiary sector since the late 1990s, following the establishment of Software Technology Parks of India facilities and state government incentives for information technology parks, most notably in Sector V of Salt Lake City in Kolkata (Grokipedia, 2026). Information technology exports from the state grew steadily through the 2000s, though the sector's overall scale has remained modest in comparison to national information technology leaders such as Karnataka and Telangana, a gap examined further in the discussion of investment climate in Chapter 4.

Real estate and construction activity, concentrated in the Kolkata Metropolitan Area and its expanding periphery, along with financial services and public administration, round out the tertiary sector's contribution. The state government has, in recent years, publicly emphasized efforts to attract new investment into the services and industrial sectors, with successive state administrations organizing investment summits intended to showcase the state's economic opportunities to domestic and international investors, though the translation of investment intent announced at such events into realized investment on the ground has been a subject of continued public and analytical scrutiny (Grokipedia, 2026).

3.6 Informal Economy: Size, Significance and Integration Challenges

As in most Indian states, a substantial share of West Bengal's economic activity and employment occurs within the informal economy, spanning small and micro retail trade, informal manufacturing units, unorganized construction labor, and a large body of home-based and small-scale artisanal production, including the state's traditional handloom and handicraft sectors discussed further in Chapter 19. The scale of informality is particularly pronounced in the state's rural non-farm economy, where small workshops, informal transport services, and unregistered trading activity provide a significant share of non-agricultural rural livelihoods.

Integration of the informal economy into the formal financial and regulatory system remains a persistent policy challenge, one shared across most Indian states but carrying particular weight in West Bengal given the size of its rural population and the comparatively modest scale of formal manufacturing employment noted in Section 3.4. Efforts to extend formal

credit access, social security coverage, and skill certification to informal workers, discussed further in the context of financial inclusion and social security architecture in Chapter 7, represent an ongoing area of state and central government policy attention, including through schemes aimed at registering unorganized sector workers on national databases to enable targeted benefit delivery.

3.7 Labour Market: Employment, Unemployment and Workforce Quality

According to the Periodic Labour Force Survey for 2022-23, West Bengal's working population was distributed across Services at 34.8 percent, Agriculture, Forestry, and Fishing at 34.2 percent, Manufacturing at 18.8 percent, and Construction at 11.7 percent (NITI Aayog, 2025). This distribution reveals a striking feature of the state's labour market: agriculture continues to employ more than a third of the workforce even though it generates roughly a fifth of aggregate output, while services generate more than half of output while employing just over a third of the workforce, confirming the productivity mismatch between sectoral employment shares and output shares noted in Section 3.2.

The state's annual unemployment rate, at 2.2 percent as of 2022-23, was below the national average of 3.2 percent for the same period (NITI Aayog, 2025), a comparatively favorable headline figure that should nonetheless be read alongside the state's Female Labour Force Participation Rate of 33.8 percent, itself lower than the national average, indicating that a substantial share of the state's working-age female population remains outside the labour force altogether rather than being counted among the unemployed (NITI Aayog, 2025). Low female labour force participation, a challenge shared across much of India but with particular regional variation, constrains the state's effective labour supply and is examined further in the discussion of gender equity in Chapter 7.

Workforce quality, encompassing both formal educational attainment and vocational skill certification, remains an area of concern, with the state's Gross Enrolment Ratios at both the Higher Secondary level, as of 2015-16, and the Higher Education level, as of 2021, recorded as below their respective national averages (NITI Aayog, 2025), despite the state's comparatively strong performance on basic literacy discussed in Chapter 1. This gap between foundational literacy and higher-level educational and vocational attainment is examined in depth in the discussion of technical and vocational education in Chapter 5.

3.8 Inflation, Price Stability and Consumer Welfare

Consumer price inflation in West Bengal has broadly tracked national trends in recent years, shaped by common national monetary policy conditions and by state-specific factors including the price of rice, the state's staple food grain, and the cost of vegetables produced within the state's own agricultural belt. As a net rice-surplus state, West Bengal has generally experienced somewhat greater insulation from national food price shocks tied to cereal

shortages than food-deficit states, though vegetable and protein price volatility, tied to monsoon performance and supply chain disruptions, continues to affect household consumer welfare, particularly among lower-income urban households in the Kolkata Metropolitan Area who are net purchasers rather than producers of food.

Fuel and transport costs, shaped by national petroleum pricing policy and state-level taxation on fuel, represent a further significant component of the state's cost of living, with the state government's periodic adjustments to state fuel taxation cited in public discourse as a policy lever available to the state to influence local price levels within the constraints of the state's own revenue needs discussed in Chapter 2.

3.9 Growth Corridors: Engines of Economic Expansion

Several identifiable growth corridors anchor West Bengal's current and prospective economic expansion. The Kolkata Metropolitan Area, extending into Howrah, Hooghly, and the 24 Parganas districts, remains the state's dominant economic corridor, concentrating the bulk of the state's services sector output, financial institutions, and higher education and health infrastructure. The Durgapur-Asansol industrial belt in the western districts represents the state's principal legacy heavy industry corridor, with continued, if reduced, relevance to the state's steel, engineering, and coal-based power generation activity described in Section 3.4.

The Siliguri corridor in the north, often referred to in national strategic discourse as the Chicken's Neck owing to its narrow width connecting the Indian mainland to the northeastern states, functions as a critical logistics and trade gateway, given its proximity to Bangladesh, Bhutan, and Nepal, and carries growing significance for the state's trade and tourism economy discussed in Chapters 8 and 19. The Digha-Mandarmani coastal belt in the south has emerged as a significant tourism-driven growth corridor, while the Sundarbans, despite its ecological fragility described in Chapter 1, supports a growing eco-tourism economy alongside its traditional fisheries base.

Export performance from the state reached 1,09,557 crore rupees, or approximately 12.67 billion United States dollars, in the 2024-25 financial year, led by engineering goods and gems and jewellery (India Brand Equity Foundation, 2025), indicating that despite the relative decline of the state's historic manufacturing base described in Section 3.4, specific manufacturing niches continue to generate significant export value. Foreign Direct Investment inflows into the state totaled approximately 15,256.66 crore rupees, or around 1.946 billion United States dollars, between October 2019 and June 2025 (India Brand Equity Foundation, 2025), and the state ranked eleventh among Indian states on ease of doing business and reforms implementation in a recent national assessment (India Brand Equity Foundation, 2025), a ranking discussed further in the context of the state's investment climate in Chapter 4.

Chapter 4: Investment, Industry and Private Sector Development

4.1 Investment Climate Assessment and Ease of Doing Business

West Bengal's investment climate has historically been shaped by a widely discussed narrative of underperformance relative to its economic scale and location advantages, a narrative rooted in specific episodes such as the Tata Motors Nano project at Singur, where land acquisition protests led the company to relocate the factory to Gujarat, an episode that continues to be cited as having created lasting investor concern regarding land acquisition processes, project continuity, and policy certainty in the state (IBG News, 2026). Analysts assessing the state's prospects have consistently argued that overcoming this perception requires sustained governance and demonstrated project completion rather than isolated policy announcements or investment summit pledges alone (IBG News, 2026).

On the Ease of Doing Business ranking based on the Business Reform Action Plan administered by the Department for Promotion of Industry and Internal Trade, West Bengal has been classified in the "Aspirers" category, ranking second among Eastern Indian states after Jharkhand, with reforms recorded in areas including access to credit, insolvency resolution, regulatory transparency, and online governance systems such as single-window application submission and synchronized inspections (Ministry of MSME, RAMP Strategic Investment Plan, n.d.). More recent national assessments have placed the state eleventh among all Indian states on ease of doing business and reforms implementation (India Brand Equity Foundation, 2025), a middling position that reflects genuine procedural reform alongside the persistence of the state's broader investor perception challenge.

The state has organized the Bengal Global Business Summit as its flagship investment promotion platform in recent years, with the eighth edition, held in February 2025 in Kolkata, drawing more than 200 delegates from 40 countries and securing over 1,200 Memoranda of Understanding and Letters of Intent, alongside reported investment proposals exceeding 4.4 lakh crore rupees, according to figures presented by then Chief Minister Mamata Banerjee at the summit's conclusion (News on Air, 2025). Industry commitments announced at the summit included a pledge from Reliance Industries to invest 50,000 crore rupees in the state by the end of the decade (Deccan Herald, 2025). The 2025 edition of the summit took place roughly a year ahead of the state's 2026 assembly elections, a timing widely read in contemporaneous commentary as part of the then state government's effort to counter the state's anti-industry image ahead of the polls (Deccan Herald, 2025).

Following the 2026 assembly elections and the formation of a new state government under Chief Minister Suvendu Adhikari, discussions have continued regarding the state's investment trajectory, with commentary framing the change of government as a potential inflection point for the state's industrial climate, described in one analysis as "Industrial Bengal 2.0," while cautioning that the state's structural advantages, including its strategic

gateway location, its ports, its engineering workforce, and its educational institutions, will only translate into realized investment if paired with predictable law and order conditions and timely project execution (IBG News, 2026).

4.2 Industrial Policy Framework and MSME Development

The state's industrial policy framework was substantially revised with the approval of the State Industrial Policy 2026-2030 by the state Cabinet on May 3, 2026, prior to the change in government, with the policy emphasizing MSME promotion, ease of doing business, and incentives for green industries (GPT Sir Current Affairs, 2026). Under the incoming government's first full budget, presented by Finance Minister Swapan Dasgupta on June 22, 2026, with a total outlay of 4.38 lakh crore rupees, industry bodies including the Confederation of Indian Industry and ASSOCHAM offered public endorsement of the budget's focus on regulatory reform, infrastructure investment, and ease of doing business, an endorsement commentary characterized as substantive industry backing rather than routine political courtesy (NIIR Project Consultancy, 2026).

The budget proposed a single-window mechanism for projects involving investments of 100 crore rupees or more, under which qualifying projects would be able to route building plan approvals, trade licenses, and related permissions through an integrated state-level mechanism rather than separately through local bodies, alongside an expert committee tasked with simplifying regulations and reducing compliance burdens, with recommendations reportedly expected within four months of the committee's constitution (Arnab Ray, 2026).

MSMEs constitute the backbone of the state's industrial base in numerical terms. West Bengal has more than 900,000 registered MSME units (NIIR Project Consultancy, 2026) and accounts for approximately 16.02 percent of India's MSME manufacturing enterprises and 13.09 percent of the country's other services MSMEs (Arnab Ray, 2026). Bank credit facilitation to MSMEs in the state exceeded 9,350 crore rupees cumulatively according to the state's own budget documentation, while bank credit to MSMEs in the first two quarters of 2025-26 alone was estimated at 1,45,372 crore rupees, representing growth of 27.83 percent over the corresponding period of the previous year (Arnab Ray, 2026). This follows a longer trend of expanding MSME credit in the state, with banks having lent 1.28 trillion rupees to MSMEs in the 2022-23 financial year, up from 1.04 trillion rupees the previous year, according to figures cited by the state's then Principal Chief Advisor Amit Mitra ahead of the 2023 Bengal Global Business Summit (Business Standard, 2023).

The state has supported MSME development through instruments including MSME Facilitation Centres established in each district to serve as single points of contact for statutory clearances, and the Scheme of Approved Industrial Parks, launched in 2014, which provides fiscal and non-fiscal incentives to private developers of industrial parks (Ministry of MSME, RAMP Strategic Investment Plan, n.d.). The state has also pursued a longstanding ambition to develop an information technology hub in the Rajarhat New Town area, an

initiative referenced in state planning documents in terms of developing a "Silicon Valley" for eastern India (Ministry of MSME, RAMP Strategic Investment Plan, n.d.).

4.3 Large and Anchor Industries: Sectoral Analysis

West Bengal's large industry base spans steel and heavy engineering, concentrated historically in the Durgapur-Asansol belt, alongside a growing footprint in automobiles, cement, and petrochemicals. The Haldia industrial complex, anchored around the Haldia Dock Complex and associated petrochemical and fertilizer units, represents one of the state's principal anchor industrial clusters, benefiting from proximity to the port infrastructure discussed in Chapter 8. Jute manufacturing, though substantially diminished from its mid-twentieth century scale, retains a residual presence in the state, particularly in the districts bordering the Hooghly river, and continues to supply both domestic packaging demand and export markets for jute products under continued government procurement support for jute packaging in select sectors.

Large-scale mining and mineral-based industry is anchored by the proposed Deucha-Pachami coal block in Birbhum district, described by state officials as one of the largest coal reserves in Asia and positioned as a prospective catalyst for the state's industrial and power sector development, with the state government indicating readiness to commence basalt and coal extraction activity and committing to employment guarantees for land-owning families affected by the project (News on Air, 2025). The project's progress and its eventual contribution to the state's industrial and energy base, discussed further in Chapter 9, remains a significant variable in the state's medium-term industrial trajectory.

Automobile and auto-component manufacturing, engineering goods, and gems and jewellery manufacturing for export, referenced in Chapter 3's discussion of export performance, represent further significant large-industry segments, alongside a growing pharmaceuticals and chemicals manufacturing base linked to the state's chemical hub developments in the Haldia region.

4.4 Special Economic Zones, Industrial Corridors and Clusters

West Bengal hosts a number of Special Economic Zones and industrial corridor initiatives, including information technology and information technology-enabled services SEZs in the Kolkata Metropolitan Area, particularly around Rajarhat New Town and Salt Lake's Sector V, alongside sector-specific industrial clusters supported under state and central schemes for leather, textiles, and engineering goods manufacturing. The state's participation in the broader East Coast Economic Corridor concept, linking eastern Indian ports and industrial centers, remains at an earlier stage of development compared with the more established corridor initiatives in western and southern India, such as the Delhi-Mumbai Industrial Corridor.

Industrial clustering in West Bengal has also occurred organically around specific traditional manufacturing centers, including the brass and bell-metal cluster in Howrah district and the

leather goods cluster in the Bantala leather complex on Kolkata's eastern periphery, both of which combine traditional artisanal skill bases with efforts at formalization and export orientation, discussed further in the context of creative and craft industries in Chapter 19.

4.5 Foreign Direct Investment: Inflows, Sectoral Distribution and Policy

Foreign Direct Investment inflows into West Bengal totaled approximately 15,256.66 crore rupees, or around 1.946 billion United States dollars, over the period from October 2019 through June 2025 (India Brand Equity Foundation, 2025), a figure that, while substantial in absolute terms, remains modest relative to the FDI inflows recorded by India's leading investment destination states such as Maharashtra, Karnataka, and Gujarat over comparable periods. This gap reflects both the state's comparative industrial underperformance discussed in Section 4.1 and the concentration of India's most FDI-intensive sectors, including information technology services and export-oriented manufacturing, in states with more established ecosystems for those industries.

Sectorally, FDI into West Bengal has been directed toward manufacturing, including engineering and metallurgical industries, alongside investments in the state's ports and logistics infrastructure and, more recently, exploratory investment commitments in oil and natural gas exploration, exemplified by the state government's allocation of 50 acres of land at Ashoknagar in North 24 Parganas district to the Oil and Natural Gas Corporation for exploration activity, announced at the 2025 Bengal Global Business Summit (News on Air, 2025). The state's policy approach to FDI facilitation operates within the national FDI policy framework set by the Union government, with the state's own role largely confined to land facilitation, single-window clearance support, and targeted fiscal incentives under its industrial policy rather than independent FDI policy-setting authority, which remains a Union subject under India's constitutional division of powers.

4.6 Public Sector Undertakings: Performance and Reform Agenda

West Bengal maintains a portfolio of state public sector undertakings spanning power generation and distribution, transport, including state road transport corporations, and industrial estate development and management. The performance of the state's power sector undertakings, discussed further in Chapter 9, has historically been a significant contingent liability consideration in the state's fiscal position, referenced in the discussion of guarantees in Chapter 2, given the working capital and capital expenditure financing needs of power generation and distribution utilities.

Reform of loss-making state public sector undertakings, including efforts at operational restructuring, tariff rationalization in the case of power utilities, and, in select instances, strategic disinvestment or closure of chronically loss-making units, has been a recurring but incompletely realized agenda item across successive state administrations, a pattern common to public sector undertaking reform efforts in several Indian states. The new state government's approach to public sector undertaking reform, following the 2026 change in

administration, remains an area to be observed as budgetary and administrative decisions unfold in the years covered by this report's planning horizon.

4.7 Public-Private Partnership Framework and Pipeline

Public-private partnership as an instrument for infrastructure delivery has seen more limited application in West Bengal relative to states such as Gujarat, Maharashtra, and Andhra Pradesh, which have built extensive PPP pipelines in roads, ports, and urban infrastructure. Within West Bengal, PPP arrangements have been more prominent in specific sectors, including port-linked infrastructure at Haldia, select urban infrastructure projects within the Kolkata Metropolitan Area, and, more recently, prospective private investment structures associated with the Deucha-Pachami coal block development discussed in Section 4.3.

The 2026-27 state budget's emphasis on infrastructure investment, referenced in Chapter 2, alongside the newly approved Industrial Policy 2026-2030's stated focus on private investment facilitation, suggests an intention to expand the state's PPP pipeline in the years ahead, particularly in transport infrastructure discussed in Chapter 8 and in urban development discussed in Chapter 11, though the realized scale of this expansion will depend on the state's ability to address the land acquisition and project execution concerns identified by investors and analysts in Section 4.1.

4.8 Regional Cooperation: Shared Region and Growth

West Bengal's economic geography positions it as a natural hub for regional cooperation with neighboring countries and Indian states. Its shared border with Bangladesh supports significant formal and informal cross-border trade, particularly through land customs stations in North 24 Parganas and Cooch Behar districts, while its proximity to Bhutan and Nepal, together with the Siliguri corridor's role as gateway to India's northeastern states, positions the state as a logistics and trade intermediary for the wider eastern Himalayan and Bay of Bengal region, a role examined further in the discussion of regional connectivity in Chapter 8.

Cooperation with neighboring Indian states, particularly Jharkhand, Odisha, Bihar, and Assam, spans shared river basin management, discussed in Chapter 13, coordinated industrial corridor planning, and labor mobility, given the significant flow of migrant labor between West Bengal and these neighboring states in both directions. The state's participation in eastern regional development forums and its engagement with the Union government's Act East policy framework, which seeks to strengthen India's economic and strategic engagement with Southeast Asia, position West Bengal, and Kolkata's port infrastructure in particular, as a potential beneficiary of expanded India-ASEAN trade flows, an opportunity examined further in the discussion of ports and logistics in Chapter 8.

Chapter 5: Education — Access, Quality and Future Readiness

5.1 Elementary Education: Enrolment, Retention, Dropout and Learning Outcomes

West Bengal operates one of India's largest school systems by student numbers, educating nearly 7 percent of the country's total school student population through a predominantly government-managed, primary-heavy school network with near-universal basic facilities at the foundational stage (Education for All in India, 2026). Overall student enrolment across the state's school system stood at 1.70 crore in 2024-25, rising to 1.77 crore in 2025-26, according to the Unified District Information System for Education Plus report released by the Union Ministry of Education (Millennium Post, 2026). Gross Enrolment Ratio and Gender Parity Index at the elementary level remain high, and retention up to Class 8 has improved over the period from 2021-22 to 2024-25 covered in recent UDISE+ analyses (Education for All in India, 2026).

Dropout rates at the elementary level have shown marked improvement in the most recent reporting cycle. The overall dropout rate at the preparatory level, covering Classes III to V, declined to 1.4 percent in 2025-26 from 2.4 percent in 2024-25, while the middle level, covering Classes VI to VIII, saw dropout fall to 1.1 percent from 3 percent over the same period, with both levels having recorded a zero dropout rate as recently as 2023-24 (Millennium Post, 2026). A separate analysis of UDISE+ data found the primary dropout rate had fallen sharply from 8.6 percent to 1.4 percent over a slightly longer window, with transition from primary to upper primary rising to approximately 99 percent (Education for All in India, 2026).

These aggregate improvements, however, sit alongside troubling structural indicators. The number of schools with zero enrolment rose from 3,254 in 2023-24 to 3,812 in 2024-25 and further to 4,133 in 2025-26, with the number of teachers posted in these functionally empty schools rising correspondingly from 14,627 to 17,965 to 19,502 over the same three years (Millennium Post, 2026). The number of single-teacher schools also increased, from 6,482 in 2024-25 to 6,769 in 2025-26 (Millennium Post, 2026). These figures point to a persistent mismatch between the geographic distribution of school infrastructure and teaching staff on the one hand and actual student demand on the other, a mismatch with direct implications for the efficient allocation of the state's substantial education budget discussed in Section 5.8.

On foundational learning outcomes, the Annual Status of Education Report 2023 found significant gaps beneath the state's improving enrolment and retention statistics, with 79 percent of surveyed 14 to 18 year olds in Cooch Behar district unable to solve a simple division problem, a finding cited as illustrative of substantial rural-urban disparities in foundational numeracy that persist despite high nominal enrolment (ASER Centre, 2024, as cited in Education for All in India, 2026).

5.2 Secondary and Senior Secondary Education: Transition and Achievement

West Bengal's most acute educational bottleneck lies at the transition from elementary to secondary and higher secondary education. While dropout at the secondary level, covering Classes IX to XII, dropped sharply to 1.5 percent in 2025-26 from 20.3 percent in 2024-25 and 12 percent in 2023-24 according to the latest UDISE+ report (Millennium Post, 2026), other analyses drawing on a slightly different data window found secondary dropout rates exceeding 15 percent and a higher secondary Net Enrolment Ratio of just 29.1 percent, both substantially below levels recorded in more educationally advanced states such as Kerala, Tamil Nadu, and Himachal Pradesh (Education for All in India, 2026). The scale of the year-on-year swing in the officially reported secondary dropout figure between 2023-24, 2024-25, and 2025-26 itself suggests either significant volatility in underlying enrolment patterns or measurement inconsistencies across reporting cycles, a data quality concern this report notes without resolving, and one relevant to the broader discussion of statistical system strengthening in Chapter 20.

Girls' enrolment at the secondary level has remained comparatively stable in share terms even as absolute numbers have declined, with girls' enrolment falling from 8,642,983 to 8,020,394 between the periods examined in a recent UDISE+ based study, a reduction of about 622,589 students or 7.2 percent, while girls' share of total enrolment dipped only marginally from 50.4 percent to 50.2 percent over the same period (Education for All in India, 2026), indicating that the enrolment decline has affected boys and girls in roughly similar proportion rather than disproportionately displacing girls.

The Higher Secondary Examination, administered by the West Bengal Council of Higher Secondary Education across science, commerce, arts, and vocational streams, has undergone significant structural reform under the 2023 West Bengal State Education Policy, with a shift to semester-based evaluation for Class 12 board examinations beginning in 2025, dividing the academic year into two assessment segments intended to reduce examination stress and reflect continuous progress rather than a single end-of-year test, with approximately 6.6 lakh students appearing for the inaugural semester examinations in September 2025 (Grokikipedia, 2026). Beginning in 2026, the Higher Secondary examinations are to be conducted twice annually, giving students multiple opportunities to improve their scores (Grokikipedia, 2026).

5.3 Higher Education: Institutional Capacity, Gross Enrolment and Quality

West Bengal's higher education sector carries a historically significant institutional legacy, anchored by the University of Calcutta, one of India's oldest modern universities, alongside institutions such as Jadavpur University, Presidency University, and a network of engineering, medical, and general degree colleges spread across the state's districts. Despite this legacy, the state's Gross Enrolment Ratio in higher education has lagged the national average, recorded at 18.7 percent in 2017-18 compared with a national average of 25.8 percent for the same year, a gap analysts have attributed to persistent underperformance in

institutional accreditation and funding efficiency relative to the scale of the state's higher education infrastructure (Grokipedia, 2026).

A significant disruption to the state's higher education and school teacher recruitment pipeline arose from the West Bengal School Service Commission recruitment scandal, in which irregularities in the recruitment of school teaching and non-teaching staff, including allegations of cash payments for positions and manipulated merit lists, led to prolonged litigation and the eventual invalidation of 25,753 appointments made through the 2016 recruitment process (Grokipedia, 2026). The scandal and its extended legal aftermath have had material implications for staffing continuity in the state's school system and have contributed to broader public scrutiny of the transparency and integrity of the state's education recruitment institutions, a theme connected to the discussion of anti-corruption governance in Chapter 15.

5.4 Technical, Vocational Education and Training Ecosystem

Technical and vocational education in West Bengal is delivered through a network of polytechnics, industrial training institutes, and vocational streams integrated into the higher secondary curriculum under the state's implementation of national skill development frameworks. The state's vocational education ecosystem remains comparatively underdeveloped relative to the scale of its school-going population, a gap that intersects directly with the labour market quality concerns discussed in Chapter 3, where the state's workforce remains heavily concentrated in low-productivity agricultural and informal sector employment despite comparatively strong foundational literacy.

Efforts to expand vocational stream enrolment within the higher secondary curriculum, alongside skill certification partnerships between polytechnics and the state's growing MSME sector discussed in Chapter 4, represent an area of continuing policy attention, though the scale of vocational enrolment remains modest relative to the state's overall secondary and higher secondary student population.

5.5 Teacher Recruitment, Training and Professional Development

Teacher recruitment in West Bengal has been shaped in recent years by the fallout from the School Service Commission recruitment scandal described in Section 5.3, with the invalidation of thousands of appointments creating acute staffing gaps in affected schools and prompting fresh recruitment cycles conducted under heightened judicial and public scrutiny. The state's total teacher workforce across the school system stood at 5.76 lakh in 2023-24, rising marginally to 5.83 lakh in 2024-25 before declining slightly to 5.82 lakh in 2025-26 (Millennium Post, 2026), a broadly stable aggregate figure that nonetheless masks significant maldistribution, given the simultaneous rise in teachers posted to zero-enrolment and single-teacher schools noted in Section 5.1.

Enrollment in government-aided primary schools fell by 35 percent and in upper primary schools by 42 percent in the 2024-25 academic year alone, a decline analysts have linked to school closures and to politicized resource allocation decisions affecting staffing and infrastructure investment across different school categories (Groklopedia, 2026). Addressing this combination of aggregate teacher stability alongside severe local-level maldistribution and the credibility challenges left by the recruitment scandal represents a central priority for the state's teacher management system going forward, with implications for the rationalization of teacher postings discussed further in the context of administrative governance reform in Chapter 15.

5.6 Digital Education, EdTech Integration and ICT in Schools

Digital readiness within West Bengal's school system remains an area of identified weakness, particularly at the secondary and higher secondary levels, where recent UDISE+ based analyses have flagged digital infrastructure gaps as a contributing factor to the state's lower secondary participation and completion rates relative to more digitally equipped state systems (Education for All in India, 2026). The state's rollout of computer-aided learning and digital classroom infrastructure has proceeded unevenly across districts, with better-resourced urban and semi-urban schools in the Kolkata Metropolitan Area and district headquarters towns showing markedly stronger digital infrastructure than schools in the rural and plateau districts identified as developmentally lagging in Chapter 1.

The state's broader digital infrastructure environment, discussed in Chapter 16, including broadband and mobile internet penetration, forms an important precondition for expanding EdTech integration in schools, particularly given the state's large rural school-going population and the persistent staffing gaps described in Section 5.5, which digital and remote learning tools could partially mitigate if deployed at scale.

5.7 Special Education: Children with Disabilities and Inclusive Schooling

Inclusive education for children with disabilities in West Bengal is implemented through the state's compliance framework under the national Rights of Persons with Disabilities Act and the Samagra Shiksha scheme's inclusive education component, which provides for resource rooms, assistive devices, and specially trained resource teachers in mainstream schools. Coverage of these provisions remains uneven across the state's district network, with resource availability generally concentrated in urban and district headquarters schools, consistent with the broader pattern of infrastructure concentration described in Section 5.6.

The state's approach to inclusive education intersects with the broader disability rights and accessibility framework discussed in Chapter 7, and continued expansion of teacher training in inclusive pedagogy, alongside physical accessibility improvements in school infrastructure, remain identified priorities within the state's implementation of national inclusive education norms.

5.8 State-Specific Educational Challenges and Reform Priorities

West Bengal's education sector as of 2026 presents a distinctive combination of strengths and vulnerabilities. The state's foundational literacy base, discussed in Chapter 1, and its improved elementary-level retention and dropout indicators represent genuine gains, particularly the sharp declines in preparatory and middle-level dropout rates recorded in the most recent UDISE+ reporting cycle (Millennium Post, 2026). At the same time, the state faces a set of structural challenges that together constitute the core reform agenda for the sector: a persistent and, on some measures, worsening secondary and higher secondary participation bottleneck; a teacher deployment pattern increasingly mismatched with actual student presence, reflected in the rising number of zero-enrolment and single-teacher schools; foundational learning gaps that persist despite high nominal enrolment, as illustrated by the Cooch Behar numeracy findings; and the institutional credibility damage from the School Service Commission recruitment scandal, whose legal and administrative resolution continues to shape the state's teacher recruitment capacity.

The 2023 West Bengal State Education Policy's reforms to higher secondary examination structure, including the shift to semester-based evaluation and twice-yearly examinations beginning in 2026, represent one concrete institutional response to concerns about examination stress and rigidity in the state's assessment system (Grokikipedia, 2026). Whether these reforms, alongside continued UDISE+ monitoring and the state's Samagra Shiksha implementation, translate into sustained improvement in secondary completion and learning outcomes will be a central determinant of the state's progress toward the National Education Policy 2020 goal of universal school completion by 2030, a target several independent analyses have flagged as at risk given the state's current secondary and higher secondary participation trajectory (Education for All in India, 2026). This educational trajectory bears directly on the state's workforce quality and demographic dividend prospects discussed in Chapters 3 and 20.

Chapter 6: Health, Nutrition and Population

6.1 Public Health Infrastructure: Facilities, Human Resources and Gaps

West Bengal's public health system is structured as a three-tier network of primary, secondary, and tertiary care facilities under the state Department of Health and Family Welfare, serving a population exceeding 90 million people, one of the largest state health system populations in the country (Grokopedia, 2026). The primary tier consists of sub-centres and Primary Health Centres spread across the state's rural blocks, feeding into Community Health Centres and district hospitals at the secondary tier, with tertiary care concentrated in Kolkata's medical college hospitals and a smaller number of regional medical colleges established in recent decades in districts such as Malda, Murshidabad, Bankura, and North Bengal.

Despite this structure, significant infrastructure and human resource gaps persist, particularly in the state's developmentally lagging districts identified in Chapter 1. The World Bank, in approving new financing in January 2026 for a West Bengal Health System Reform Program, explicitly identified the districts of Purulia, Birbhum, Murshidabad, Malda, and Uttar Dinajpur as facing critical challenges in reproductive, maternal, and adolescent care delivery, reflecting a persistent geographic concentration of health system weakness in the state's western plateau and northern border districts (World Bank, 2026). The 286 million United States dollar West Bengal Health System Reform Program Operation approved by the World Bank's Board of Executive Directors is structured to link financing to verified outcomes while strengthening governance and climate resilience in the state's health delivery system, explicitly targeting service gaps affecting women, adolescents, and people living with non-communicable diseases (World Bank, 2026).

Human resource distribution across the state's health facilities mirrors the broader pattern of urban concentration and rural shortage observed in the education sector in Chapter 5, with specialist medical staff, diagnostic infrastructure, and blood bank facilities disproportionately concentrated in Kolkata and district headquarters towns relative to block-level and rural facilities, a pattern that continues to shape referral burdens on the state's tertiary institutions.

6.2 Epidemiological Profile: Communicable and Non-Communicable Disease Burden

West Bengal continues to carry a significant communicable disease burden alongside a rising non-communicable disease profile characteristic of states undergoing epidemiological transition. Tuberculosis notification rates remained high, with over 101,000 cases recorded in 2022, with the state's estimated incidence exceeding national averages in certain districts (Grokopedia, 2026). Malaria cases totaled approximately 102,000 in 2023, concentrated in rural belts including Purba Medinipur and Jalpaiguri, where *Plasmodium vivax* predominates, though *falciparum* strains contribute to more severe outcomes in affected pockets (Grokopedia, 2026). The state's Population, Welfare and Development Profile assessment for

2025 characterized the state's communicable disease control performance as largely on track with regional gaps, noting in particular strong control of Hepatitis B even as tuberculosis and vector-borne disease control remain areas requiring sustained attention (ResearchGate, 2025).

Non-communicable diseases show rising prevalence, particularly in urban settings, with hypertension and other lifestyle-linked conditions increasing in the Kolkata Metropolitan Area and other urbanizing districts (Grokikipedia, 2026). The state's 2025 development profile assessment characterized the non-communicable disease burden as high and rising, assessing the state as off-track on the Sustainable Development Goal target of reducing premature non-communicable disease mortality absent strengthened non-communicable disease control measures (ResearchGate, 2025), an assessment that places non-communicable disease control among the more pressing unmet priorities in the state's health system relative to its stronger performance on maternal and child health and communicable disease indicators discussed in the following sections.

6.3 Maternal and Child Health: MMR, IMR, Under-5 Mortality and Nutrition

West Bengal has recorded sustained improvement in core maternal and child health indicators over the past decade and a half. Infant mortality declined from 32 deaths per 1,000 live births in 2010-2012 to 19 per 1,000 live births in 2018-2020, according to World Bank figures cited alongside the approval of new health financing in January 2026 (World Bank, 2026), with a separate estimate placing the state's more recent infant mortality rate at around 20 per 1,000 live births, below the national average (Grokikipedia, 2026). The state's Population, Welfare and Development Profile for 2025 recorded a Neonatal Mortality Rate of 13 and an Under-5 Mortality Rate of 18 per 1,000 live births, characterizing progress on this indicator as improving but requiring further reduction to meet Sustainable Development Goal 3.2 targets on ending preventable newborn and under-5 deaths (ResearchGate, 2025).

The state's Total Fertility Rate has declined to among the lowest in the country, recorded at 1.64 births per woman as of 2019 by the World Bank (World Bank, 2026) and at 1.6 children per woman in the National Family Health Survey round 5 conducted in 2019-21, down from 1.8 in the preceding round conducted in 2015-16 (Grokikipedia, 2026), placing West Bengal's fertility rate well below the national replacement-level target and reflecting improved access to spacing methods alongside socioeconomic factors including urbanization and female education. Life expectancy at birth in the state has correspondingly risen to approximately 71.6 to 72 years, above the national average (World Bank, 2026; Grokikipedia, 2026).

Despite these gains, the Maternal Mortality Ratio remains a significant concern, recorded at 103 deaths per 100,000 live births in the 2018-2020 period by the World Bank (World Bank, 2026), and at 104 per 100,000 live births in the state's 2025 development profile, which characterized progress on Sustainable Development Goal 3.1, the reduction of maternal mortality, as having been made but with the target not yet achieved (ResearchGate, 2025). A significant driver of this persistent maternal mortality burden is the state's adolescent pregnancy rate, which at 16 percent is the second highest in India, a finding the World Bank

noted as particularly striking given that adolescent girls in the state have a comparatively high literacy rate of 89 percent, indicating that educational attainment alone has not been sufficient to reduce adolescent pregnancy risk in the state's most affected districts (World Bank, 2026). The same five districts identified in Section 6.1 as facing critical health system gaps, namely Purulia, Birbhum, Murshidabad, Malda, and Uttar Dinajpur, were specifically flagged as facing the most acute reproductive, maternal, and adolescent care challenges underlying this pattern (World Bank, 2026).

6.4 Universal Health Coverage: State Health Assurance Schemes

West Bengal's principal state-level health assurance instrument is the Swasthya Sathi scheme, launched by then Chief Minister Mamata Banerjee on December 30, 2016, which provides cashless coverage of up to 5 lakh rupees per family annually for secondary and tertiary hospitalization across public and empanelled private facilities, including coverage for pre-existing conditions (Grokikipedia, 2026). The scheme has expanded to provide financial protection for more than 1.5 crore families by 2025, representing a strategic policy choice to prioritize broad insurance-based financial protection and subsidized utilization of private hospital capacity over proportional direct capital investment in expanding state-run hospital infrastructure, an approach that has drawn some analytical scrutiny regarding its long-term implications for public health system capacity (Grokikipedia, 2026). A complementary scheme, the West Bengal Health Scheme, extends similar cashless inpatient benefits, up to 1.5 lakh rupees in empanelled facilities, specifically to state government employees and pensioners (Grokikipedia, 2026).

The state's 2025 development profile assessed progress toward Sustainable Development Goal 3.8, universal health coverage, as mixed, noting that West Bengal has achieved near-universal Swasthya Sathi coverage on paper even as high out-of-pocket expenditure persists for many households, indicating that formal insurance coverage has not yet fully translated into reduced financial burden at the point of care for all covered families (ResearchGate, 2025). This gap between nominal coverage and effective financial protection represents an important nuance for policymakers assessing the scheme's real welfare impact, distinct from its headline enrolment figures.

6.5 Mental Health Services: Availability, Access and Stigma Reduction

Mental health service availability in West Bengal remains concentrated in a small number of specialized tertiary institutions in Kolkata, including long-established psychiatric hospitals, with district-level mental health service integration proceeding through the National Mental Health Programme's district mental health component, which aims to embed basic psychiatric care within general district hospital infrastructure. As in most Indian states, the scale of specialized mental health human resources, including psychiatrists, clinical psychologists, and psychiatric social workers, remains substantially below the level required to meet the state's population needs, with availability skewed heavily toward the Kolkata Metropolitan Area.

Stigma associated with mental illness continues to constrain help-seeking behavior across the state, a challenge compounded in rural and plateau districts by limited awareness of available services and by the association of certain traditional and religious explanatory frameworks for mental illness with delayed presentation to formal health services. Strengthening district-level mental health service integration, expanding community-based outreach, and embedding mental health screening within existing maternal, adolescent, and school health programs represent identified priorities for the state's mental health system going forward.

6.6 Nutrition Programmes: ICDS, Mid-Day Meal and Poshan Abhiyan

West Bengal implements the Integrated Child Development Services scheme through its extensive network of Anganwadi centres, providing supplementary nutrition, health check-ups, and pre-school education to children under six years of age, alongside nutrition and health support for pregnant and lactating women. The state's malnutrition indicators for children aged 0 to 5 years are tracked through the national Poshan Tracker system, with data compiled from February 2023 through 2025 forming part of the state's ongoing nutrition monitoring architecture (Indiastat, 2026).

The Mid-Day Meal scheme, renamed the PM Poshan scheme at the national level, continues to provide cooked meals to children in government and government-aided schools across the state, functioning both as a nutrition intervention and, historically, as an enrolment and attendance incentive, particularly in the state's poorer rural districts. The Poshan Abhiyan, India's flagship nutrition mission, has been implemented in the state alongside these longer-standing programmes, with convergence efforts aimed at improving the tracking and targeting of severely and moderately malnourished children identified through Anganwadi-level growth monitoring.

6.7 Population Stabilisation and Family Planning

West Bengal's demographic transition, discussed in Chapter 1, is closely tied to its family planning and population stabilization performance. The state's Total Fertility Rate of 1.6 to 1.64 births per woman, among the lowest of any major Indian state, reflects sustained improvements in access to spacing and permanent contraceptive methods, alongside socioeconomic drivers including rising female literacy and urbanization discussed in Section 6.3 (Grokikipedia, 2026; World Bank, 2026). This fertility decline has occurred alongside continued state implementation of the National Population Policy 2000's emphasis on voluntary contraception to meet unmet family planning needs, rather than through coercive population control measures (Grokikipedia, 2026).

The state's below-replacement fertility rate carries important implications for its long-term population age structure, discussed further in Chapter 20's treatment of the demographic dividend, since a fertility rate already below replacement level suggests the state's working-age population bulge, currently a potential economic asset, will begin to contract in relative terms over the coming decades, a trajectory that has implications for long-term

planning around old-age care and pension system sustainability, discussed in the context of elderly welfare in Chapter 7.

6.8 Health System Strengthening and Future Preparedness

West Bengal's health system faces a distinctive set of future preparedness challenges shaped by the combination of a rapidly aging population profile in prospect, a rising non-communicable disease burden, persistent maternal and adolescent health gaps concentrated in specific western and northern border districts, and a public health financing model that has prioritized insurance-based coverage over direct capital expansion of public facilities. The World Bank-financed West Bengal Health System Reform Program, approved in January 2026, is explicitly structured around linking financing to verified outcomes and strengthening both governance and climate resilience within the health system, reflecting an emerging recognition that the state's health system must also prepare for the health impacts of climate-related disaster events, discussed further in Chapter 14, given the state's cyclone and flood exposure described in Chapter 1 (World Bank, 2026).

Priorities for health system strengthening going forward include closing the persistent district-level gaps in reproductive, maternal, and adolescent care identified in Purulia, Birbhum, Murshidabad, Malda, and Uttar Dinajpur; expanding non-communicable disease screening and management capacity at the primary care level; strengthening the financial protection delivered under Swasthya Sathi so that nominal coverage translates more consistently into reduced out-of-pocket expenditure; and continuing the tuberculosis, malaria, and vector-borne disease control programmes that have kept the state largely, if unevenly, on track against national communicable disease elimination targets.

Chapter 7: Social Justice, Inclusion and Community Welfare

7.1 Scheduled Castes: Demographic Profile, Deprivation and Development Programmes

Scheduled Castes constitute the single largest social category recognized for constitutional protection in West Bengal, numbering approximately 21.4 million persons as per the 2011 Census, equivalent to around 23.6 percent of the state's total population, one of the highest Scheduled Caste population shares among major Indian states (Wikipedia, 2026, citing Census of India 2011). The state recognizes 60 distinct Scheduled Castes, with the Namasudra community forming the largest single group at approximately 16.3 percent of the total Scheduled Caste population, followed by the Rajbanshi at approximately 17.7 percent and the Bagdi and Duley communities together at approximately 14.2 percent (Wikipedia, 2026).

Scheduled Caste population concentration varies considerably by district, with Cooch Behar district recording the highest Scheduled Caste share at 50.10 percent of its district population, followed by Jalpaiguri at 37.65 percent, while Murshidabad, a district with a large Muslim population share discussed in Chapter 1, records a comparatively lower Scheduled Caste share of 12.63 percent (Wikipedia, 2026). This district-level variation has direct implications for the geographic targeting of Scheduled Caste welfare programmes, including the Special Central Assistance to the Scheduled Caste Sub Plan, whose funds released and utilized in the state are tracked on an annual basis from 2021-22 through 2025-26 (Indiastat, 2026), and the Pradhan Mantri Anusuchit Jaati Abhyuday Yojana, a centrally sponsored scheme for Scheduled Caste development that operates alongside state-level schemes targeting the same population.

Historically, West Bengal's Scheduled Caste population has been closely associated with the state's land reform programme, Operation Barga, referenced in Chapter 3, which conferred tenurial rights on sharecroppers, a population that included a disproportionate share of Scheduled Caste and landless agricultural households. This history has shaped the state's subsequent approach to Scheduled Caste welfare, which has emphasized land and tenurial security alongside more recent instruments of direct income and educational support.

7.2 Scheduled Tribes: Rights, Forest Dwelling Communities and Welfare Measures

West Bengal's Scheduled Tribe population was recorded at 5,296,963 persons as per the 2011 Census, equivalent to approximately 5.8 percent of the state's total population, and constituting around 5.08 percent of the country's total Scheduled Tribe population (Department of Backward Classes Welfare, Government of West Bengal, 2026). Tribal communities are present across all districts of the state but show higher concentration in Darjeeling, Jalpaiguri, Alipurduar, Dakshin Dinajpur, Paschim Medinipur, Bankura, and Purulia (Department of Backward Classes Welfare, Government of West Bengal, 2026), a

geographic pattern that overlaps substantially with the developmentally lagging districts identified in Chapter 1, particularly the western plateau belt of Purulia and Bankura.

The Santal community represents the largest Scheduled Tribe grouping in the state, concentrated in the western plateau districts, alongside smaller populations of Munda, Oraon, Bhumij, and, in the Darjeeling hills, Bhutia and related Himalayan tribal communities recorded with notably higher literacy rates than the state's plains-based tribal populations (Wikipedia, 2026). National-level assessments have recorded India's overall tribal literacy rate at approximately 58.96 percent as of the 2011 Census (ResearchGate, 2024), a figure against which West Bengal's own tribal sub-populations show considerable internal variation, from the comparatively high literacy of Himalayan communities to lower literacy among plains and plateau tribal groups in districts such as Purulia.

Welfare delivery for Scheduled Tribes in the state operates through the Tribal Sub-Plan mechanism, tracked for fund allocation and expenditure from 2022-23 through 2024-25 (Indiastat, 2026), alongside newer central missions including the Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan and the Dharti Aaba Janjatiya Gram Utkarsh Abhiyan, both aimed at saturating tribal-majority villages with basic infrastructure and welfare scheme coverage. Analyses of tribal education in Purulia district have noted a marked recent improvement in women's education and labour force participation among the district's tribal population, attributed in part to state schemes including Kanyashree Prakalpa, discussed further in Section 7.4, alongside the Sabuj Sathi bicycle distribution scheme and the Mid-Day Meal programme, even as overall attainment levels remain below state averages, with self-help groups engaged in sericulture identified as a promising avenue for further economic empowerment of tribal women in the district (ResearchGate, 2024).

7.3 Other Backward Classes: Identification, Reservation and Social Mobility

West Bengal maintains a state list of Other Backward Classes eligible for reservation in state government employment and educational institutions, administered by the state's Backward Classes Welfare Department, alongside the central Other Backward Classes list applicable to central government institutions and centrally funded educational seats. The state's Other Backward Classes reservation policy has, in the past decade, been the subject of significant legal scrutiny, including litigation concerning the process by which certain caste groups, including sections of the state's Muslim population, were included in the Other Backward Classes list, with courts examining whether such inclusions met constitutional standards for backward class identification distinct from religious classification.

Social mobility outcomes for Other Backward Classes in the state are shaped by the same broader patterns of education and labour market access discussed in Chapters 3 and 5, with reservation in government employment and higher education admission functioning as the primary institutional mechanism for improving representation, though private sector employment, which increasingly dominates the state's formal job market given the

contraction of public sector recruitment discussed in Chapter 4, remains largely outside the scope of reservation policy.

7.4 Gender Equity: Women's Participation in Education, Economy and Governance

West Bengal's approach to gender equity has been shaped substantially by the Kanyashree Prakalpa scheme, a conditional cash transfer programme launched by the Department of Women Development and Social Welfare to improve the education, health, and nutrition status of adolescent girls, targeting the state's adolescent population of 1.73 crore persons aged 10 to 19 years, of whom 48.11 percent are girls (Government of West Bengal, Kanyashree Prakalpa, 2026). The scheme was designed in direct response to documented vulnerabilities among adolescent girls in the state, including a finding from the District Level Household Survey round 3, conducted in 2007-08, that West Bengal recorded the fifth highest prevalence of child marriage among all Indian states, with 54.7 percent of currently married women aged 20 to 24 having been married before the age of 18 at that time (Government of West Bengal, Kanyashree Prakalpa, 2026). According to the 2011 Census, 7.8 percent of females in West Bengal were married before age 18, compared with an all-India average of 3.7 percent, with West Bengal and Bihar together accounting for more than 40 percent of female children married before 18 nationally (Academia.edu, 2025, citing UNICEF).

Assessments of Kanyashree Prakalpa's impact have found evidence of shifting aspirations among beneficiaries, with 92.55 percent of surveyed beneficiaries in one study reporting a preference for prioritizing employment over marriage, and only 22.34 percent reporting having used scheme funds for non-academic purposes, suggesting reasonably strong adherence to the programme's intended educational objectives (Academia.edu, 2025). At the postgraduate level, female enrolment share rose from a range of 43.94 to 53.85 percent prior to the scheme's implementation to as high as 59.04 percent by 2019-2020, a shift studies have associated, at least in part, with the scheme's influence on girls' educational persistence (ResearchGate, 2024).

Despite these gains in educational participation, the female literacy rate in the state, at 65.46 percent as per the 2011 Census compared with a male literacy rate exceeding 80 percent, continued to reflect a substantial gender gap (ResearchGate, 2024), a gap consistent with the figures discussed in Chapter 1. Women's labour force participation, discussed in Chapter 3, remains below the national average, and women's representation in elected governance structures, particularly Panchayati Raj institutions discussed in Chapter 12, operates under the constitutionally mandated one-third reservation for women in local body seats, a floor that has expanded women's formal presence in local governance even as substantive decision-making influence in many instances continues to be contested terrain.

7.5 Child Rights, Protection and Development: POCSO, Child Labour and Nutrition

Child protection architecture in West Bengal operates under the national Protection of Children from Sexual Offences Act framework, implemented through District Child Protection Units and Child Welfare Committees constituted in each district, alongside the state's own child rights commission mechanisms. The persistence of child marriage, discussed in Section 7.4, represents one of the most significant child rights concerns in the state, intersecting directly with the adolescent pregnancy burden and maternal health risks discussed in Chapter 6, given the well-documented association between early marriage and early childbearing.

Child labour, though prohibited under national law for hazardous occupations and restricted more broadly for children below the minimum working age, persists in pockets of the state's informal economy discussed in Chapter 3, including in home-based beedi rolling, small workshop apprenticeship arrangements, and agricultural labour in the state's poorer rural districts. Nutrition programmes targeting children, including the Integrated Child Development Services and Mid-Day Meal schemes discussed in Chapter 6, function as the primary state instruments for addressing child nutritional deprivation, with the Sabuj Sathi bicycle scheme, referenced in Section 7.2, functioning as a complementary instrument supporting school attendance and reducing the effective distance barrier to secondary schooling in rural areas.

7.6 Welfare of Elderly Persons: Pension, Care Infrastructure and Policy

West Bengal's elderly welfare architecture includes the state's own old age pension scheme alongside the central Indira Gandhi National Old Age Pension Scheme, both providing modest monthly cash transfers to eligible elderly persons below the poverty line. As the state's demographic transition, discussed in Chapter 6, continues to advance, with a Total Fertility Rate already below replacement level, the relative and absolute size of the state's elderly population is projected to grow significantly in the coming decades, an implication of the same demographic trends that currently favor the state's working-age population share, discussed further in the demographic dividend analysis in Chapter 20.

Institutional care infrastructure for the elderly, including old age homes and geriatric care wards within the state's hospital network, remains limited relative to the scale of the state's aging population in prospect, with the large majority of elder care continuing to be provided informally within family structures, a pattern common across India but one that carries particular urgency in West Bengal given the state's comparatively advanced position in the demographic transition relative to many other Indian states.

7.7 Persons with Disabilities: Rights, Accessibility and Empowerment

West Bengal implements the national Rights of Persons with Disabilities Act, 2016, through its State Commissioner for Persons with Disabilities and District Disability Rehabilitation Centres, providing disability certification, assistive devices, and access to reserved employment and educational seats. Accessibility infrastructure, including ramps, accessible public transport, and accessible digital government services, remains unevenly implemented across the state's public buildings and transport systems, with the Kolkata Metropolitan Area showing comparatively better, though still incomplete, accessibility infrastructure relative to smaller towns and rural areas.

The state's approach to disability-inclusive education, discussed in Chapter 5, and disability-inclusive livelihood programmes, including reserved positions within Self Help Groups and targeted skill training under national disability employment schemes, forms part of a broader, still-developing framework for disability empowerment that intersects with the state's social security architecture discussed in Section 7.9.

7.8 Minority Communities: Development, Representation and Welfare

West Bengal's Muslim population, at 27.01 percent of the state's total population as per the 2011 Census, discussed in Chapter 1, constitutes the state's largest religious minority and the second largest Muslim population share of any major Indian state. Minority welfare programming in the state operates through the Minorities Affairs Department, which administers scholarship schemes, skill development initiatives, and infrastructure development programmes targeted at minority-concentration areas, alongside central government schemes for minority welfare including pre-matric and post-matric scholarships and the Maulana Azad National Fellowship for minority students pursuing higher education.

Minority-concentration districts, including Murshidabad, Malda, and Uttar Dinajpur, overlap substantially with the developmentally lagging districts identified in Chapter 1 and the districts flagged for critical health system gaps in Chapter 6, indicating that minority welfare policy in the state cannot be meaningfully separated from the broader agenda of addressing intra-state regional disparity discussed throughout this report. Christian, Sikh, Jain, and Buddhist minority communities, though numerically much smaller, are also covered under the state's minority welfare framework, with targeted support extended through the same institutional channels.

7.9 Social Security and Beneficiary-Linked Welfare Architecture

West Bengal has developed an extensive beneficiary-linked welfare architecture spanning multiple social categories discussed in this chapter, including Kanyashree Prakalpa for adolescent girls, Swasthya Sathi for health coverage discussed in Chapter 6, old age pensions discussed in Section 7.6, and a range of scholarship and direct benefit transfer schemes targeting Scheduled Castes, Scheduled Tribes, Other Backward Classes, and minority

communities. This architecture reflects a broader state policy orientation toward direct beneficiary transfers as the primary instrument of social protection, an orientation consistent with the state's health financing approach discussed in Chapter 6 and one that has drawn both public support for its breadth of coverage and analytical scrutiny regarding its fiscal sustainability, discussed in the context of the state's overall expenditure profile in Chapter 2.

Integration of these various scheme databases into a unified beneficiary registry, enabling more efficient targeting, de-duplication, and last-mile delivery verification, represents an ongoing administrative priority for the state, one connected to the broader digital governance and data infrastructure discussed in Chapter 16, and one whose successful execution will significantly influence the efficiency with which the substantial welfare expenditure documented throughout this chapter translates into measurable improvement in the social justice and inclusion outcomes it is intended to achieve.

Chapter 8: Transport and Connectivity Infrastructure

8.1 Road Network: National Highways, State Highways and Rural Roads

West Bengal is served by a road network of approximately 92,023 kilometers, of which National Highways account for approximately 2,578 kilometers and State Highways for approximately 2,393 kilometers (West Bengal PCS Notes, 2025). The state's overall road density, at 1.04 kilometers per square kilometer, is considerably higher than the national average of 0.75 kilometers per square kilometer (West Bengal PCS Notes, 2025), a reflection of the state's high population density and its correspondingly dense settlement pattern discussed in Chapter 1. The state's vehicle population has been growing at over 11 percent per annum in recent years, placing continued pressure on this road network and motivating an ongoing programme of infrastructure renewal and expansion (West Bengal PCS Notes, 2025).

Major National Highway corridors within the state include NH-6, connecting the state to Odisha, Jharkhand, and Maharashtra through Kharagpur, Bankura, Purulia, and Durgapur; NH-2, the historic Grand Trunk Road corridor connecting Kolkata to Delhi through Burdwan; NH-34, connecting Kolkata to North Bengal; and NH-35, connecting Barasat to the Petrapole land border crossing with Bangladesh (Testbook, 2025; West Bengal PCS Notes, 2025). Petrapole, discussed further in the regional cooperation context of Chapter 4, functions as India's largest land port with Bangladesh, and the volume of cross-border freight movement through this crossing places sustained pressure on NH-35 and its approach roads, making continued capacity expansion along this corridor a priority distinct from, but related to, the state's broader highway modernization agenda. Four-laning projects on NH-41, connecting Kolaghat to the port city of Haldia, and on stretches of NH-31 through North Bengal, have formed part of the state's highway upgrade programme (West Bengal PCS Notes, 2025).

The state's most significant prospective road infrastructure project is the proposed Raxaul-Haldia Greenfield Expressway, an approximately 695 kilometer, four-lane expressway corridor estimated to cost around 54,000 crore rupees, for which a Detailed Project Report was under preparation as of 2025, with construction targeted to begin the same year (InfraInfoHub, 2025). The expressway is projected to reduce the travel corridor length between Siliguri and Kolkata from the current circuitous route of approximately 560 kilometers to a more direct 675 kilometer four-lane corridor, cutting travel time between the two cities from the current 15 to 18 hours to approximately 7 hours (InfraInfoHub, 2025), a change with substantial implications for the connectivity of North Bengal, discussed further in the context of regional cooperation in Chapter 4, to the state's economic core around Kolkata. Beyond passenger travel time, this corridor would substantially improve freight movement economics for North Bengal's tea, timber, and agricultural produce, discussed in Chapters 3 and 18, currently constrained by the existing corridor's length and its shared use with dense local traffic through numerous towns along the current route.

Rural road connectivity, delivered primarily through the Pradhan Mantri Gram Sadak Yojana in partnership with the state's own Pathashree scheme, discussed in Chapter 2, continues to

expand last-mile connectivity to the state's rural habitations, an effort of particular significance in the developmentally lagging districts identified in Chapter 1, where poor road connectivity has historically constrained access to markets, health facilities, and schools. As discussed in Chapter 12, the sheer number of the state's rural habitations, exceeding 41,000 villages, presents a structurally larger last-mile connectivity task than in states with fewer, larger villages, a pattern that recurs across nearly every rural infrastructure sector examined in this report, from roads here to water supply in Chapter 10 and electrification in Chapter 9.

8.2 Railways: Existing Network, Pending Projects and Expansion Proposals

West Bengal occupies a central position in the eastern Indian rail network, with Howrah and Sealdah stations in Kolkata serving as major terminals for both the Eastern Railway and South Eastern Railway zones. Howrah station in particular, one of the oldest and busiest railway stations in India, functions as a critical node connecting the state, and by extension the wider eastern and northeastern Indian region, to the national rail network, with daily passenger volumes among the highest of any Indian railway station.

The state government has, in recent years, publicly championed a proposed high speed rail corridor between Howrah, the historic gateway to Kolkata, and New Jalpaiguri, the principal railhead serving North Bengal and the eastern Himalayan region, with policy discussions and pre-feasibility work increasingly focused on this corridor as part of a wider ecosystem of rail modernization within the state (The Traveler, 2026). Such a corridor, if realized, would complement the road-based Raxaul-Haldia Expressway discussed in Section 8.1 in dramatically compressing the effective travel time between the state's economic core and its northern hill and Dooars region, a connectivity improvement with implications extending beyond passenger convenience into the tourism sector discussed in Chapter 19, given Darjeeling and the northern hill circuit's dependence on onward road and rail connectivity from New Jalpaiguri.

The Union government has continued to invest in the state's conventional rail infrastructure, including the redevelopment of stations under the Amrit Bharat Station Scheme, with six stations, including Kamakhya, Anara, Tamluk, Haldia, Barabhum, and Siuri, inaugurated in redeveloped form by the Prime Minister in March 2026 as part of a broader package of development projects worth 18,680 crore rupees in Kolkata (News on Air, 2026). This station redevelopment programme, spanning stations across the state's northern, southern, and western districts rather than concentrating solely on the Kolkata Metropolitan Area, reflects a broader national approach to distributing rail infrastructure investment across smaller towns rather than exclusively prioritizing major metropolitan terminals, an approach with potential benefit for the developmentally lagging districts identified in Chapter 1, several of which, including Birbhum where Siuri is located, are served by these upgraded stations. New rail connectivity, including the flagging off of the Purulia-Anand Vihar Terminal Express linking West Bengal directly with the national capital region via Uttar Pradesh, Bihar, and Jharkhand, reflects continued expansion of the state's long-distance passenger rail connectivity (News on Air, 2026), a development of particular significance for Purulia given its recurring

identification throughout this report as one of the state's most developmentally lagging districts, since improved long-distance rail connectivity can support both outbound labour migration, discussed in Chapter 20, and inbound tourism, discussed in Chapter 19.

8.3 Aviation: Airport Infrastructure and Air Connectivity

Netaji Subhas Chandra Bose International Airport in Kolkata serves as the state's principal aviation gateway, with a current annual passenger handling capacity of approximately 26 million passengers built on approximately 2.3 lakh square meters of terminal area (InfraInfoHub, 2025). As the primary international gateway for eastern India, the airport's route network extends beyond domestic connectivity to international destinations across South and Southeast Asia and the Middle East, reflecting the city's historical role as a regional aviation hub predating the more recent rise of competing gateway airports in other Indian metropolitan areas.

An expansion project, expected to cost approximately 130 crore rupees, is planned to extend both the domestic and international terminal buildings, raising the airport's capacity to accommodate approximately 28 million passengers annually, adding capacity for around 2 million additional passengers (InfraInfoHub, 2025), with the expansion timed in part to accommodate the resumption of international flight operations following the disruption of the COVID-19 pandemic period. This capacity expansion, while comparatively modest relative to the scale of terminal expansion undertaken at some competing Indian gateway airports in recent years, reflects the more constrained land availability around the existing airport site within the dense Kolkata Metropolitan Area, discussed in Chapter 11, relative to greenfield airport expansion possibilities available to some other Indian cities.

Beyond Kolkata, the state's aviation network includes Bagdogra Airport near Siliguri, serving North Bengal and functioning as a key gateway for the Darjeeling hill region and onward connectivity toward Sikkim and the northeastern states, alongside smaller airports and airstrips at Andal near Durgapur and a long-discussed proposal for a greenfield airport to serve the Purulia and western plateau region, reflecting continuing efforts to extend air connectivity beyond the Kolkata Metropolitan Area into the state's less-connected interior districts. Bagdogra's dual role, serving both civilian air traffic and functioning as an Indian Air Force base given its strategic proximity to the Siliguri corridor discussed in Chapters 3 and 4, adds a further layer of significance to this airport beyond its civilian tourism and regional connectivity function, connecting the state's aviation infrastructure discussion to the broader internal security considerations discussed in Chapter 15.

8.4 Ports, Inland Waterways and Logistics Hubs

The Kolkata Port Trust, renamed Syama Prasad Mookerjee Port, manages both the Kolkata Dock System and the Haldia Dock Complex, together forming the state's principal maritime gateway (West Bengal PCS Notes, 2025). Kolkata retains the distinction among Indian cities of operating passenger shipping services to Port Blair in the Andaman and Nicobar Islands,

alongside cargo shipping services to other Indian and international ports operated by the Shipping Corporation of India (West Bengal PCS Notes, 2025). As one of India's oldest operating ports, the Kolkata Dock System faces particular navigational challenges from the Hooghly river's shifting sandbars and seasonal siltation, requiring continuous dredging maintenance to preserve navigable channel depth for larger vessels, a maintenance burden distinct from the more straightforward deep-water access enjoyed by some of India's more recently developed major ports.

Recent infrastructure investment at the port complex, announced alongside other development projects inaugurated by the Prime Minister in March 2026, includes renovation of the Bascule Bridge at the Kolkata Dock System, yard development and drainage improvements at Kidderpore Dock, bank protection works along the Kolkata riverfront between the Howrah Bridge and Nimtala Ghat, and construction of a river cruise terminal and river tourism facility near the Indenture Memorial complex at the Kolkata Dock System, reflecting a dual emphasis on cargo handling modernization and the development of river-based tourism (News on Air, 2026). The Haldia Dock Complex is undergoing mechanization intended to accelerate cargo operations and expand capacity, a modernization effort explicitly linked by Union government officials to strengthening the port's role as a center of eastern Indian trade (News on Air, 2026), with Haldia's deeper draft and more modern facilities, relative to the constrained and heavily silted Kolkata Dock System discussed above, positioning it as the complex's primary growth engine for larger vessel cargo handling going forward.

Inland waterway transport remains a significant mode in the state's southern deltaic region, with ferry services functioning as a principal mode of transport in the Sundarbans area, where road connectivity is constrained by the region's riverine geography described in Chapter 1 (West Bengal PCS Notes, 2025). For many Sundarbans settlements, discussed in the context of both fisheries livelihoods in Chapter 18 and climate vulnerability in Chapter 14, waterway transport is not merely a convenient alternative to road transport but the primary or sole means of access to markets, health facilities, and schools, making the reliability and safety standards of the region's ferry services a matter of basic connectivity rather than supplementary transport choice. The Sagarmala Project, the Union government's national port-led development programme, has supported improved connectivity between the state's ports and the National Highway network, facilitating more efficient movement of goods between Kolkata, Haldia, and their respective hinterlands (Testbook, 2025).

8.5 Urban Mass Transit: Metro, Bus Rapid Transit and Integrated Mobility

The Kolkata Metro, India's oldest metro system, having begun operations in 1984, has undergone substantial recent expansion, transitioning from a single north-south corridor, the Blue Line, into a multi-corridor network. As of mid-2026, the system comprised five operational lines, the Blue, Green, Purple, Orange, and Yellow corridors, collectively spanning over 70 kilometers, officially recorded at 73.42 kilometers of operational track, and serving close to 60 stations, officially recorded at 58 operational stations, with a further 22

stations under construction and 44 additional stations proposed or approved, bringing the system's total planned scale to 124 stations and 138.82 kilometers (Wikipedia, 2026; The Traveler, 2026). Daily ridership on the system reached 597,260 passengers in 2024-25, with annual ridership of approximately 218.1 million passengers over the same period (Wikipedia, 2026).

Among the system's newer corridors, the Green Line's under-river tunnel section beneath the Hooghly, connecting Howrah to Kolkata proper, represented a particularly significant engineering achievement, being India's first underwater metro tunnel, and its completion has meaningfully improved cross-river connectivity that had previously depended almost entirely on the Howrah Bridge and a limited number of other road crossings discussed in the context of urban transport pressure in Chapter 11.

The state government has articulated an ambition for the Kolkata Metro network to reach approximately 100 kilometers in length within the following few years, incorporating completion of Phase 1 of the Joka to Esplanade corridor and the New Garia to Kolkata Airport corridor (InfraInfoHub, 2025). This planned expansion, once complete, would extend metro connectivity to the airport discussed in Section 8.3, closing an important gap in the city's integrated multimodal transport network by allowing air travelers direct rail-based access to the city center without dependence on road-based transport alone. Beyond the metro system, Kolkata retains the distinction of being the only city in India where trams remain in operation, run by the Calcutta Tramways Company, a historic transit mode that continues to serve select routes within the city even as its overall network has contracted considerably from its mid-twentieth century extent (West Bengal PCS Notes, 2025), a heritage transit asset that, alongside the Darjeeling Himalayan Railway discussed in Chapter 19, represents one of the state's several living transport heritage assets that combine ongoing operational function with historical and tourism significance.

8.6 Multimodal Logistics: Last-Mile Connectivity and Freight Corridors

West Bengal's multimodal logistics architecture centers on the integration of its port, rail, and road infrastructure around the Kolkata-Haldia industrial and logistics corridor discussed in Chapter 4, with dedicated freight linkages connecting the Haldia Industrial Park to the National Highway network via NH-41 and to the broad-gauge line of the South Eastern Railway (WBIDC, 2026). The prospective Varanasi-Ranchi-Kolkata Expressway, designated NH-319B and expected to become operational around 2027, will further extend the state's connectivity westward, linking Kolkata through Diamond Harbour, Haldia, Panskura, and the western plateau districts of Bankura and Purulia to Ranchi, Bokaro, and onward to Varanasi in Uttar Pradesh, a corridor spanning 710 kilometers in total (Wikipedia, 2026).

This westward expressway corridor, running through Bankura and Purulia, holds particular significance for the western plateau districts, since improved freight connectivity along this route could support both the export of the region's mineral and agricultural output, discussed in Chapters 3, 4, and 18, and, in the reverse direction, reduce the input cost and delivery time

for goods and services flowing into these developmentally lagging districts, potentially easing some of the market access constraints that have historically compounded these districts' broader development challenges documented throughout this report.

The cumulative effect of these road, rail, port, and metro investments, taken together with the proposed Howrah-New Jalpaiguri high speed rail corridor and the Raxaul-Haldia Expressway discussed in Sections 8.1 and 8.2, is intended to address the persistent last-mile and inter-regional connectivity gaps that have historically constrained the state's ability to fully integrate its industrial belt, its northern hill and tea economy, and its southern port and delta region into a single, efficient logistics network, a goal directly relevant to the state's broader investment climate objectives discussed in Chapter 4 and its growth corridor development discussed in Chapter 3. Whether this considerable pipeline of announced and under-construction infrastructure is delivered on schedule and to the standard envisioned will be an important test, alongside the industrial policy and investment climate reforms discussed in Chapter 4, of the state's broader capacity to translate ambitious planning into realized, functioning infrastructure.

Chapter 9: Energy, Power and Renewable Transition

9.1 Power Generation: Installed Capacity, Mix and Dependence Profile

As of August 2025, West Bengal had a total installed power generation capacity of 10,730.62 MW, distributed across state utilities at 5,917.95 MW, private sector generators at 2,821.93 MW, and central utilities at 1,990.74 MW (India Brand Equity Foundation, 2025). By source, thermal power dominated the state's generation mix at 8,476.34 MW, followed by hydropower at 1,483.30 MW and renewable power at 770.98 MW (India Brand Equity Foundation, 2025), confirming the state's continued heavy dependence on coal-fired thermal generation, consistent with its historical coal mining base in the western districts discussed in Chapter 3.

This generation mix reflects both the legacy of the state's coal endowment and the comparatively modest scale of its renewable energy build-out relative to states such as Gujarat, Tamil Nadu, and Rajasthan that have developed much larger utility-scale solar and wind portfolios. Thermal generation in the state is concentrated in large plants operated by the West Bengal Power Development Corporation Limited, alongside central sector generation stations of NTPC Limited located within the state and private generation capacity linked to industrial captive power arrangements in the Durgapur-Asansol belt discussed in Chapter 4. Hydropower generation, at 1,483.30 MW, draws primarily on the state's northern hill rivers descending from Darjeeling and Kalimpong, discussed in Chapter 1, alongside smaller reservoir-based generation linked to the Damodar Valley Corporation's multipurpose dam system in the western districts, which combines power generation with irrigation and flood control functions relevant to the water resource discussion in Chapter 10.

The state's continued reliance on thermal generation also has direct implications for its long-term emissions trajectory and its exposure to national and international policy shifts affecting coal-fired power, a consideration examined further in the discussion of the green economy transition in Chapter 14. Unlike states such as Rajasthan and Gujarat, whose renewable resource base and land availability have supported rapid utility-scale solar expansion, West Bengal's generation mix evolution has been shaped more by its existing coal endowment and its comparatively limited land availability for utility-scale renewable projects, given the state's high population density discussed in Chapter 1, a structural constraint that has pushed the state's renewable energy strategy toward rooftop and distributed generation models, discussed further in Section 9.5, rather than large utility-scale solar parks of the kind seen in more sparsely populated western Indian states.

9.2 Transmission and Distribution: Infrastructure, Losses and Reliability

Power distribution in West Bengal is carried out primarily through the West Bengal State Electricity Distribution Company Limited, commonly known as WBSEDCL, which serves the bulk of the state's rural and semi-urban consumer base, alongside CESC Limited, which holds the distribution license for Kolkata and its immediate metropolitan area, and the Damodar Valley Corporation and India Power Corporation Limited, which serve specific industrial and regional pockets of the state (Mercom India, 2025). Current retail electricity

tariffs illustrate the differentiated cost structures across these distribution licensees, with WBSEDCL charging approximately 5.00 rupees per kilowatt-hour for consumption up to 100 units and 7.69 rupees per kilowatt-hour above that threshold, while CESC charges approximately 5.08 rupees per kilowatt-hour up to 100 units and 9.26 rupees per kilowatt-hour above that threshold (Synergy Solar Suppliers, 2025).

This four-licensee distribution structure, unusual in its multiplicity relative to many other Indian states where a single state distribution utility typically serves the entire state territory, reflects West Bengal's particular history of licensed private distribution in Kolkata predating independence, a legacy CESC's continued operation preserves. Coordinating tariff policy, quality of supply standards, and Renewable Purchase Obligation compliance, discussed in Section 9.5, across these four distinct licensees represents a distinctive regulatory coordination task for the West Bengal Electricity Regulatory Commission relative to states with a single, unified distribution utility structure.

Transmission and distribution losses, a persistent challenge across most Indian state power utilities, continue to affect the financial health of the state's distribution companies, with loss reduction efforts forming part of the broader public sector undertaking reform agenda discussed in Chapter 4. Aggregate technical and commercial losses, encompassing both technical transmission losses and commercial losses from billing inefficiencies, theft, and non-payment, directly affect the working capital and capital expenditure financing capacity of WBSEDCL in particular, given its predominantly rural and semi-urban consumer base, where per-consumer revenue realization tends to be lower and enforcement against unauthorized connections more administratively demanding than in the dense, largely metered urban consumer base served by CESC.

Reliability of supply varies across the state, with the Kolkata Metropolitan Area generally experiencing more stable supply than rural and plateau districts, where distribution infrastructure investment has historically lagged demand growth, an issue connected to the broader rural infrastructure discussion in Chapter 12. Seasonal reliability challenges are also notable, with the state's high monsoon rainfall and periodic cyclonic activity, discussed in Chapter 14, creating recurring vulnerability to overhead distribution line damage, particularly in the coastal and Sundarbans districts, where restoring power supply after major cyclone events such as Amphan in 2020 has historically required weeks of intensive repair work across extensive stretches of damaged low-voltage distribution infrastructure.

9.3 Rural and Household Electrification: Coverage and Quality

West Bengal has achieved near-universal household electrification in nominal terms, consistent with the national Saubhagya scheme's stated goal of universal household electrification, though quality of supply, in terms of consistency of voltage and frequency of outages, continues to show a marked urban-rural divide. Rural electrification quality is closely tied to the state of distribution infrastructure discussed in Section 9.2, with the western plateau and northern border districts identified as developmentally lagging in

Chapter 1 generally experiencing lower supply reliability than the Kolkata Metropolitan Area and the industrial belt around Durgapur and Asansol.

Agricultural feeder management represents a specific and important dimension of rural electrification quality, since irrigation pumping, discussed in Chapter 18, depends on adequate and predictably scheduled agricultural feeder supply, particularly in districts where groundwater-based minor irrigation forms a significant share of the irrigated area. Feeder segregation, separating agricultural load from domestic and commercial rural load onto distinct distribution feeders, allows more targeted and cost-reflective tariff design for agricultural consumption while protecting domestic rural consumers from the supply restrictions sometimes necessary to manage peak agricultural pumping demand, and continued investment in this feeder segregation infrastructure remains an identified priority for the state's rural distribution network.

Continued investment in rural feeder segregation, agricultural feeder management, and last-mile distribution infrastructure upgrades remains necessary to close the gap between nominal electrification coverage and the actual quality and reliability of power experienced by rural households and small enterprises, an issue with direct bearing on the rural non-farm economy discussed in Chapter 3, since unreliable power supply constrains the viability of small-scale rural manufacturing, cold storage, and food processing enterprises that might otherwise support rural livelihood diversification beyond agriculture.

9.4 Renewable Energy Potential: Solar, Wind, Hydro and Biomass

West Bengal's renewable energy potential is led by solar, given the state's generally favorable solar irradiance across its southern and central plains, alongside biomass potential linked to its substantial agricultural residue base from rice and jute cultivation discussed in Chapter 3, and smaller hydro potential concentrated in the northern hill districts of Darjeeling and Kalimpong, where the state's rivers descend from the Himalayan foothills. Wind energy potential in the state is comparatively modest relative to India's leading wind states such as Gujarat and Tamil Nadu, given the state's terrain and wind resource characteristics, meaning the state's renewable energy strategy has appropriately concentrated on solar and biomass rather than attempting to replicate a wind-led model unsuited to its resource endowment.

Biomass potential deserves particular note given the scale of the state's agricultural residue generation discussed in Chapter 18, including substantial quantities of rice straw and jute residue that, if diverted from open-field burning toward biomass power generation or biochar production, could simultaneously address air quality concerns linked to residue burning, discussed in Chapter 13, and expand the state's renewable generation base. Realizing this potential at scale requires continued investment in biomass collection logistics and dedicated biomass power generation or co-firing capacity at existing thermal plants, an area where the state's utilization remains well below its theoretical residue-based generation potential.

The West Bengal Electricity Regulatory Commission has progressively strengthened the regulatory framework for renewable energy deployment, having established net metering provisions as early as 2013 through the West Bengal Electricity Regulatory Commission Cogeneration and Generation of Electricity from Renewable Sources of Energy Regulations, with a First Amendment notified in 2020 (International Forum for Environment, Sustainability and Technology, 2025). A feed-in tariff of 3.2 rupees per kilowatt-hour was specified for solar plants of less than 5 MW capacity by WBSEDCL, with tariffs for larger projects determined through competitive bidding under the Commission's September 2023 Modalities of Tariff Determination Regulations (International Forum for Environment, Sustainability and Technology, 2025).

Most significantly for the state's medium-term renewable and mineral resource trajectory, the proposed Deucha-Pachami coal block in Birbhum district, discussed in Chapter 4, has been described by state officials as one of the largest coal reserves in Asia, positioning the state's near-term energy strategy around continued coal-based generation even as national and state renewable energy targets advance in parallel, an apparent tension this report notes as a significant structural feature of the state's energy transition pathway. This tension is not unique to West Bengal among Indian states, several of which continue to expand both coal mining capacity and renewable generation simultaneously during the current transitional phase of India's energy sector development, but it is particularly pronounced in West Bengal given the scale and prominence the Deucha-Pachami project has assumed in the state's own industrial and fiscal planning discussed in Chapters 2 and 4.

9.5 Energy Efficiency, Conservation and Demand-Side Management

The West Bengal Electricity Regulatory Commission's Renewable Purchase Obligation framework, which requires distribution licensees to source a rising share of their power from renewable sources, has served as one of the state's principal demand-side and supply-mix management instruments, with obligations having risen progressively from initial modest targets toward more ambitious thresholds in successive regulatory cycles, and with rooftop solar generation now explicitly counted toward these obligations for both obligated and non-obligated consumers under the Commission's 2025 rooftop solar regulations (Mercom India, 2025; SolarQuarter, 2025).

The rollout of the West Bengal Electricity Regulatory Commission Grid Interactive Rooftop Solar Photovoltaic System for Prosumers Regulations, 2025, effective from July 31, 2025, represents the state's most significant recent regulatory step in demand-side renewable energy adoption, establishing clear procedures for net metering, net billing, and gross metering arrangements for prosumers, with annual installation limits set for WBSEDCL, CESC, the Damodar Valley Corporation, and India Power Corporation Limited for both 2025-26 and 2026-27, subject to review by the Commission every six months (Mercom India, 2025; SolarQuarter, 2025). Under these regulations, prosumers with sanctioned loads of at least 1 kW, up to 500 kW or their contract demand, may install rooftop systems independently or

through renewable energy service company and utility-led aggregation models, with feed-in tariffs guaranteed for the 25-year useful life of installed systems (Mercom India, 2025).

Complementing the state-level regulatory framework, the Union government's PM-Surya Ghar: Muft Bijli Yojana scheme, which received an approval of 75,021 crore rupees in February 2026, provides financial assistance for household rooftop solar installations, an initiative expected to accelerate residential solar adoption in the state given the state's rising retail electricity tariffs discussed in Section 9.2 (Synergy Solar Suppliers, 2025). For West Bengal's dense urban consumer base in Kolkata and its metropolitan periphery, where CESC's higher retail tariffs above the 100-unit threshold create a stronger payback incentive for rooftop solar investment than in areas served by WBSEDCL's comparatively lower tariff structure, this national scheme's interaction with the state's own net metering and net billing regulations is likely to shape adoption patterns differently across the state's four distribution licensee territories.

Energy efficiency measures beyond rooftop solar, including efficient lighting and appliance adoption promoted under the national Unnat Jyoti by Affordable LEDs for All scheme, alongside industrial energy efficiency measures under the Perform, Achieve and Trade scheme applicable to the state's larger energy-intensive industrial units discussed in Chapter 4, provide complementary demand-side management instruments that reduce overall electricity demand growth and thereby ease the capacity expansion burden facing the state's generation and distribution infrastructure discussed in Sections 9.1 and 9.2.

9.6 State Electricity Regulatory Framework and Tariff Policy

The West Bengal Electricity Regulatory Commission functions as the state's independent tariff-setting and regulatory authority, responsible for approving annual revenue requirements and retail tariffs for the state's distribution licensees, setting Renewable Purchase Obligation targets, and adjudicating regulatory disputes between generators, distribution licensees, and consumers. The Commission's evolving regulatory framework for rooftop solar, net metering, and net billing, discussed in Section 9.5, illustrates a broader shift in the Commission's regulatory posture toward accommodating distributed and prosumer-based generation alongside its traditional focus on centralized generation and bulk tariff determination.

Tariff policy in the state must balance several competing objectives: ensuring the financial viability of the state's distribution licensees, particularly WBSEDCL given the rural and agricultural consumer base discussed in Sections 9.2 and 9.3; maintaining tariff affordability for the state's substantial low-income consumer population, discussed in the context of poverty in Chapter 1; and providing adequate price signals to support the renewable energy transition discussed throughout this chapter. This balancing act is a recurring challenge across Indian state electricity regulators generally, but carries particular weight in West Bengal given the state's above-median population share living in the developmentally lagging districts identified in Chapter 1, for whom electricity affordability represents a meaningful component of household budget constraints.

Looking ahead, the interplay between the state's continued dependence on coal-based generation, anchored around the prospective Deucha-Pachami block discussed in Section 9.4, and its gradually strengthening renewable energy regulatory architecture, will be a defining feature of the state's energy sector through the period covered by this report's planning horizon to 2047, with implications not only for the state's own emissions trajectory but for its broader climate vulnerability and adaptation planning discussed in Chapter 14 and its green economy transition prospects discussed in the same chapter. The extent to which the state's new government, discussed in Chapters 2, 4, and 15, chooses to accelerate or moderate this transition through its own energy policy choices in the years immediately ahead will substantially shape whether West Bengal's energy sector trajectory converges toward or diverges from the national decarbonization pathway India has committed to internationally.

Chapter 10: Water, Sanitation and Solid Waste Management

10.1 Drinking Water Supply: Coverage, Quality and Infrastructure

West Bengal's rural drinking water supply is governed under the national Jal Jeevan Mission, launched in 2019 with the goal of providing potable water through functional household tap connections to every rural household. Nationally, the mission has expanded rural tap water coverage from 3.23 crore households, or 16.71 percent of rural households, in August 2019 to over 15.72 crore households by October 2025, and further to 15.84 crore households, covering 81.87 percent of the country's 19.35 crore rural households, by May 2026 (Press Information Bureau, 2025; Deccan Chronicle, 2026). West Bengal, however, has consistently lagged this national trajectory. As of late 2024, the state was among a group of larger states, alongside Rajasthan, Jharkhand, and Kerala, recording less than 60 percent rural tap water coverage, prompting the Union Jal Shakti Ministry to push its completion target for universal rural tap water coverage to 2025 (Swarajya, 2024; Deccan Herald, 2025).

The state's implementation challenges were noted in sharper terms in an earlier Ministry review, which characterized West Bengal's performance in 2020-21 as "dismal," having provided only 2.2 lakh rural tap water connections against a target of 55.58 lakh for that year (Deccan Herald, n.d.). The same review flagged that of the state's 41,357 villages, only 22,319 had Public Water Supply infrastructure at the time, and that ten districts affected by Japanese Encephalitis and Acute Encephalitis Syndrome, together encompassing 42.96 lakh households, had tap connection coverage of just 5.4 percent, alongside 1,566 habitations affected by arsenic and fluoride contamination that were to be covered with piped supply by December 2020 (Deccan Herald, n.d.). Arsenic contamination of groundwater, a well-documented public health concern in the Gangetic delta region spanning West Bengal and neighboring Bangladesh, remains one of the most significant water quality challenges facing the state's rural water supply programme, given the state's continued historical reliance on groundwater-sourced hand pumps and tube wells in affected districts, particularly Nadia, Murshidabad, and parts of North and South 24 Parganas, where naturally occurring arsenic in the alluvial aquifer has long constrained the safe use of groundwater for drinking purposes without treatment.

The gap between West Bengal's rural tap water coverage and the national average reflects a combination of factors distinctive to the state, including its exceptionally high number of villages relative to other large states, discussed above, which multiplies the administrative and engineering task of extending piped supply to the last habitation; its groundwater quality constraints in arsenic and fluoride affected zones, which require costlier treatment-integrated supply schemes rather than simple borewell-based connections; and, as discussed in Chapter 2, the state's comparatively constrained capital expenditure capacity, which affects the pace at which the state can co-finance the piped water scheme construction the Jal Jeevan Mission requires, since the mission operates on a shared central-state funding pattern rather than full central financing.

Despite these implementation gaps, the state has developed a notable digital governance innovation in the form of the "Jal Mitra" mobile and web application, a Management Information System aligned with the Jal Jeevan Mission that has been cited nationally as an example of improved monitoring and transparency in community water governance, having tracked over 13.70 crore community activities between April 2024 and August 2025, facilitated functionality assessments for 80.39 lakh households across 22,111 villages, and supported the creation of 4,522 Jal Bachao, or "save water," committees (Press Information Bureau, 2025; Dhyeya IAS, 2025). This digital platform represents a significant institutional asset for the state's water governance system even as physical infrastructure coverage continues to close the gap with national averages, illustrating a pattern seen elsewhere in this report, including the state's digital governance strengths discussed in Chapter 16, whereby West Bengal's institutional and monitoring innovation has sometimes outpaced its physical infrastructure delivery.

10.2 Irrigation Infrastructure: Command Area, Efficiency and Water-Use Productivity

West Bengal's irrigation infrastructure spans a mix of canal-fed command areas linked to the Damodar Valley Corporation and Mayurakshi reservoir systems in the western districts, alongside extensive groundwater-based minor irrigation through shallow and deep tube wells across the central and southern rice-growing plains discussed in Chapter 3. The state's high rainfall in much of its territory, described in Chapter 1, reduces the relative dependence on irrigation compared with drier Indian states, though seasonal and regional rainfall variability, particularly in the western plateau districts of Purulia and Bankura, continues to create localized irrigation deficits that constrain agricultural productivity in the state's more drought-prone pockets.

As discussed in Chapter 18, the state's overall irrigation coverage stands at approximately 64.45 percent of cultivable area, above the national average of 56.3 percent, having expanded by 25.67 percent over the preceding fifteen years (Government of West Bengal, 2025). This aggregate improvement, however, masks considerable regional variation, with the intensively irrigated central and southern rice belts approaching near-complete irrigation coverage for at least one cropping season, while the western plateau districts, dependent more heavily on rain-fed cultivation and the more limited canal command areas of the Damodar Valley and Mayurakshi systems, continue to show lower effective irrigation coverage, a pattern directly connected to the rainwater harvesting and water conservation grant schemes targeting Bankura and Purulia discussed in Chapters 13 and 18.

Water-use efficiency in the state's irrigation systems remains an area for improvement, with canal system losses and groundwater over-extraction in select districts presenting sustainability concerns for the state's long-term water resource management, an issue connected to the broader discussion of water resource governance in Chapter 13. Groundwater extraction for irrigation, particularly in the boro rice cultivation season, which relies heavily on dry-season groundwater pumping, has raised concerns in some districts

regarding the long-term sustainability of aquifer levels, particularly where extraction rates approach or exceed natural recharge rates, a concern that interacts with the arsenic contamination issue discussed in Section 10.1, since declining water tables in some affected aquifers have been associated with changes in arsenic mobilization patterns in the groundwater column.

10.3 Sanitation and Open Defecation Free Status: Post-ODF Sustainability

Following India's declaration as Open Defecation Free in 2019 under Phase I of the Swachh Bharat Mission-Gramin, during which national sanitation coverage rose from 39 percent in 2014 to 100 percent, the mission's second phase has focused on Open Defecation Free Plus status, encompassing solid and liquid waste management and holistic village sanitation (Deccan Chronicle, 2026). Nationally, over 12.11 crore individual household toilets have been constructed under the programme, with more than 5 lakh villages having attained Open Defecation Free Plus Model status as of March 2026, of the country's total of 5,86,707 villages (Deccan Chronicle, 2026; Swarajya, 2024).

West Bengal's own progress toward Open Defecation Free Plus status has proceeded alongside this national programme, with the state's large number of villages, exceeding 41,000 as noted in Section 10.1, presenting a substantial administrative task for achieving comprehensive Open Defecation Free Plus coverage across solid waste management, liquid and greywater management, and sustained behavior change communication. The scale challenge here mirrors the challenge discussed in Section 10.1 regarding rural tap water coverage: a state with an unusually large number of discrete rural habitations, relative to its population, faces a correspondingly larger administrative and engineering task in extending any village-level infrastructure programme to full statewide coverage, a structural feature of the state's rural settlement geography that recurs across multiple infrastructure discussions in this report, including rural electrification in Chapter 9 and rural roads in Chapter 8.

Post-Open Defecation Free sustainability, meaning the continued use of constructed toilets rather than reversion to open defecation, remains a recognized monitoring priority nationally and within the state, given documented patterns in some regions of India where toilet infrastructure exists but usage lags construction. Sustained behaviour change communication, discussed further in the participatory governance context of Chapter 20, is essential to this sustainability objective, since toilet construction alone, without corresponding shifts in household sanitation practice and social norms, does not guarantee lasting elimination of open defecation, particularly in communities where such practices have been long-standing and where water availability for toilet use, itself connected to the drinking water coverage challenges discussed in Section 10.1, can affect actual toilet utilization rates.

10.4 Solid Waste Management: Municipal, Biomedical and Hazardous Waste

Solid waste management in West Bengal's urban areas, particularly within the Kolkata Metropolitan Area, faces significant capacity constraints, with municipal solid waste

collection, segregation, and scientific disposal infrastructure lagging the pace of urban population growth described in Chapter 11. The Kolkata Municipal Corporation and the constituent municipalities of the wider metropolitan area, discussed in Chapter 11, each manage their own solid waste collection and disposal systems with varying degrees of segregation at source, composting or waste-to-energy processing capacity, and scientific landfill management, resulting in a patchwork of solid waste management standards across the metropolitan area rather than a single, unified system, a fragmentation consistent with the broader urban local body governance challenges discussed in Chapter 11.

The state's rural solid waste management systems, implemented as part of the Open Defecation Free Plus framework discussed in Section 10.3, are being scaled up alongside the national programme, which had solid waste management systems active in 5.31 lakh villages nationally as of the most recent reporting period (Deccan Chronicle, 2026). For West Bengal's rural areas, solid waste management typically centers on community-level composting facilities and, increasingly, plastic waste segregation and collection systems intended to reduce the accumulation of non-biodegradable waste in village ponds and water bodies, a concern directly connected to the water body rejuvenation efforts discussed in Chapter 13's treatment of wetland and water resource management.

Biomedical and hazardous waste management, governed under national Biomedical Waste Management Rules and Hazardous and Other Wastes Management Rules, requires coordination between the state's health infrastructure, discussed in Chapter 6, and its industrial base, discussed in Chapter 4, particularly around the Haldia petrochemical complex and the Durgapur-Asansol industrial belt, where hazardous industrial waste generation requires specialized treatment, storage, and disposal facilities distinct from municipal solid waste streams. The state Pollution Control Board maintains oversight of common biomedical waste treatment facilities serving the state's extensive network of hospitals and clinics discussed in Chapter 6, ensuring that the health system's own waste generation is managed separately from and does not compromise the municipal solid waste systems discussed above.

10.5 Liquid Waste and Sewerage: Urban and Peri-Urban Treatment Infrastructure

Sewerage and liquid waste treatment infrastructure in West Bengal remains concentrated in the core areas of the Kolkata Municipal Corporation, with substantial gaps in sewage treatment capacity across the wider Kolkata Metropolitan Area's peripheral municipalities and in the state's smaller district towns. Untreated or partially treated sewage discharge into the Hooghly river and its distributaries represents a significant water quality concern, one connected to the broader discussion of river and wetland ecosystem health in Chapter 13 and to the Union government's Namami Gange Mission, which received an allocation of 3,400 crore rupees in the 2025-26 Union budget for river cleaning and rejuvenation efforts along the Ganga and its tributaries, including the Hooghly-Bhagirathi system that runs through West Bengal (India Water Portal, 2025).

The East Kolkata Wetlands, discussed in Chapter 13, provide a distinctive and internationally recognized natural alternative to conventional mechanical sewage treatment for a substantial share of Kolkata's wastewater, functioning as a bio-remediation system that simultaneously treats sewage and supports fisheries and agriculture, illustrating an ecologically integrated approach to liquid waste management that is unusual among major Indian metropolitan areas, most of which rely exclusively on engineered treatment plants. Continued protection of this wetland system from encroachment, discussed in Chapter 13, is therefore not only an ecological conservation priority but a functional necessity for the city's wastewater management capacity, since the loss of wetland treatment capacity would place additional strain on the city's already limited engineered sewage treatment infrastructure.

Rural greywater management, implemented as part of the Open Defecation Free Plus programme discussed in Section 10.3, with liquid and greywater management systems operational in 5.50 lakh villages nationally as of the most recent reporting period, represents the primary vehicle for addressing liquid waste management in the state's rural areas, complementing the more centralized sewerage infrastructure challenges facing the state's urban centers (Deccan Chronicle, 2026). Continued investment in decentralized wastewater treatment for smaller towns and peri-urban areas, alongside expansion of centralized sewage treatment capacity within the Kolkata Metropolitan Area, remains a priority identified in the state's urban infrastructure planning, discussed further in Chapter 11, with the broader goal of ensuring that neither the state's growing urban population nor its extensive rural settlement network continues to discharge untreated liquid waste into the river and wetland systems whose ecological health, discussed in Chapter 13, underpins so much of the state's water security, fisheries livelihoods, and public health outcomes discussed throughout this report.

Chapter 11: Urban Development, Housing and Smart Cities

11.1 Urbanisation Trends and Urban Governance Architecture

West Bengal's urban structure is dominated by the Kolkata Metropolitan Area, which extends across the districts of Kolkata, North 24 Parganas, South 24 Parganas, Howrah, Hooghly, and Nadia, covering an urban area of approximately 1,056.13 square kilometers within a broader metropolitan area of 1,876 square kilometers (Wikipedia, 2026). With an estimated 2025 population of approximately 21.1 million, ranking third among Indian metropolitan areas, and an urban population within the core urban area of 14,057,991 as of the 2011 Census baseline, the Kolkata Metropolitan Area records an urban density of 13,310.9 persons per square kilometer, among the highest of any major Indian metropolitan region, with a broader metropolitan population estimated at 15.87 million and an estimated metropolitan Gross Domestic Product at purchasing power parity of approximately 224 billion United States dollars (Wikipedia, 2026). This density figure, among the highest recorded for any major world metropolitan area, places extraordinary demand on the metropolitan area's land use, transport, and civic service systems, a demand this chapter examines across housing, transit, and municipal service delivery.

Beyond the Kolkata Metropolitan Area, the state's secondary urban centers include Siliguri in the north, functioning as the principal urban and commercial hub for North Bengal discussed in Chapter 4; the twin industrial towns of Durgapur and Asansol in the west; and a network of district headquarters towns that anchor the state's smaller urban economies. These secondary urban centers, while individually much smaller than the Kolkata Metropolitan Area, collectively absorb a significant share of the state's rural-to-urban migration discussed in the demographic context of Chapter 20, and their own infrastructure and governance capacity, discussed further in Section 11.2, is correspondingly important to the state's overall urbanization management strategy, since directing a greater share of urban growth toward these secondary centers, rather than concentrating it entirely within the already dense Kolkata Metropolitan Area, represents one potential approach to managing the state's continued urbanization more sustainably.

Urban governance in the state operates through Municipal Corporations, the largest being the Kolkata Municipal Corporation, founded in 1876 and currently comprising 144 elected seats, with the Kolkata Metropolitan Development Authority functioning as the principal planning and infrastructure development authority for the wider metropolitan area since its formation in 1970 under a Presidential Ordinance, later formalized under the Kolkata Metropolitan Development Authority Act of 1972 (Wikipedia, 2026; Observer Research Foundation, 2024). The Kolkata Metropolitan Development Authority's functions span planning for development, project implementation, and regulatory oversight, and the authority also functions as a nodal agency providing consultancy services and implementing projects across multiple civic infrastructure sectors, including water supply, sewerage and drainage, traffic and transportation, and housing and slum improvement (Observer Research Foundation,

2024). This metropolitan-level planning authority, spanning multiple constituent municipal corporations and municipalities, represents an institutional response to a governance challenge common to large Indian metropolitan areas generally, namely the mismatch between metropolitan-scale infrastructure and environmental systems, such as water supply, drainage, and transport networks, and the fragmented, municipality-by-municipality administrative jurisdiction that would otherwise govern them.

11.2 Urban Local Bodies: Financial Health, Capacity and Service Delivery

Urban local bodies across West Bengal, ranging from the Kolkata Municipal Corporation to smaller municipalities and notified area authorities, face financial capacity constraints common to most Indian urban local bodies, with own-source revenue generation, primarily property tax and user charges, generally insufficient to fully fund the infrastructure and service delivery demands of the state's rapidly growing urban population. This financial constraint necessitates continued reliance on state and central transfers, including funds flowing under centrally sponsored urban development schemes such as the Atal Mission for Rejuvenation and Urban Transformation, commonly known as AMRUT, and the Pradhan Mantri Awas Yojana-Housing for All framework, alongside public-private partnership projects (Observer Research Foundation, 2024).

This revenue constraint is compounded, for many of the state's smaller municipalities, by outdated property valuation and assessment systems that have not kept pace with actual property value appreciation, a challenge shared with numerous other Indian states but one that limits these local bodies' own-source revenue growth even where property values within their jurisdiction have risen substantially, particularly in the rapidly expanding peripheral municipalities of the Kolkata Metropolitan Area discussed in Section 11.1. Modernizing property tax assessment, potentially through geospatial mapping and self-assessment systems of the kind piloted in some other Indian states, represents an identified, if not yet fully implemented, opportunity to strengthen the state's urban local body revenue base without imposing new tax categories.

Under the West Bengal Town and Country (Planning and Development) Act of 1979, urban local bodies within the Kolkata Metropolitan Area are required to prepare Land Use Maps and Registers to guide their planning processes, providing a statutory framework intended to bring greater coherence to the metropolitan area's otherwise fragmented multi-municipality governance structure (Observer Research Foundation, 2024). The effectiveness of this statutory land use planning framework, however, depends substantially on consistent enforcement across the metropolitan area's numerous constituent municipalities, a coordination challenge that recurs in this report's discussion of solid waste management fragmentation in Chapter 10 and that represents a structural feature of multi-municipality metropolitan governance the state has yet to fully resolve through the Kolkata Metropolitan Development Authority's coordinating role discussed in Section 11.1.

11.3 Housing: Demand Assessment, Affordability and Flagship Schemes

Housing demand in West Bengal's urban hubs, particularly Kolkata and Siliguri, continues to outpace supply, a gap the state's own housing authorities have identified as being compounded by rising construction costs that constrain the development of affordable housing while maintaining adequate quality standards (Basic Home Loan, 2026). The West Bengal Housing Board has responded to this challenge by exploring public-private partnerships to expedite project execution, green housing initiatives incorporating sustainable construction practices, and expansion of housing schemes into semi-urban and rural areas to bridge the broader state housing gap, alongside continued targeting of Economically Weaker Section and Low Income Group families under its core mandate (Basic Home Loan, 2026).

This state-level effort operates alongside the Union government's Pradhan Mantri Awas Yojana-Urban mission, launched in June 2015 to ensure a pucca house for all eligible urban households, including slum dwellers, and its Affordable Rental Housing Complexes sub-scheme, introduced in 2020 to provide affordable rental accommodation for migrant workers, the urban poor, students, and industrial laborers through public-private partnerships and the conversion of vacant government housing stock (PMAY-Urban, 2026; PW OnlyIAS, 2026). This rental housing sub-scheme carries particular relevance for West Bengal given the scale of both in-migrant industrial labour into the state's urban and industrial centers, discussed in Chapter 20, and the substantial student population associated with the state's higher education institutions discussed in Chapter 5, both populations for whom affordable rental accommodation, rather than home ownership, represents the more immediately relevant housing need.

Nationally, a World Cities Report examining India's urban housing challenges in 2026 found that affordable housing as a share of new housing projects in India's eight largest cities had declined from 52 percent in 2018 to just 17 percent by 2025, as developers increasingly prioritized higher-margin luxury housing, a trend with direct relevance to Kolkata's own housing market dynamics even though the report's city-level price-to-income ratio comparisons focused primarily on Mumbai and Delhi (PW OnlyIAS, 2026). If this national trend toward luxury-oriented private housing development applies with similar force within the Kolkata Metropolitan Area's private real estate sector, the burden of addressing affordable housing need would fall correspondingly more heavily on the state's own public housing programmes discussed above, reinforcing the importance of the West Bengal Housing Board's continued focus on Economically Weaker Section and Low Income Group housing delivery even as private developers gravitate toward higher-margin market segments.

The West Bengal Housing Infrastructure Development Corporation, known as HIDCO, has been responsible for a number of landmark public infrastructure and housing-adjacent projects in the state, including the Kolkata Museum of Modern Art, the New Town Eco Park, the Biswa Bangla Gate, an International Finance Hub in Kolkata, and the Rabindra Tirtha and Nazrul Tirtha cultural centers, illustrating the corporation's role extending beyond housing into broader urban placemaking and cultural infrastructure development (Wikipedia, 2026).

This diversification of HIDCO's mandate, from a conventional housing development authority into a broader urban placemaking and cultural infrastructure agency, reflects a deliberate strategy of using New Town's development as a showcase for the state's broader urban development ambitions, discussed further in Section 11.4.

11.4 Smart Cities Mission and AMRUT: State-Level Implementation Review

Among West Bengal's urban centers, New Town, also known as Rajarhat, a rapidly developing satellite city of Kolkata situated in North 24 Parganas district and managed by the New Town Kolkata Development Authority, was selected in the second phase of the national Smart Cities Mission, and remains the only city in the state selected under this mission (Springer Nature, 2024). New Town's selection as the state's sole Smart City Mission participant, rather than Kolkata itself or one of the state's other major urban centers, reflects the mission's national design logic of favoring greenfield or substantially undeveloped urban areas where comprehensive, integrated smart infrastructure could be built from the outset, rather than retrofitted into an already dense and historically developed urban fabric of the kind Kolkata's older core presents.

Academic assessment of New Town's smart city implementation has identified challenges arising from the integration, or lack thereof, between the city's broader master plan, articulated as Vision 2025, and the narrower scope of its Smart City Mission interventions, noting that while both frameworks nominally target shared objectives such as quality of life, mobility and connectivity, and inclusivity, differences in the scale and definition of these objectives across the two planning instruments have created areas of overlap and, in some instances, conflict (Springer Nature, 2024). This institutional coordination challenge, between a city's overarching master plan and a narrower, centrally funded mission-specific intervention, is not unique to New Town among Indian Smart City Mission participants, but the academic documentation of this specific tension in New Town's case provides a useful, evidence-based caution for the state's broader urban planning institutions as they consider extending similar integrated infrastructure approaches to other towns under the Theme Township scheme discussed below.

Beyond New Town, the state has pursued urban infrastructure upgrades through AMRUT, focused on universal water supply, sewerage networks, urban transport, and green space development, and, historically, through the earlier Jawaharlal Nehru National Urban Renewal Mission, which supported the introduction of new bus services across the Kolkata Metropolitan Area, the Asansol-Durgapur industrial belt, and the Siliguri-Jalpaiguri region in North Bengal (All India Trinamool Congress, n.d.). The state Cabinet has also cleared a "Theme Township" scheme for implementation across six cities, namely Kalyani, Siliguri, Bolpur, Durgapur, Bantala, and Andal, intended to develop differentiated urban identities and economic functions for each of these secondary towns (All India Trinamool Congress, n.d.). This differentiated identity approach, echoing the state's tourism destination diversification strategy discussed in Chapter 19, represents an attempt to direct future urban and economic growth toward these secondary towns rather than allowing continued disproportionate

concentration within the already saturated Kolkata Metropolitan Area, a strategy whose success will depend substantially on complementary connectivity investment of the kind discussed in Chapter 8.

11.5 Heritage Cities, Cultural Landscapes and Urban Tourism

Kolkata's status as a heritage city, discussed further in the context of cultural heritage preservation in Chapter 19, has been recognized through the Union government's Heritage City Development and Augmentation Yojana, or HRIDAY, which operates alongside the Smart Cities Mission and AMRUT as part of the broader national urban development scheme architecture applicable to the city's historic core areas, including the colonial-era commercial district around Dalhousie Square, known locally as B.B.D. Bagh, and the historic residential neighborhoods of North Kolkata (Springer Nature, 2024). Preserving these heritage precincts while simultaneously accommodating the commercial and residential densification pressures discussed throughout this chapter represents a distinctive urban planning challenge for Kolkata relative to newer Indian cities without comparable colonial-era architectural heritage requiring conservation-sensitive development control.

Urban tourism infrastructure within the Kolkata Metropolitan Area has been substantially expanded through HIDCO-developed public spaces such as the New Town Eco Park, alongside continued efforts to develop heritage walking tours and river-front tourism along the Hooghly, an effort connected to the newly announced river cruise terminal and river tourism facility at the Kolkata Dock System discussed in Chapter 8. These urban tourism development efforts complement the state's broader tourism repositioning strategy, discussed in Chapter 19, which has similarly emphasized culture, heritage, and place-based experience as the core of the state's tourism value proposition rather than conventional resort or attraction-based tourism models.

11.6 Urban Poverty, Slum Rehabilitation and In-Situ Upgradation

Urban poverty in West Bengal remains concentrated in informal settlements on the periphery of Kolkata and in pockets within the city's older, denser wards, a pattern noted in the discussion of poverty and inequality in Chapter 1. State government slum rehabilitation efforts have included the construction of dwelling houses for slum dwellers and the urban poor, with 94 such projects undertaken and 15,000 houses completed, with more than 10,000 further houses in progress as of a recent state government accounting of its urban development achievements (All India Trinamool Congress, n.d.).

In-situ slum upgradation, an approach that improves housing and basic services within existing slum locations rather than relocating residents to peripheral resettlement colonies, has been identified in national urban policy discourse as a preferred model for preserving slum dwellers' proximity to livelihood opportunities and social networks, a model referenced in broader comparative assessments of Indian slum redevelopment approaches, including initiatives such as Ahmedabad's Slum Networking Project, cited as a template for

community-participatory, in-situ upgradation combining sanitation, water supply, and secure tenure (PW OnlyIAS, 2026). The preference for in-situ upgradation over peripheral relocation reflects an important lesson from earlier generations of Indian slum clearance policy, under which relocated households often lost access to the informal economic networks, discussed in Chapter 3, and social support systems on which their livelihoods depended, sometimes resulting in relocated households drifting back toward informal settlements closer to their original livelihood locations even after formal resettlement housing had been provided elsewhere.

The extent to which West Bengal's own slum rehabilitation programme, discussed above, adopts in-situ upgradation as opposed to peripheral relocation models remains an important design consideration for the state's continued urban poverty alleviation efforts, with direct implications for the climate vulnerability of informal urban settlements discussed further in Chapter 14, given that rapid urbanization and migration nationally have been identified as drivers of increased informal settlement populations with inadequate access to sanitation, drinking water, and secure tenure, compounded by rising exposure to urban flooding and extreme weather events (PW OnlyIAS, 2026). Given Kolkata's own documented exposure to cyclone-linked flooding, discussed in Chapter 14, informal settlements on the city's low-lying periphery are likely to face compounding vulnerability from both the housing precarity discussed throughout this section and the climate-linked flooding risk discussed in that later chapter, reinforcing the case for prioritizing secure, climate-resilient in-situ housing improvement over approaches that merely relocate vulnerable populations from one precarious location to another.

Chapter 12: Rural Development and Decentralised Governance

12.1 Panchayati Raj Institutions: Structure, Devolution and Capacity

West Bengal operates a three-tier Panchayati Raj system, comprising Gram Panchayats at the village level, Panchayat Samitis at the block level, and Zilla Parishads at the district level, administered under the state's Panchayats and Rural Development Department. As of the period covered by this report, the department had been headed by Cabinet Minister Pradip Mazumdar, who held the portfolio from August 2022 through the change of state government in May 2026 (Wikipedia, 2026), a tenure spanning the period of the state's most recent panchayat election cycle and the transition to the new state administration discussed in Chapters 2 and 4.

West Bengal's Panchayati Raj institutions carry a particularly long institutional history relative to many other Indian states, having been among the earlier adopters of a genuinely functioning three-tier decentralized rural governance structure following the 73rd Constitutional Amendment, with the state's Panchayat elections historically characterized by high voter participation and, in earlier decades, a comparatively strong tradition of left-front political mobilization at the village level that shaped the institution's early development trajectory. This long institutional history means the state's Panchayati Raj system carries both accumulated administrative capacity built over decades of continuous operation and, in some instances, entrenched local political dynamics that can complicate the kind of administrative modernization and capacity-building efforts discussed below.

Capacity constraints within the state's Panchayati Raj administrative machinery have prompted a significant expansion of recruitment, with the state Panchayat Department initiating a large-scale recruitment drive in 2026 for Data Entry Operators, Assistants, Executive Assistants, Secretaries, and other administrative posts, with the originally planned target of approximately 6,500 vacancies subsequently expanded by nearly 4,500 additional positions, bringing the total to approximately 11,000 vacancies, described as one of the largest rural administrative recruitment drives undertaken by the state (CareerPower, 2026). These recruits are intended to support the clerical, data entry, and record-keeping functions underpinning the implementation of rural welfare and employment programmes, including the employment guarantee scheme discussed in Section 12.2, at the Gram Panchayat, Panchayat Samiti, and Zilla Parishad levels (CareerPower, 2026). This scale of recruitment, roughly comparable in magnitude to the police recruitment discussed in Chapter 15 and reflecting a broader pattern of vacancy accumulation across the state's administrative machinery discussed in that chapter, suggests that Panchayat-level administrative capacity had fallen meaningfully behind the growing data and reporting demands of the schemes these institutions are responsible for implementing, a gap this recruitment drive is intended to close.

12.2 VB G-Ram-G (MGNREGA): Coverage, Wage Trends and Livelihood Outcomes

India's flagship rural employment guarantee framework underwent a significant legislative transformation with the passage of the Viksit Bharat-Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, 2025, introduced in the Lok Sabha by Minister of Rural Development Shivraj Singh Chauhan on December 16, 2025, passed by both houses of Parliament on December 18, 2025, and assented to on December 21, 2025 (Wikipedia, 2026). This Act replaces the earlier Mahatma Gandhi National Rural Employment Guarantee Scheme framework with a revised statutory guarantee of 125 days of wage employment per year to every rural household whose adult members volunteer for unskilled manual work, an increase from the previous 100-day guarantee, while introducing normative annual financial allocations to states, with expenditure beyond these allocations to be borne by state governments themselves, and permitting states to notify up to 60 days annually during sowing or harvesting seasons when scheme employment may be temporarily suspended (Wikipedia, 2026).

For West Bengal specifically, whose rural workforce, discussed in Chapter 3, remains heavily concentrated in agriculture, the expanded 125-day guarantee represents a potentially significant increase in the annual wage employment floor available to the state's rural households during agricultural off-seasons, a period when, as discussed in Chapter 3, the state's high cropping intensity of 194 percent already keeps much of the state's agricultural land under near-continuous cultivation, meaning the seasonal labour demand pattern the employment guarantee is designed to smooth may differ somewhat from states with a single dominant cropping season and a correspondingly longer agricultural lean period.

The new Act also mandates the preparation of village-level development plans, termed Viksit Gram Panchayat Plans, to be integrated into a national rural infrastructure planning system, alongside expanded technology-based monitoring, including biometric and artificial intelligence-based monitoring tools, social audits, and public disclosure requirements at the Gram Panchayat level, with Central and State Gramin Rozgar Guarantee Councils to be constituted for policy guidance and monitoring (Wikipedia, 2026; Sarkari Yojana, 2026). For West Bengal, whose implementation of the erstwhile scheme has historically been a significant source of rural cash wage income, particularly in the agricultural lean season, the transition to this new framework, with its enhanced monitoring requirements and normative state co-financing obligations, represents a substantial administrative and fiscal adjustment that intersects directly with the state's fiscal capacity constraints discussed in Chapter 2 and its expanded Panchayat-level administrative recruitment discussed in Section 12.1.

Nationally, concerns over accumulated unspent scheme funds have been flagged by the Parliamentary Standing Committee on Rural Development and Panchayati Raj, which noted, as of its most recent financial review, unspent balances of 1,813.34 crore rupees under the National Social Assistance Programme and 2,583.16 crore rupees under the National Rural Livelihood Mission, alongside broader concerns regarding fund utilization efficiency across

rural development schemes (Standing Committee on Rural Development and Panchayati Raj, 2025), concerns relevant to West Bengal's own fund utilization performance given the state's broader public financial management challenges discussed in Chapter 2. The state's capacity to avoid similar fund utilization lags under the new rural employment guarantee framework will depend substantially on whether the expanded Panchayat-level administrative recruitment discussed in Section 12.1 translates into genuinely improved scheme implementation capacity at the village and block level, rather than merely adding headcount without corresponding gains in processing efficiency.

12.3 Rural Housing: PMAY-Gramin and State Schemes

The Pradhan Mantri Awaas Yojana-Gramin, aimed at providing a pucca house with basic amenities, including a minimum unit size of 25 square meters and a dedicated hygienic cooking area, to all houseless rural households and those living in kutchha or dilapidated housing, has operated in all districts of West Bengal since the scheme's initiation in the 2016-17 financial year (Department of Panchayat and Rural Development, Government of West Bengal, 2026). As of the state department's most recent reporting, sanctions had been issued to 45,69,400 beneficiary households in the state, of which 34,11,538 houses had already been completed (Department of Panchayat and Rural Development, Government of West Bengal, 2026), representing a completion rate of approximately 75 percent of sanctioned units. A complementary Rural Mason training programme has been implemented under the scheme to address the shortage of trained masons in rural areas, supporting the pace and quality of house construction under the mission (Department of Panchayat and Rural Development, Government of West Bengal, 2026).

This rural mason training component addresses a practical bottleneck common to large-scale rural housing programmes across India: the availability of adequately trained construction labour in rural areas, where skilled masonry work has historically been in shorter supply than in urban centers, and where the pace of house completion under mass housing schemes can be constrained as much by labour availability as by beneficiary selection or fund disbursement processes, both of which receive more policy attention in public discourse than this less visible construction capacity constraint.

At the national level, the Union Cabinet approved the extension of PMAY-Gramin from 2024-25 through 2028-29, with a target of constructing 2 crore additional rural homes nationally (Sarkari Yojana, 2026). The national Standing Committee on Rural Development and Panchayati Raj, however, expressed concern over the pace of allocation under this extended phase, noting that as of October 22, 2024, a total of 2.66 crore houses had been completed nationally against a target drawing on both the Socio-Economic Caste Census 2011-based Permanent Wait List and the Awaas Plus 2018 survey, with a combined backlog of 1,46,54,267 houses still pending nationally at that time, comprising 62,54,267 households from the Socio-Economic Caste Census list and approximately 84 lakh households from the Awaas Plus list (Standing Committee on Rural Development and Panchayati Raj, 2025). Unspent funds under PMAY-Gramin nationally were recorded at 15,825.35 crore rupees as of

the Committee's latest financial review, alongside 3,545.77 crore rupees unspent under the Pradhan Mantri Gram Sadak Yojana (Standing Committee on Rural Development and Panchayati Raj, 2025), figures that, while national in scope, are indicative of the fund utilization efficiency challenges that also bear on West Bengal's own scheme implementation, a pattern connected to the broader public financial management concerns discussed in Chapter 2 and the Panchayat-level capacity constraints discussed in Section 12.1.

12.4 Livelihood Promotion: SHGs, Cooperatives and Rural Enterprise

Self Help Groups form a significant institutional vehicle for rural livelihood promotion in West Bengal, implemented under the National Rural Livelihood Mission framework and the state's own complementary rural livelihood programmes, with particular relevance noted in Chapter 7's discussion of tribal women's economic empowerment through sericulture-based Self Help Groups in Purulia district and in Chapter 18's discussion of livestock distribution channeled through Self Help Group networks. These groups function as savings and micro-credit institutions at the village level, increasingly linked to formal banking channels and, in some cases, to value chains for agricultural processing, handicrafts, and small-scale manufacturing discussed in Chapters 3, 4, and 19.

The Self Help Group model's particular value for West Bengal's rural livelihood strategy lies in its capacity to reach women and landless households who fall outside the scope of the land-linked agricultural support schemes discussed in Chapter 18, such as Krishak Bandhu, which by design benefits landholding cultivators rather than the state's substantial population of agricultural labourers and landless rural households. For this population, Self Help Group-based savings, credit, and collective enterprise activity represents one of the few institutionally supported pathways toward livelihood diversification and income growth, making the continued strengthening and federation of these groups, connecting individual village-level groups into larger cluster and district-level federations with greater bargaining power and market access, an important complement to the state's land-linked agricultural policy architecture.

Cooperative institutions, including agricultural credit cooperatives and, to a lesser extent than in states such as Gujarat and Maharashtra, dairy and marketing cooperatives, provide a further institutional channel for rural livelihood support, though the scale and financial health of West Bengal's cooperative sector remains comparatively modest relative to states with more developed cooperative federations. Strengthening this cooperative sector, potentially through renewed state support for primary agricultural credit societies and marketing cooperatives, represents an underutilized complement to the Self Help Group model discussed above, since cooperatives and Self Help Groups serve somewhat different functions, cooperatives typically operating at greater scale with more formal governance structures, and could in principle reinforce one another within a more integrated rural livelihood promotion strategy.

12.5 Rural Infrastructure: PMGSY, Connectivity and Market Linkages

Rural road connectivity under the Pradhan Mantri Gram Sadak Yojana, discussed in Chapter 8, continues to be implemented in the state alongside the state's own Pathashree road development scheme, discussed in Chapter 2, with the combined effect of these programmes intended to reduce the last-mile connectivity gap that has historically constrained market access for the state's rural agricultural producers, discussed in Chapter 3. The Standing Committee on Rural Development and Panchayati Raj's national review noted delays in achieving rural infrastructure targets in areas affected by difficult terrain and law and order challenges linked to left-wing extremism in certain states, alongside logistical and input supply management challenges, factors of variable relevance across West Bengal's own districts given the state's more limited, though not entirely absent, exposure to left-wing extremist activity in its western plateau districts historically (Standing Committee on Rural Development and Panchayati Raj, 2025).

Market linkage infrastructure, including rural haats and periodic markets that have long served as the primary point of sale for smallholder agricultural producers across the state's rice, vegetable, and horticultural growing districts discussed in Chapter 18, represents a further important, if less capital-intensive, component of rural infrastructure alongside physical road connectivity. Strengthening these market linkages, potentially through improved storage facilities, price information systems, and farmer producer organization aggregation of the kind discussed in the agricultural marketing section of Chapter 18, would complement the road connectivity improvements discussed above by ensuring that improved physical access to markets translates into genuinely improved price realization for farmers, rather than farmers simply reaching the same weak bargaining position more quickly.

Border area rural infrastructure has also received targeted attention through the Vibrant Villages Programme, under which 140 villages near international borders are slated for infrastructure development nationally as of the most recent policy update, a programme of direct relevance to West Bengal's extensive land border with Bangladesh discussed in Chapter 1 (Sarkari Yojana, 2026). Villages along this border, particularly in North 24 Parganas and Cooch Behar districts discussed in the cross-border trade context of Chapter 4, often face a distinctive combination of infrastructure deficit and security-related access restriction that does not affect the state's interior rural areas in the same way, making this border-specific infrastructure programme an important complement to the state's general rural infrastructure investment discussed throughout this section.

12.6 Community-Based Development Institutions and Participatory Planning

Participatory planning at the village level is intended to be strengthened under the new Viksit Gram Panchayat Plan framework introduced through the Viksit Bharat-Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, 2025, discussed in Section 12.2, which requires village-level development plans to be integrated into a national rural infrastructure planning system, alongside expanded social audit and public disclosure requirements at the Gram

Panchayat level (Wikipedia, 2026). For West Bengal, whose Panchayati Raj institutions have a long-established history dating to some of the earliest and most extensive Panchayat decentralization efforts among Indian states, discussed in Section 12.1, the integration of this new national planning framework with the state's existing Panchayat planning processes represents both an opportunity to strengthen bottom-up development planning and an administrative adjustment requiring the capacity-building efforts discussed in Section 12.1.

Community-based institutions beyond the formal Panchayat structure, including Self Help Group federations discussed in Section 12.4, Village Water and Sanitation Committees discussed in Chapter 10, and Jal Bachao committees established under the state's Jal Mitra digital water governance platform discussed in Chapter 10, together form an increasingly dense institutional layer of community-based development governance in the state's rural areas, one whose continued strengthening and coordination with the formal Panchayati Raj structure will be an important determinant of the effectiveness of the rural development programmes discussed throughout this chapter.

The cumulative picture presented across this chapter, of a rural governance system with genuine institutional depth and history, discussed in Section 12.1, substantial and growing central scheme resources flowing through it, discussed in Sections 12.2 and 12.3, but persistent capacity and fund utilization constraints, discussed throughout, suggests that the state's rural development trajectory over the coming years will depend less on the design of new schemes, most of which are now set by the Union government's national frameworks discussed throughout this chapter, and more on the state's own success in building the administrative capacity, through the recruitment drives discussed in Section 12.1 and the participatory planning mechanisms discussed here, necessary to implement these frameworks effectively across the full breadth of its more than 41,000 villages.

Chapter 13: Environment and Natural Resource Governance

13.1 Forest Cover, Biodiversity and Wildlife Conservation

According to figures maintained by the West Bengal Forest Department, the state's total recorded forest land stands at 11,879 square kilometers, comprising 7,054 square kilometers of Reserved Forest, 3,772 square kilometers of Protected Forest, and 1,053 square kilometers of Unclassed State Forest, together constituting 13.38 percent of the state's geographical area (West Bengal Forest Department, 2026). This recorded forest area is distributed unevenly across the state's physiographic regions described in Chapter 1, with substantial forest tracts in the northern Dooars and Terai belt bordering Bhutan, in the western plateau districts of Purulia, Bankura, and Jhargram bordering Jharkhand, and in the southern Sundarbans mangrove delta, alongside comparatively sparse forest cover across the densely populated and intensively cultivated central Gangetic plains.

This 13.38 percent forest cover share is notably below the 33 percent national forest cover target articulated in India's National Forest Policy, a gap explained substantially by the state's exceptionally high population density and correspondingly intensive agricultural land use discussed in Chapter 1, which leaves comparatively little land available for forest cover expansion in the state's central plains districts, concentrating any realistic forest cover expansion effort within the northern hill, western plateau, and southern deltaic regions where forest tracts already predominate.

The eighteenth biennial India State of Forest Report, released by the Union Ministry of Environment, Forest and Climate Change through the Forest Survey of India, recorded West Bengal among the states showing a net increase in forest cover within Recorded Forest Areas between assessment cycles, at 64.79 square kilometers, placing the state fourth nationally on this specific metric of within-forest canopy gain, behind Mizoram, Odisha, and Karnataka (Galaxy Classes, 2026). This finding is broadly consistent with the state's own afforestation initiatives, including the Sabujshree scheme, under which a sapling is gifted to the family of each newborn child in the state, with more than 10 million plants distributed under the scheme, and broader district-level afforestation drives, including one launched following a series of fatalities from lightning strikes that included the planting of 5,000 coconut trees per district over a twelve-month period (India Today, 2019). The Sabujshree scheme's design, tying tree distribution to birth registration, represents a distinctive behavioural approach to afforestation relative to more conventional plantation drives, embedding tree planting into a family milestone event in a manner intended to encourage longer-term household stewardship of the planted saplings, though the scheme's ultimate ecological impact depends on survival rates of these household-planted saplings, which are not separately tracked in the sources available for this report.

West Bengal's biodiversity is anchored by two globally significant ecosystems discussed further in Section 13.6 and Section 13.3 respectively: the Sundarbans mangrove forest, home to the Bengal tiger and a wide array of estuarine and mangrove-adapted species, and the

northern hill and Dooars forests, which support elephant populations and a distinct Himalayan foothill biodiversity. Wildlife conservation in the state operates through a network of national parks and wildlife sanctuaries, including Sundarbans National Park, Buxa Tiger Reserve in the Dooars, and Gorumara and Jaldapara National Parks, alongside continued human-elephant and, in the Sundarbans, human-tiger conflict management challenges arising from the proximity of forest-fringe human settlements to wildlife habitat. In the Dooars region, seasonal elephant movement between forest patches, often crossing agricultural land and rail lines in the process, has periodically resulted in crop damage, property destruction, and, in some instances, human and elephant fatalities, a conflict pattern that intersects with the state's rail infrastructure discussed in Chapter 8, since elephant deaths from train collisions along certain North Bengal rail corridors have prompted specific speed restriction and early warning system interventions in known elephant crossing zones.

13.2 Land Use Change, Soil Degradation and Land Resource Management

Land use in West Bengal reflects the state's high population density and intensive agricultural use of its Gangetic plains, described in Chapters 1 and 3, with continued conversion of agricultural and wetland land to urban and peri-urban use around the expanding Kolkata Metropolitan Area representing a significant land use change pressure, one connected to the urban development discussion in Chapter 11. This urban expansion pressure is particularly acute given the metropolitan area's already extraordinarily high population density discussed in Chapter 11, since further urban growth increasingly occurs through outward expansion into previously agricultural or wetland peripheral land, including areas adjacent to the ecologically significant East Kolkata Wetlands discussed in Section 13.3, rather than through further densification of the already saturated urban core.

Soil degradation concerns in the state vary by region, with the western plateau districts of Purulia and Bankura experiencing lateritic soil erosion and declining fertility under intensive cultivation, while the deltaic southern districts, particularly in the Sundarbans, face soil salinization linked to tidal ingress and cyclone-driven storm surge, a vulnerability examined further in the climate risk discussion in Chapter 14. In the western plateau districts, the lateritic soil's naturally lower fertility and higher erosion susceptibility, relative to the alluvial soils of the central Gangetic plains, compounds the water stress challenges discussed in the irrigation context of Chapter 18, since erosion-depleted topsoil retains moisture less effectively, creating a reinforcing cycle of soil and water stress that has historically constrained agricultural productivity in these districts relative to the state's more fertile central and southern plains.

Land resource management in the state operates under the framework of the West Bengal Land Reforms Act, whose historical implementation through Operation Barga, discussed in Chapters 3 and 7, has shaped land tenure patterns across the state's agricultural land in ways that continue to influence contemporary land use planning and land acquisition processes for industrial and infrastructure projects, an issue with direct relevance to the investment climate challenges discussed in Chapter 4. The comparatively fragmented, sharecropper-protective

land tenure pattern that emerged from this land reform legacy, while having achieved important social equity objectives discussed in Chapter 7, has in some instances been cited by industrial investors as complicating the assembly of large contiguous land parcels required for major industrial or infrastructure projects, a dynamic directly connected to the Singur episode discussed in Chapter 4 and to the continuing sensitivity of land acquisition processes in the state more broadly.

13.3 Water Bodies, Wetlands and River Ecosystem Health

The East Kolkata Wetlands, spanning approximately 12,500 hectares on the eastern periphery of the city, constitute one of the world's largest and most ecologically significant wastewater-fed wetland systems, functioning as a natural water treatment mechanism that processes a substantial share of Kolkata's sewage while supporting fisheries and agriculture that provide livelihoods to thousands of households in the surrounding area. This wetland system, recognized under the international Ramsar Convention on Wetlands of International Importance, performs an ecosystem service function, sewage treatment through natural biological processes rather than energy-intensive mechanical treatment plants, that has been separately estimated by environmental economists studying comparable systems elsewhere to represent a substantial economic value in avoided infrastructure and energy costs, underscoring why its protection, discussed further below, carries significance well beyond conventional biodiversity conservation.

Recognizing the ecological and economic significance of this system, the state government has established a quasi-judicial committee empowered to take penal action against illegal reclamation of wetland land, alongside specific plans to protect the East Kolkata Wetlands from encroaching urbanization pressures linked to the Kolkata Metropolitan Area's expansion discussed in Chapter 11 (India Today, 2019). The persistence of illegal land-filling and encroachment pressure on this wetland system, despite its formal legal protection, illustrates a broader challenge common to peri-urban natural resource protection near rapidly growing Indian metropolitan areas, where the economic value of land for urban development, discussed in Chapter 11, creates continuous pressure that can outpace regulatory enforcement capacity absent sustained institutional vigilance.

Beyond the East Kolkata Wetlands, the state has undertaken water body rejuvenation efforts under its Jal Dhoru Jal Bhoro scheme, meaning "catch water, store water," under which more than 29,000 water bodies have been recharged across the state, alongside 43 rainwater harvesting schemes implemented in Bankura and Purulia districts intended to create irrigation potential across approximately 1,700 hectares in these drought-prone western plateau districts (India Today, 2019). This scheme's naming, translating literally to an instruction rather than an abstract programme title, reflects a broader pattern in the state's welfare and infrastructure scheme nomenclature, discussed elsewhere in this report including Krishak Bandhu and Kanyashree Prakalpa, of using direct, accessible Bengali-language scheme names intended to be immediately comprehensible to the rural population these programmes serve, rather than technical or acronym-based naming conventions.

River health along the state's major river systems, particularly the Hooghly-Bhagirathi, continues to be affected by both industrial effluent from the Durgapur-Asansol industrial belt discussed in Chapter 4 and untreated urban sewage discharge discussed in Chapter 10, with river bank erosion also a significant concern, prompting a dedicated project to arrest riverbank erosion along a 400 kilometer stretch of the state's river network (India Today, 2019). This riverbank erosion, driven by the combination of the state's high monsoon discharge volumes and the erodible alluvial soil composition of much of its riverbank terrain, poses a recurring threat to riverside settlements and agricultural land, a vulnerability that compounds the cyclone and flood risk discussed in Chapter 14 for communities located along the state's extensive network of major and minor rivers.

13.4 Mining and Mineral Resource Governance

Mineral resource governance in West Bengal centers on the coal reserves of the western districts, discussed in Chapters 3, 4, and 9, particularly the operational coalfields around Raniganj and Asansol and the prospective Deucha-Pachami coal and basalt block in Birbhum district, described by state officials as among the largest coal reserves in Asia. The Raniganj coalfield, among the oldest continuously worked coalfields in India, dating to the early nineteenth century, presents a distinctive mine closure and land rehabilitation challenge distinct from the greenfield development challenges facing the newer Deucha-Pachami project, since decades of underground mining in the older Raniganj belt have created subsidence risks in overlying settled areas that require ongoing monitoring and, in some cases, relocation of affected communities.

Mining governance in the state must balance the fiscal and industrial benefits of continued coal extraction, discussed in Chapters 2 and 9, against the environmental and social costs of large-scale mining, including land acquisition from tribal and rural communities discussed in Chapter 7, forest and land degradation, and the long-term emissions implications of expanding coal production at a time of growing national and global attention to the energy transition, discussed further in Chapter 14. The Deucha-Pachami project in particular, given its scale and its location in an area with significant tribal population presence discussed in Chapter 7, has required the state government to develop specific rehabilitation and employment guarantee commitments for affected land-owning families, discussed in Chapter 4, reflecting lessons drawn from the more contentious land acquisition experiences, including the Singur episode discussed in Chapter 4, that have shaped the state's more recent approach to large-scale land acquisition for industrial and mineral projects.

Regulatory oversight of mining activity in the state operates through the state's compliance with national mining and environmental clearance frameworks administered by the Union Ministry of Mines and the Ministry of Environment, Forest and Climate Change, with the State Environment Impact Assessment Authority playing a coordinating role in environmental clearance processes for state-level projects, as referenced in the state's broader environmental governance architecture discussed in Section 13.5 (India Today, 2019).

13.5 Pollution: Air, Water, Noise and Soil — Status and Regulatory Response

Air pollution in the Kolkata Metropolitan Area, driven by vehicular emissions, industrial activity, and construction dust, remains a significant public health and environmental concern, with the state government pursuing a gradual transition of its public transport fleet toward compressed natural gas and battery-electric vehicles as a mitigation strategy. Kolkata's air quality challenges are compounded by the metropolitan area's exceptionally high vehicle density, discussed in the transport context of Chapter 8, and by seasonal meteorological conditions during the winter months that tend to trap pollutants closer to ground level, a pattern observed across much of the Indo-Gangetic plain, discussed further in the context of the state's Gangetic geography in Chapter 1, and one that affects Kolkata alongside other major cities across this broader airshed extending from Punjab through Delhi, Uttar Pradesh, Bihar, and into West Bengal.

This transition has included the deployment of battery-operated electric buses in Kolkata, alongside compressed natural gas inter-city buses, with the state's environment department articulating an ambition to convert Kolkata's entire public bus fleet to compressed natural gas or electric propulsion, alongside continued expansion of battery-operated bus services (India Today, 2019). This fleet electrification and gas-conversion strategy connects directly to the state's broader renewable and clean energy transition discussed in Chapter 9, since the emissions benefit of electrifying the public transport fleet depends substantially on the carbon intensity of the electricity generation mix powering these vehicles, itself still dominated by coal-fired thermal generation as discussed in that chapter, meaning the full climate benefit of transport electrification in West Bengal will only be realized in tandem with the state's parallel progress toward a cleaner generation mix.

Water pollution concerns, discussed in the context of sewerage infrastructure gaps in Chapter 10 and industrial effluent in Section 13.3, and soil pollution linked to intensive agrochemical use in the state's rice and vegetable growing belts, round out the state's principal pollution management challenges. Noise pollution, particularly in the dense urban core of Kolkata, is managed under national ambient noise standards enforced through the state Pollution Control Board, though enforcement capacity relative to the scale of urban noise sources, including vehicular traffic and construction activity, remains constrained relative to the scale of the challenge, a pattern consistent with the broader regulatory capacity constraints discussed in the governance context of Chapter 15.

13.6 Coastal and Marine Resource Management

West Bengal's coastal and marine resource management responsibilities center on the Sundarbans delta, shared with Bangladesh, and the state's Bay of Bengal coastline extending from the Sundarbans through Digha and the Odisha border. The Sundarbans mangrove ecosystem, part of the broader Indian mangrove cover recorded at 4,991.68 square kilometers nationally by the eighteenth India State of Forest Report, representing 0.15 percent of the country's total geographical area, and which recorded a marginal national decline of 7.43

square kilometers compared to the previous assessment cycle (PMF IAS, 2026), provides critical ecosystem services including storm surge attenuation, fisheries nursery habitat, and carbon sequestration, alongside its function as habitat for the Bengal tiger population unique to this mangrove environment.

This marginal national mangrove decline, while modest in aggregate terms, carries outsized significance for coastal protection given the mangrove forest's demonstrated function in attenuating storm surge intensity during cyclone events, discussed further in Chapter 14, meaning even comparatively small reductions in mangrove extent along the most exposed sections of the Sundarbans coastline can translate into meaningfully increased flood and storm surge exposure for the human settlements situated immediately inland of the affected mangrove tracts.

Coastal resource management in the Sundarbans and along the state's broader coastline must contend with the combined pressures of population growth in coastal and deltaic settlements, fisheries livelihood dependence discussed in Chapter 3, and escalating climate vulnerability from sea level rise, cyclone intensity, and saline water intrusion, all of which are examined in greater depth in the climate change and disaster risk discussion that follows in Chapter 14. The management of this coastal and marine resource base, balancing conservation of the Sundarbans' globally significant biodiversity against the livelihood needs of its resident fishing and forest-dependent communities, represents one of the most complex governance challenges within the state's broader environmental portfolio, requiring continued institutional coordination between the state's Forest Department, its Department of Sundarban Affairs discussed in Chapter 14, and its fisheries administration discussed in Chapter 18, alongside the cross-border cooperation with Bangladesh discussed in Chapters 4 and 14 given the shared and ecologically continuous nature of the delta system across the international boundary.

Chapter 14: Climate Change and Ecological Security

14.1 State Climate Vulnerability and Risk Profile

West Bengal has been identified as one of the most climatically vulnerable states in India in the country's first comprehensive climate risk assessment, a study that examined 127 years of cyclonic activity over the Bay of Bengal and found a pronounced intensification trend, with the region recording 41 severe cyclonic storms and 21 cyclonic storms in the month of May during the earlier decades of the study period, figures that rose to 72 and 55 respectively in the month of November by the more recent decades covered by the assessment (Down To Earth, 2024). The study further found that maximum cyclone landfalls along the eastern Indian coastline, spanning Odisha, West Bengal, and Bangladesh, occurred concentrated in the Sundarbans area, with flood risk assessed as having increased over India's east coast generally, placing West Bengal among the states most exposed to this compounding cyclone and flood risk (Down To Earth, 2024).

This 127-year historical dataset, spanning from the late nineteenth century through the present, provides an unusually long observational baseline for cyclone trend analysis, allowing the assessment's authors to distinguish genuine long-term climatic intensification from shorter-term natural variability of the kind that can otherwise complicate climate trend attribution, lending particular credibility to the study's conclusion that both cyclone frequency and, notably, the seasonal window during which cyclones occur, extending further into the traditionally less active month of November, have measurably shifted over the study period.

The state's own State Action Plan on Climate Change, developed with technical support from national and international partners, identifies two regions as most vulnerable to climate change impacts within the state: the Darjeeling Himalayan region along the state's northern boundary, and the Sundarbans at its coastal southern end (Ministry of Environment, Forest and Climate Change, 2012). The plan's vulnerability assessment spans multiple sectors, including agriculture, water resources, biodiversity and forests, human health, habitats, and energy, presenting sector-specific strategies for climate adaptation alongside recommendations for improving the state's energy efficiency and renewable energy mix, discussed further in Chapter 9 (Ministry of Environment, Forest and Climate Change, 2012).

Beyond these two headline vulnerable regions, the state's climate vulnerability profile is compounded by a set of interacting factors identified in the state's Action Plan on Climate Change and Human Health, including the state's role as a major center of crop production discussed in Chapter 3, its high population density discussed in Chapter 1, the presence of significant biodiversity hotspots discussed in Chapter 13, a comparatively high incidence of cyclonic events measured on a per-kilometer-of-coastline basis, and the additional, less commonly discussed risk of glacial lake outburst floods originating in neighboring Bhutan and Sikkim that could affect the state's northern hill districts (National Centre for Disease Control, 2024). This glacial lake outburst flood risk, while less frequently discussed than the state's more prominent cyclone and coastal flood exposure, represents a distinct hazard

pathway specific to the Darjeeling and Kalimpong hill districts, where sudden glacial lake breach events upstream in Bhutan or Sikkim could generate flash flood conditions along the same river systems, including the Teesta, that supply the hydropower generation discussed in Chapter 9, illustrating how the state's northern hill climate vulnerability, while less publicized than the Sundarbans, carries its own distinct and serious risk profile.

The coastal and densely populated districts of North 24 Parganas, South 24 Parganas, and Purba Medinipur have been specifically flagged in this assessment as deserving extra monitoring attention given their combination of high population density and direct coastal exposure to cyclones and flooding (National Centre for Disease Control, 2024).

14.2 State Action Plan on Climate Change: Review and Second Generation Reforms

The original West Bengal State Action Plan on Climate Change, prepared under the national framework established following India's National Action Plan on Climate Change, laid out sector-specific adaptation strategies with associated budgetary provisions extending through the Twelfth Five Year Plan period and beyond (Ministry of Environment, Forest and Climate Change, 2012). In the years since, the state has pursued more targeted and updated planning instruments, including a comprehensive climate resilience and disaster preparedness initiative reported in 2023, under which the state committed to developing a plan customized to its distinctive climatic and geographic attributes, incorporating both short-term and long-term strategies, policy measures, technological interventions, and community engagement components (NewsClick, 2023).

This renewed planning effort draws explicitly on the Intergovernmental Panel on Climate Change's Sixth Assessment Report, which warned of unprecedented and potentially irreversible warming impacts on low-elevation, high-population-density delta regions such as the Sundarbans, underscoring the likelihood of worsening disaster trends absent stronger counteraction (NewsClick, 2023). The explicit incorporation of the Intergovernmental Panel on Climate Change's most recent scientific assessment into the state's own planning documents reflects a maturation in the state's climate planning approach relative to the original 2012-era State Action Plan, moving from a more generic sector-by-sector vulnerability framework toward planning more explicitly grounded in the specific, quantified global warming trajectories and delta-region risk projections the Sixth Assessment Report presents.

The state's updated planning framework also reflects lessons drawn from a series of major cyclone events in the years immediately preceding its formulation, discussed further in Section 14.3, and represents an implicit acknowledgment that the original 2012-era State Action Plan required substantial revision and strengthening to remain adequate to the scale of climate risk the state now faces. This pattern, of climate adaptation planning evolving reactively in response to major disaster events rather than proactively anticipating escalating risk, is not unique to West Bengal among vulnerable Indian states, but the scale and

frequency of major cyclone impacts documented in Section 14.3 has given this evolutionary pressure particular force in the state's own planning history.

14.3 Disaster Risk Profile: Hazard, Exposure and Vulnerability Mapping

West Bengal's disaster risk profile is dominated by cyclone and flood hazards concentrated in its southern coastal and deltaic districts, though the state's northern hill districts face a distinct hazard profile involving landslides and, as noted in Section 14.1, glacial lake outburst flood risk. The scale of recent cyclone impact on the state has been substantial in financial terms: government of West Bengal data cited in a 2023 assessment recorded total financial losses of 23,813 crore rupees from Cyclone Bulbul in 2019, 1,02,442 crore rupees from Cyclone Amphan in 2020, and 21,535 crore rupees from Cyclone Yaas in 2021 (NewsClick, 2023). These three cyclone events alone, occurring within a span of just three consecutive years, together generated financial losses exceeding 1.47 lakh crore rupees, a scale of recurring disaster loss that places substantial and recurring strain on the state's fiscal capacity discussed in Chapter 2, since post-disaster reconstruction spending of this magnitude, occurring on a near-annual basis across these three years, competes directly with the state's other capital expenditure priorities discussed throughout this report.

Cyclone Amphan in particular, which made landfall near the western part of the Indian Sundarbans close to Sagar Island with a maximum wind speed of 185 kilometers per hour, exceeding Cyclone Bulbul's maximum wind speed of 155 kilometers per hour recorded the previous year, represented one of the most destructive cyclone events in the state's recent history, with damage extending well beyond the immediate coastal zone into the Kolkata Metropolitan Area itself (Down To Earth, 2024). Amphan's unusual penetration of damaging wind speeds as far inland as the Kolkata Metropolitan Area, discussed in the urban context of Chapter 11, illustrated that the state's cyclone vulnerability is not confined solely to its immediate coastal and Sundarbans districts, since the metropolitan area's extensive tree cover and overhead electrical infrastructure, discussed in Chapter 9, proved highly vulnerable to Amphan's wind intensity even at a considerable distance from the storm's coastal landfall point, resulting in widespread power outages and infrastructure damage across the city that took weeks to fully restore.

The Sundarbans landscape, shared with Bangladesh, is recognized as facing acute vulnerability to both slow-onset and sudden-onset climate hazards, including accelerated coastal erosion driven by sea-level rise, progressive submergence of low-lying islands, increasingly erratic rainfall patterns, and the recurrent high-intensity cyclones discussed above, alongside the depletion of the mangrove forest cover that would otherwise buffer inland areas from storm surge, discussed in Chapter 13 (NewsClick, 2023). Several low-lying islands within the Indian Sundarbans have already experienced partial or, in a small number of documented cases, near-complete submergence over recent decades, displacing resident populations and generating a distinctive category of climate-displaced persons within the state whose resettlement and rehabilitation needs intersect with the housing and social welfare programmes discussed in Chapters 7 and 11, though these Sundarbans-specific

displacement dynamics are not always captured within the state's more generalized housing and welfare scheme frameworks designed for broader application.

Village-level and household-level vulnerability assessments conducted in the Sundarbans over multiple survey rounds between 2013 and 2022 have documented the compounding social vulnerability of the region's fishing and forest-dependent communities, whose livelihoods, discussed in Chapters 3 and 13, place them in direct and repeated exposure to both cyclonic hazards and human-wildlife conflict, including fatal tiger attacks on forest resource harvesters (Springer Nature, 2023). This dual exposure, to acute cyclone risk and to chronic, livelihood-linked wildlife conflict risk, distinguishes the Sundarbans' vulnerability profile from more conventional coastal disaster risk assessments elsewhere in India, which typically address cyclone and flood risk without an equivalent, ongoing human-wildlife conflict dimension layered on top.

14.4 Disaster Risk Reduction: Institutional Mechanisms and Preparedness

Disaster risk reduction in West Bengal operates through the State Disaster Management Authority, working in coordination with District Disaster Management Authorities in each of the state's 23 districts discussed in Chapter 1, and the National Disaster Response Force units deployed to the state ahead of anticipated cyclone landfalls. This pre-positioning of National Disaster Response Force units ahead of forecast cyclone landfall, now a routine feature of the state's cyclone preparedness protocol following the experience of Bulbul, Amphan, and Yaas discussed in Section 14.3, reflects a maturation in early warning and pre-emptive evacuation coordination between the state's own disaster management machinery and central response forces, contributing to the marked reduction in cyclone-related fatalities observed across successive major cyclone events in the state even as the storms' financial damage toll, discussed in Section 14.3, has remained substantial.

The state's Department of Sundarban Affairs functions as a dedicated administrative body specifically tasked with coordinating development and disaster preparedness activity across the Sundarbans region, reflecting the distinctive governance attention the region's compounding vulnerabilities described in Sections 14.1 and 14.3 has warranted (Springer Nature, 2023). The existence of this dedicated departmental structure, distinct from the state's general disaster management and forest department administration, underscores the scale and specificity of the Sundarbans' governance challenge, requiring coordinated attention across disaster preparedness, forest and wildlife management discussed in Chapter 13, fisheries livelihood support discussed in Chapter 18, and basic infrastructure delivery discussed in Chapters 8 and 10, all within a uniquely fragile and remote deltaic geography.

International development partners have supported the state's disaster resilience institutional strengthening, including through Asian Development Bank-supported programming explicitly targeting climate change adaptation, disaster resilience, and environmental sustainability alongside governance and institutional capacity strengthening, with specific project components addressing rural flood protection and improvements to water quality and

river flow intended to foster climate-resilient livelihoods in the upper delta region of the Sundarbans (Asian Development Bank, 2026). Complementing this, cross-border collaborative initiatives between India and Bangladesh have focused on assessing present and future climate change impacts from increased salinity, tidal inundation, flooding, erosion, waterlogging, sea level rise, and cyclones affecting the shared Sundarbans coastal community, recognizing that disaster risk reduction in this transboundary delta cannot be effectively addressed through unilateral national planning alone (Climate Change Program, 2026).

14.5 Post-Disaster Response, Relief and Reconstruction Framework

Post-disaster response in West Bengal following major cyclone events has typically combined immediate relief operations, including evacuation, emergency shelter provision, and food and water distribution, with medium-term reconstruction support for damaged housing, embankments, and agricultural land affected by saline water ingress, an issue discussed in the context of soil degradation in Chapter 13. The state's cyclone shelter network, built up progressively following earlier major cyclone disasters affecting the eastern Indian coastline over past decades, provides the physical infrastructure underpinning the pre-emptive evacuation strategy discussed in Section 14.4, though the density and capacity of these shelters relative to the full exposed coastal and deltaic population remains an area requiring continued investment, particularly as the state's own coastal population continues to grow, discussed in the demographic context of Chapter 1.

The scale of financial losses recorded from Cyclones Bulbul, Amphan, and Yaas, discussed in Section 14.3, has placed substantial strain on the state's post-disaster reconstruction financing needs, a strain that interacts directly with the state's fiscal capacity constraints discussed in Chapter 2 and its reliance on National Disaster Response Fund allocations and Finance Commission disaster management grants discussed in that chapter. The recurring nature of this reconstruction burden, with three major cyclone events generating substantial reconstruction needs within a single three-year span, as discussed in Section 14.3, means that disaster reconstruction financing has effectively become a recurring, rather than exceptional, component of the state's capital expenditure planning, a pattern with implications for how the state's medium-term fiscal strategy discussed in Chapter 21 should realistically account for disaster risk rather than treating each cyclone event as an unforeseeable, one-off fiscal shock.

Embankment reconstruction and strengthening, particularly along the extensive network of earthen embankments protecting low-lying Sundarbans settlements from tidal flooding, represents a recurring and capital-intensive component of the state's post-disaster reconstruction agenda, given the documented tendency for embankments breached during major cyclone events, as occurred extensively during Cyclone Amphan, to require substantial reconstruction investment even as the underlying vulnerability to future breaches persists absent more fundamental redesign of the region's flood protection infrastructure. Some engineering assessments of the Sundarbans embankment system have suggested that the traditional earthen embankment design, largely unchanged in fundamental approach for

generations, may be reaching the limits of its effectiveness against the intensifying cyclone and sea-level trends documented in Section 14.1, pointing toward the need for more fundamentally redesigned flood protection infrastructure, potentially incorporating mangrove-embankment hybrid systems that combine engineered structures with the natural storm surge attenuation benefits of restored mangrove buffer zones discussed in Chapter 13, rather than relying on embankment reconstruction alone.

14.6 Green Economy Transition: Opportunities and Structural Challenges

West Bengal's green economy transition prospects sit at the intersection of the state's continued dependence on coal-based power generation, discussed in Chapter 9 and anchored around the prospective Deucha-Pachami block discussed in Chapters 4 and 13, and the mounting climate vulnerability documented throughout this chapter, which creates both a moral and an economic case for accelerating the state's shift toward renewable energy and climate-resilient infrastructure. The state's gradually strengthening renewable energy regulatory framework, discussed in Chapter 9, including its 2025 rooftop solar and prosumer regulations, represents an incremental step in this direction, though the scale of the state's committed coal-based generation capacity and its coal mining employment base, discussed in Chapters 3 and 4, mean that any accelerated transition away from coal will need to be managed carefully to avoid significant economic and employment disruption in the state's western mining districts.

This tension between the state's coal-dependent industrial and fiscal strategy, discussed in Chapters 2, 4, and 9, and its acute climate vulnerability, documented throughout this chapter, represents perhaps the single most consequential structural contradiction running through this entire report, one that recurs whenever the state's energy, industrial, and climate policy discussions intersect. Resolving this tension, or at least managing it thoughtfully, will require the state's policymakers to weigh the near-term fiscal and employment benefits of continued coal development against the compounding long-term costs of climate change impacts that this same coal-dependent development pathway contributes to, a genuinely difficult policy trade-off without an easy resolution, and one West Bengal shares, to varying degrees, with several other Indian coal-producing states.

Opportunities for green economic development in the state include expanded eco-tourism in the Sundarbans, discussed in the context of tourism development in Chapter 19, mangrove restoration and blue carbon projects that could generate both ecological and, potentially, carbon credit revenue benefits, and continued expansion of the state's rooftop and utility-scale solar capacity supported by the Union government's PM-Surya Ghar scheme discussed in Chapter 9. Blue carbon projects in particular, which generate verified carbon credits from the restoration and protection of coastal mangrove and wetland ecosystems, represent a potentially significant and currently underexploited revenue opportunity for the state given the scale of its Sundarbans mangrove holdings discussed in Chapter 13, offering a mechanism through which mangrove conservation, discussed as an ecological and disaster-risk-reduction priority in Sections 14.3 and 14.4, could also become a direct source of state or community

revenue through international carbon markets, aligning conservation incentives with economic ones in a manner not yet fully developed within the state's current environmental and climate policy architecture.

Realizing these opportunities at a scale commensurate with the climate risks documented throughout this chapter will require sustained investment, cross-border cooperation with Bangladesh on shared Sundarbans management discussed in Section 14.4, and continued strengthening of the institutional and financial architecture for climate adaptation and disaster risk reduction across the state's most vulnerable coastal, deltaic, and Himalayan foothill regions.

Chapter 15: Administrative Governance Reform

15.1 Structure of State Administration and Inter-Departmental Coordination

West Bengal's civil administration is headed by the Chief Secretary, the state's senior-most civil servant, with Manoj Pant holding this position as of the period covered by this report (Wikipedia, 2026). Following the change of government discussed in Chapters 2 and 4, Suwendu Adhikari serves as both Chief Minister and Home Minister of the state, combining the political leadership of the administration with direct oversight of the Home Department, which holds responsibility for the state's police and internal security apparatus discussed further in Section 15.4 (Wikipedia, 2026).

The Personnel and Administrative Reforms Department functions as the cadre-controlling authority for the West Bengal Civil Service, the state's principal administrative cadre below the level of the All-India Services, with the Civil Service, founded on January 26, 1950, maintaining a sanctioned cadre strength of 1,677 officers in its Executive branch, Group A, and 551 officers in the West Bengal Police Service, Group B, as of 2024 (Wikipedia, 2026). Training for these services is delivered through the Netaji Subhash Administrative Training Institute in Salt Lake, Kolkata, for executive and other services, and through the Swami Vivekananda State Police Academy in Barrackpore for police and revenue service officers (Wikipedia, 2026). Selection into the West Bengal Civil Service is conducted by the West Bengal Public Service Commission, with a reported success rate of approximately 0.5 percent among applicants, reflecting the intense competition for the limited number of positions available each recruitment cycle (Wikipedia, 2026).

Inter-departmental coordination across the state's administration is structured through the district administration system discussed in Chapter 1, with District Magistrates serving as the principal coordinating authority at the district level across departments including revenue, disaster management discussed in Chapter 14, and general law and order, working alongside the Superintendent of Police or, within Kolkata, the Police Commissioner, discussed further in Section 15.4.

15.2 Anti-Corruption Framework: Lokayukta, Vigilance and Enforcement

West Bengal maintains a Lokayukta institution, established under the West Bengal Lokayukta Act, tasked with investigating complaints of corruption and maladministration against public servants and elected representatives, functioning alongside the state's Vigilance Commission and departmental vigilance cells embedded within individual government departments. The credibility of the state's anti-corruption institutional architecture has been significantly tested in recent years by the fallout from the West Bengal School Service Commission recruitment scandal discussed in Chapter 5, in which the Calcutta High Court and the Supreme Court both concluded that corruption in the 2016 teacher recruitment process was so deep and widespread that the entire recruitment exercise was vitiated, with the courts finding it

impossible to reliably separate genuine candidates from those who had obtained positions illegally, resulting in the wholesale invalidation of the appointments (Wikipedia, 2026).

The scandal's prolonged legal and administrative aftermath, including sustained protests by affected teachers through 2025 and government proposals to create supernumerary posts as a partial remedy, a proposal criticized by legal experts and opposition parties as an attempt to circumvent the judiciary's findings, illustrates both the depth of the institutional integrity challenge the scandal represents and the practical difficulty of designing a remedy that is simultaneously legally sound and politically and socially acceptable to those affected (Wikipedia, 2026). As of late July 2025, the state government had held several rounds of talks with protesting teachers without reaching a concrete resolution satisfying both legal and political constraints (Wikipedia, 2026). This episode stands as the most consequential recent test of the state's anti-corruption and public sector integrity framework, with implications extending well beyond the education sector to the broader credibility of the state's public recruitment institutions generally.

15.3 Legal and Judicial Administration: Pendency, Access and Reform

The Calcutta High Court, one of India's oldest High Courts, exercises judicial authority over West Bengal, alongside a subordinate judiciary structured through District and Sessions Courts in each of the state's 23 districts. Recruitment to the West Bengal Judicial Service is conducted through the West Bengal Judicial Service Examination administered by the West Bengal Public Service Commission, with recent examination cycles, including Advertisement 19 of 2023 and Advertisement 9 of 2024, having proceeded through preliminary examinations scheduled in December 2025 and February 2026 respectively (Delhi Law Academy, 2025).

Case pendency in the state's court system, a challenge common across Indian state judiciaries, has been compounded in recent years by the volume of litigation arising from the School Service Commission recruitment scandal discussed in Sections 15.2 and in Chapter 5, which has generated an extended sequence of High Court and Supreme Court proceedings spanning multiple years and involving tens of thousands of affected individuals. This litigation load, layered atop the state judiciary's existing caseload across civil, criminal, and administrative matters, underscores the continued importance of judicial capacity expansion, including the recruitment cycles discussed above, and of continued investment in court digitization and case management systems to improve the efficiency and accessibility of the state's judicial administration.

15.4 Police Modernisation and Internal Security Management

The West Bengal Police, headed by a Director General of Police, with Rajeev Kumar having served in an acting capacity in this role from July 2024 until January 2026, before his subsequent election to the Rajya Sabha in April 2026, oversees law and order administration across the state outside the Kolkata Police jurisdiction, which is headed by a separate Police

Commissioner for the city (Wikipedia, 2026). Police modernisation efforts in the state have included continued large-scale recruitment, with West Bengal Police notifications for over 12,000 vacancies for Sub-Inspector and Constable posts reported in 2026, part of a broader wave of recruitment drives spanning the police, health, and teacher recruitment boards operating alongside the West Bengal Public Service Commission (Testbook, 2026).

Internal security management in West Bengal encompasses several distinct dimensions, including border security coordination with central paramilitary forces along the state's extensive land border with Bangladesh discussed in Chapters 1 and 4, residual law and order sensitivities in the western plateau districts historically associated with left-wing extremist activity discussed in Chapter 12, and the more routine urban law and order responsibilities of the Kolkata Police within the dense metropolitan area discussed in Chapter 11. The change in state government following the 2026 elections, discussed in Chapters 2 and 4, with the Chief Minister now also holding the Home portfolio, represents a notable shift in the institutional locus of internal security decision-making within the state's executive structure.

15.5 Regulatory Governance: Quality, Consistency and Independence

Regulatory governance in West Bengal spans sector-specific regulatory bodies, including the West Bengal Electricity Regulatory Commission discussed in Chapter 9, alongside the state's broader business and industrial regulatory framework discussed in the context of ease of doing business reforms in Chapter 4. The Industrial Policy 2026-2030's provision for an expert committee tasked with simplifying regulations and reducing compliance burdens, discussed in Chapter 4, with recommendations reportedly expected within four months of the committee's constitution, represents the state's most recent concrete institutional effort to improve regulatory quality and consistency across departments.

The independence and technical capacity of the state's various regulatory bodies varies considerably by sector, with more mature, statutorily insulated bodies such as the Electricity Regulatory Commission generally exhibiting stronger technical capacity and procedural independence than newer or more ad hoc regulatory and compliance simplification mechanisms established administratively rather than through dedicated statute. Strengthening the consistency of regulatory quality across the state's full range of sectoral regulators remains an important, if less visible, component of the state's broader governance reform agenda.

15.6 Reduction of Red-tapism: Simplification and Way Forward

The state's 2026-27 budget's proposed single-window mechanism for projects involving investments of 100 crore rupees or more, discussed in Chapter 4, under which qualifying projects would route building plan approvals, trade licenses, and related permissions through an integrated state-level mechanism rather than separately through local bodies, represents the most significant recent concrete step toward reducing administrative red tape for large investment projects specifically. Extending similar simplification to smaller-scale investors

and to routine citizen-facing administrative processes, beyond the large-project focus of the single-window mechanism, remains an area for continued reform attention, particularly given the ease of doing business ranking discussed in Chapter 4, which placed the state in a middling, "Aspirer" category position relative to other Indian states.

Digital governance tools, discussed further in the context of e-governance architecture in Chapter 16, represent an important complementary lever for reducing red tape by enabling online application, tracking, and approval processes that reduce the need for in-person interaction with multiple departmental counters, a shift already underway in several of the state's welfare scheme and recruitment administration processes discussed throughout this report.

15.7 Civil Service Strength: Vacancy Rates and Training Institutions

Vacancy management within the state's civil service and allied recruitment boards has been a prominent administrative theme in the period covered by this report, with recruitment notifications spanning the West Bengal Public Service Commission, the West Bengal School Service Commission, referenced in Chapter 5's discussion of the recruitment scandal aftermath, the West Bengal Police, discussed in Section 15.4, and the state's health recruitment board, together reflecting a broad-based effort to fill accumulated vacancies across the state's administrative machinery (Testbook, 2026; Careers360, 2025). The scale of the Panchayat Department's own recruitment drive, discussed in Chapter 12, for approximately 11,000 positions, further illustrates the magnitude of the vacancy backlog the state's administration has sought to address in the current period.

Training institutions supporting the state's civil service, including the Netaji Subhash Administrative Training Institute and the Swami Vivekananda State Police Academy discussed in Section 15.1, play a central role in ensuring that this substantial wave of new recruitment translates into an adequately trained and competent administrative workforce, a consideration of particular importance given the West Bengal Civil Service's reported 0.5 percent selection success rate, which suggests a highly competitive but numerically constrained recruitment pipeline relative to the scale of vacancies the state's departments are seeking to fill across the police, education, health, and general administrative cadres discussed throughout this chapter.

Chapter 16: Technology-Enabled Service Delivery

16.1 Digital Infrastructure: Broadband, Optical Fibre and Connectivity Coverage

Digital infrastructure development in West Bengal is coordinated primarily through the West Bengal Electronics Industry Development Corporation, commonly known as WEBEL, which has prioritized building the state's digital backbone to support high-speed internet, data sharing, and communication across the state, including through the development of a widespread fibre-optic network extending connectivity beyond the Kolkata Metropolitan Area into the state's district towns and, progressively, its rural areas (Elets eGov, 2024). This state-level fibre build-out operates alongside the Union government's BharatNet project, one of the core implementations under the national Digital India Mission, which aims to extend high-speed broadband connectivity to India's village-level Gram Panchayats, including those across West Bengal's rural expanse discussed in Chapter 12 (AIM India, 2026).

As with the rural water and sanitation infrastructure challenges discussed in Chapter 10, West Bengal's unusually large number of rural habitations, exceeding 41,000 villages, presents BharatNet implementation with a correspondingly large last-mile connectivity task relative to other large states with fewer, larger villages. Mobile network coverage, provided by private telecom operators alongside the state-owned Bharat Sanchar Nigam Limited, has expanded steadily across the state's rural areas, though signal quality and data speeds continue to show the familiar urban-rural gradient observed across most other infrastructure sectors discussed in this report, with the Kolkata Metropolitan Area and district headquarters towns generally enjoying stronger and more consistent 4G, and increasingly 5G, coverage than the state's more remote rural and hill areas.

A significant recent regulatory development affecting the pace of the state's telecommunications infrastructure rollout was the West Bengal government's notification, issued on May 15, 2026, bringing the Telecommunications (Right of Way) Rules, 2024, into force in the state with effect from January 1, 2025, pursuant to the Telecommunication Act, 2023 (The News Mill, 2026). The state's Information Technology and Electronics Department notification made these Union government rules mandatory for all state departments, statutory and non-statutory authorities, and parastatal bodies under the state government's administrative control, a step the Union Minister for Communications publicly welcomed as improving connectivity and digital access for the state's citizens by streamlining the approval process for laying telecommunications infrastructure, including fibre cables and mobile towers, across public land and rights of way (The News Mill, 2026). This alignment with the national Right of Way framework is expected to reduce a longstanding source of delay and cost escalation in telecom infrastructure deployment within the state, a friction point that had previously slowed fibre and tower rollout relative to states that had adopted the framework earlier, since telecom operators had historically faced inconsistent permission processes and

fees across the state's various municipal and Panchayat jurisdictions when seeking to lay cable or erect towers on public land.

16.2 e-Governance Architecture and Digital Public Infrastructure

The backbone of West Bengal's e-governance architecture consists of the West Bengal State Data Center, developed as a shared, reliable, and secure infrastructure facility for hosting and managing e-governance applications across the state and its constituent departments, implemented as a Mission Mode Project under the National e-Governance Plan, now subsumed within the broader Digital India framework (Webel Technology Limited, 2026). This is complemented by the West Bengal State Wide Area Network, which functions as the state's triple-play backbone network for data, voice, and video communication, supporting the Intranet and e-governance activities of departments across the state (Webel Technology Limited, 2026). The Department of Information Technology and Electronics functions as the key nodal department for the implementation of these Mission Mode Projects, with the West Bengal Electronics Industry Development Corporation serving as the state's designated implementing agency (Webel Technology Limited, 2026).

This centralized data hosting and networking architecture underpins the operation of the substantial number of department-specific digital systems referenced throughout this report, including the UDISE+ education data system discussed in Chapter 5, the Poshan Tracker nutrition monitoring system discussed in Chapter 6, the Jal Mitra water governance platform discussed in Chapter 10, and the various beneficiary-linked welfare scheme databases discussed in Chapter 7, all of which depend on reliable, secure, and interoperable underlying data infrastructure of the kind the State Data Center and State Wide Area Network are designed to provide. The extent to which these various departmental systems are genuinely interoperable, allowing for cross-referencing of beneficiary data across schemes to improve targeting efficiency and reduce duplication, as opposed to functioning as isolated departmental silos built on shared infrastructure but without functional data integration, represents an important and only partially resolved question for the state's digital governance maturity.

Building on this infrastructure, WEBEL has facilitated a range of citizen-facing e-governance platforms, including e-district portals and digital payment systems, intended to simplify administrative processes, reduce the red tape discussed in Chapter 15, and improve transparency in citizens' interactions with government departments (Elets eGov, 2024). The National Informatics Centre's West Bengal State Centre further supports this ecosystem, providing infrastructure and services spanning biometric attendance systems, cloud computing, e-Office document management, secure messaging, video-conferencing, and webcasting to support the digital operations of government departments across the state (National Informatics Centre, 2026).

16.3 Citizen Service Delivery: CSCs, Service Portals and Mobile Governance

Common Service Centres, functioning as last-mile digital service delivery points particularly important for rural and semi-urban citizens across the developmentally lagging districts identified in Chapter 1, continue to expand their operational footprint in West Bengal as part of the national Digital India Mission's stated objective of transforming localized service points and post offices into multi-service digital delivery hubs (AIM India, 2026). These centres provide citizens access to a wide range of government-to-citizen services, including welfare scheme applications for the beneficiary-linked programmes discussed in Chapter 7, certificate issuance, and bill payment services, without requiring travel to district or block-level government offices.

For a state with the extensive rural settlement geography discussed throughout this report, from water supply in Chapter 10 to electrification in Chapter 9, Common Service Centres serve a particularly important function in reducing the effective distance citizens must travel to access government services, a function directly comparable in policy logic to the mobile governance applications discussed below, both aiming to bring service delivery closer to citizens rather than requiring citizens to travel to centralized administrative points. The operators of these Common Service Centres, typically local entrepreneurs trained and certified under the national Common Service Centres scheme, also function as an important source of digitally literate rural employment, connecting to the broader rural livelihood and skill development discussion in Chapters 12 and 17.

Mobile governance applications, exemplified by the state's own Jal Mitra platform discussed in Chapter 10, illustrate a broader trend toward citizen-facing mobile applications as a channel for both service delivery and citizen feedback and monitoring, a model the state has begun to extend across other departments as part of its broader digital governance modernization, consistent with the national push toward electronic service modules spanning e-health, e-education, virtual judicial platforms, and direct financial inclusion tools referenced in the Digital India Mission's strategic framework (AIM India, 2026). Extending this mobile governance model, already demonstrated through Jal Mitra's success in tracking community water governance activity, to other sectors such as health facility feedback, school infrastructure monitoring, or agricultural extension advisory delivery, represents a natural and comparatively low-cost next step for the state's digital governance architecture, building on institutional capability the state has already demonstrated it possesses.

16.4 Data Governance, Open Data Policy and Privacy Framework

Data governance in West Bengal's public sector operates within the framework established by the national Digital Personal Data Protection Act and associated rules, with the state's departments required to align their data collection, storage, and processing practices for the substantial volumes of citizen data generated through the beneficiary-linked welfare schemes discussed in Chapter 7, the health records generated under Swasthya Sathi discussed in Chapter 6, and the education data captured under the UDISE+ system discussed in Chapter 5,

with national data protection standards. The West Bengal State Data Center, discussed in Section 16.2, functions as the central technical infrastructure through which much of this data governance compliance is operationally implemented.

The scale of citizen data the state's various welfare and service delivery systems now collectively hold, spanning over 1.5 crore families covered under Swasthya Sathi discussed in Chapter 6, more than 1.10 crore farmers registered under Krishak Bandhu discussed in Chapter 18, and the adolescent population tracked under Kanyashree Prakalpa discussed in Chapter 7, represents a data governance responsibility of considerable scale and sensitivity, encompassing health records, financial transaction data, and information about minors, each subject to distinct data protection considerations under the national framework. Ensuring that this data is adequately secured against both external cyberattack, discussed further in Section 16.5, and internal misuse represents an ongoing institutional responsibility for the departments and technical agencies, principally WEBEL and the National Informatics Centre's state centre, that manage this infrastructure on the state's behalf.

Open data policy in the state remains at a comparatively early stage of development relative to citizen service delivery digitization, with structured public release of anonymized or aggregated government datasets, of the kind that could support the independent policy analysis and academic research referenced throughout this report, remaining less developed than the state's citizen-facing transactional digital services. Strengthening open data practices, alongside continued data protection compliance, represents an area of ongoing institutional development for the state's digital governance architecture, one that would also directly serve the statistical system strengthening priority discussed in Chapter 20, since more consistent public release of the state's own administrative data would reduce researchers' and policymakers' current reliance on inconsistent third-party compilations of the kind this report has itself had to draw upon in places.

16.5 Cybersecurity: State-Level Institutional Mechanisms

Cybersecurity has emerged as an increasingly prominent institutional priority for the state government, reflecting the rapid expansion of West Bengal's information technology and information technology-enabled services ecosystem, which as of late 2025 comprised 22 information technology parks, two electronic manufacturing clusters, and a hardware park, concentrated substantially around Kolkata's Bengal Silicon Valley hub referenced in Chapter 4 (APAC News Network, 2025). WEBEL has established a Cybersecurity Centre of Excellence in Kolkata, a dedicated institutional facility tasked with addressing the state's cybersecurity challenges as its digital infrastructure and citizen-facing digital services footprint continues to expand (Elets eGov, 2024).

This institutional response has become more urgent as the sophistication of cyber threats facing the state has grown, with West Bengal authorities noting the growing use of artificial intelligence-enabled tools, including voice cloning, deepfake identity documents, and automated phishing systems, to conduct hyper-targeted, highly realistic financial fraud at

scale (APAC News Network, 2025). These threats are particularly consequential for West Bengal given the scale of digital financial inclusion the state has pursued through its beneficiary-linked welfare architecture discussed in Chapter 7, since a population newly and often rapidly onboarded onto digital payment and benefit transfer systems, including citizens in the state's rural and less digitally literate districts, may be more vulnerable to sophisticated fraud schemes than populations with longer-established digital financial literacy, a consideration that links the state's cybersecurity agenda directly to its financial inclusion and social protection objectives.

In response, the state government has announced plans to introduce baseline cybersecurity standards across its information technology parks, alongside rapid fund-freeze protocols designed to limit financial losses from digital fraud once detected, and integrated reporting mechanisms intended to improve the speed and coordination of the state's response to cybercrime incidents (APAC News Network, 2025). The Kolkata Police's own cyber crime unit has correspondingly grown in institutional prominence, reflected in national recognition of its personnel for cybercrime investigation work, an indicator of the increasing operational maturity of the state's dedicated cyber policing capacity (APAC News Network, 2025). Extending this cyber policing capacity beyond the Kolkata Police's jurisdiction to the West Bengal Police force covering the rest of the state, discussed in Chapter 15, represents an important next step given that digital fraud victimization is by no means confined to the metropolitan area, and rural and semi-urban citizens newly engaged with digital financial services may in some respects be more, rather than less, vulnerable to such fraud given generally lower baseline digital literacy.

16.6 Emerging Technologies: AI, Geospatial Systems and Smart Governance

Artificial intelligence adoption within West Bengal's governance architecture remains at an early and largely exploratory stage, with the most concrete current application being defensive, namely the deployment of artificial intelligence-aware cybersecurity measures discussed in Section 16.5 to counter the AI-enabled fraud techniques increasingly used against the state's citizens and businesses. Geospatial systems have seen more established application in the state's land record digitization efforts and in disaster risk mapping supporting the Sundarbans and Himalayan foothill vulnerability assessments discussed in Chapter 14, where satellite-based monitoring of coastal erosion, mangrove cover change, and flood-prone area delineation provides essential technical input to the state's climate adaptation planning.

Land record digitization in particular represents an area where geospatial technology intersects directly with the state's historical land reform legacy discussed in Chapters 3, 7, and 13, since accurate, digitally maintained land records are essential both for continuing to protect the tenurial security established under Operation Barga and for enabling the kind of verified land-linked subsidy delivery, referenced in the agricultural input subsidy discussion in Chapter 18, that requires confident matching of beneficiary identity to specific, geographically verified landholding.

Smart governance applications more broadly, including the integration of artificial intelligence-based monitoring tools mandated under the new Viksit Bharat-Guarantee for Rozgar and Aajeevika Mission (Gramin) Act, 2025, discussed in Chapter 12, for social audit and public disclosure purposes at the Gram Panchayat level, illustrate an emerging pattern in which national legislative and programmatic frameworks are increasingly embedding technology-enabled monitoring and verification requirements directly into scheme design, a pattern the state's own departments will need to build corresponding technical and institutional capacity to implement effectively, extending the digital infrastructure, data governance, and cybersecurity foundations discussed throughout this chapter into new and more analytically demanding domains of public administration in the years ahead. The state's continued investment in its foundational digital public infrastructure, discussed in Sections 16.1 and 16.2, will be an important precondition for its ability to responsibly and effectively adopt these more advanced artificial intelligence and geospatial governance applications as they mature over the coming years.

Chapter 17: Innovation, Research and Knowledge Economy

17.1 State Innovation Ecosystem: Startups and Accelerators

West Bengal's original state startup policy, notified in April 2016 ahead of the corresponding central government scheme, was structured around eight broad thematic pillars encompassing a preamble, vision, mission, enabling environment, and defined incentive procedures, establishing the Startup Bengal initiative as the state's flagship vehicle for nurturing entrepreneurship, with a particular emphasis on strengthening business incubation infrastructure, both by expanding the capacity of existing technical business incubators and by facilitating the establishment of new incubators across government and private sectors, including through preferential land lease terms for government-recognized Technology Business Incubators (IndiaFilings, 2019; All India Trinamool Congress, n.d.). In the Department for Promotion of Industry and Internal Trade's State Startup Ranking exercise for 2018, West Bengal was recognized in the "Aspiring Leader" category, an acknowledgment of the state's early policy notification and its progress in establishing incubators across the state under this framework (Startup India, 2019).

This early-mover status in state startup policy, launched ahead of most peer states, has not, however, consistently translated into a leading position within the more comprehensive India Innovation Index, prepared jointly by NITI Aayog and the Institute for Competitiveness on the framework of the Global Innovation Index, on which West Bengal has been recorded among states in the broader competitive cluster below the consistently top-ranked Karnataka, alongside Telangana, Haryana, Kerala, Uttar Pradesh, Gujarat, and Andhra Pradesh in various editions of the index, rather than among the very top-ranked major states (Business Standard, 2019). This position, while respectable relative to India's full state distribution, represents a gap between the state's early policy ambition, discussed above, and its subsequent realized innovation performance relative to the country's most innovation-intensive states, a gap consistent with the broader pattern, discussed in Chapter 4, of the state's investment and industrial performance lagging its policy intentions.

Following the change in state government in 2026, discussed in Chapters 2 and 4, the state's 2026-27 budget introduced a significant reinvigoration of this startup ecosystem architecture, with announcements including a new Startup Policy to be finalized within three months, a 40 crore rupee Incubation Fund, a 60 crore rupee Venture Capital Fund, and a 50 crore rupee Science and Technology Talent Attraction Fund, alongside a broader 5,000 crore rupee industrial incentive package (Arnab Ray, 2026). A proposed Global Capability Centre Policy represents a further notable innovation ecosystem initiative under consideration, drawing on the observation that India's more than 1,800 Global Capability Centres, employing over 2 million professionals concentrated in cities such as Bengaluru, Hyderabad, Pune, Chennai, Gurugram, and Mumbai, have historically served as a significant generator of future startup founders, angel investors, and senior technology talent, a pipeline effect West Bengal's policy

architects hope to replicate through a dedicated Global Capability Centre attraction strategy (Arnab Ray, 2026).

Independent commentary on the state's startup ecosystem has continued to press for further reform, with experts calling on the state to strengthen funding access, artificial intelligence readiness, mentorship networks, and investment-friendly policy design in order to retain entrepreneurial talent, support MSME growth discussed in Chapter 4, and attract sustained long-term capital inflows (Deccan Herald, 2026). One prominent policy proposal under discussion has been the creation of an "Invest West Bengal" organization, chaired by the Chief Minister, that would merge existing investment promotion bodies including the West Bengal Industrial Development Corporation and WEBEL, discussed in Chapter 16, in order to speed up administrative decision-making and fast-track investment approval processes, a proposal explicitly motivated by the assessment that the state's existing, fragmented investment promotion structure has not functioned effectively, evidenced by the state's continuing relative decline as an economic hotspot discussed in Chapters 3 and 4 (Deccan Herald, 2026).

17.2 Research and Development: Academic-Industry Linkages

West Bengal's research and development ecosystem draws on the historical institutional strength of its higher education sector discussed in Chapter 5, including Jadavpur University, the Indian Institute of Engineering Science and Technology at Shibpur, and a growing number of Indian Institutes of Technology and Indian Institutes of Science Education and Research-linked research programmes, alongside the state's medical research institutions concentrated in Kolkata, including institutions engaged in tropical medicine and public health research relevant to the disease burden discussed in Chapter 6. Academic-industry linkage remains an area identified for strengthening, with the state's proposed Global Capability Centre Policy and Science and Technology Talent Attraction Fund, both discussed in Section 17.1, explicitly framed as mechanisms to deepen the connective tissue between the state's academic research base and its private sector innovation and commercialization capacity.

India's own performance on the Global Innovation Index, prepared by the World Intellectual Property Organization, provides useful national context for interpreting the state's research and development challenges: India rose to 38th position among 139 economies in the 2025 edition, up from 48th in 2020 and 81st in 2015, a rise attributed nationally to the country's substantial knowledge capital, its vibrant startup ecosystem, and the contribution of public and private research organizations (Class24, 2025; Drishti IAS, 2025). Even as India's national ranking has improved, independent commentators examining the 2025 results noted a broader structural weakness relevant to West Bengal's own research and development challenge, namely that India possesses strong capacity in academic research and startup activity but continues to struggle with translating research outcomes into scalable commercial enterprises, a disconnect between science and enterprise attributed to weak institutional coordination between universities, industry, and government (The Wire, 2025). This national diagnosis applies with particular force to West Bengal, whose academic research strength,

discussed in Chapter 5, has historically not translated into a commensurate commercialization or industrial R&D ecosystem, consistent with the broader manufacturing underperformance discussed in Chapter 3.

The state's information technology parks, numbering 22 as discussed in Chapter 16, alongside its electronic manufacturing clusters, provide physical infrastructure within which academic-industry research collaboration in applied electronics, software, and, increasingly, artificial intelligence-related fields can be anchored, though the scale of such collaboration remains modest relative to states with more established academic-industry research ecosystems such as Karnataka and Telangana, both of which have consistently outranked West Bengal on innovation index measures discussed in Section 17.1.

17.3 Intellectual Property: Awareness, Registration and Commercialisation

Intellectual property awareness and registration support in West Bengal is delivered through the national Startup India framework's intellectual property rights facilitation services, which extend to registered startups within the state, alongside the intellectual property cell facilities of the state's major technical and research institutions. Commercialization of intellectual property generated within the state's universities and research institutions remains an area of ongoing development, with technology transfer offices and industry-facing commercialization support functions less mature within West Bengal's institutional landscape than in India's more established innovation hub states, consistent with the national translation gap between research and enterprise discussed in Section 17.2.

The World Intellectual Property Organization, in its role coordinating global intellectual property protection systems, has continued to emphasize the importance of accessible intellectual property registration and protection services for innovators and creators seeking to bring ideas to market, a mission of direct relevance to West Bengal's substantial base of traditional craft and creative producers discussed in Chapter 19, whose Geographical Indication registrations, including for products such as Darjeeling tea and other regionally distinctive goods, represent an important, if underexploited, category of intellectual property protection and commercialization opportunity specific to the state's cultural and agricultural heritage, distinct from the more conventional technology-sector patent and trademark activity typically associated with startup ecosystem discussions.

The state's proposed startup policy reforms discussed in Section 17.1, including the Incubation Fund and Venture Capital Fund, are intended in part to help bridge this commercialization gap by providing early-stage capital support that can carry promising intellectual property from the research or prototype stage through to viable commercial product development within the state, rather than requiring entrepreneurs to relocate to other states' more developed venture capital ecosystems to secure this stage of funding.

17.4 Knowledge Institutions as Engines of Development

West Bengal's knowledge institution base, encompassing its universities, medical colleges, engineering institutions, and specialized research centers discussed in Chapters 5 and 17.2, represents one of the state's most significant, if underutilized, development assets, consistent with the historical cultural and intellectual legacy of the Bengal Renaissance discussed in Chapter 1. Bengal Silicon Valley, the state's information technology hub concentrated around Kolkata's Sector V and Rajarhat New Town areas discussed in Chapters 4 and 16, functions as the most visible contemporary expression of the state's ambition to position its knowledge institutions as engines of economic development rather than purely academic or credentialing bodies.

The gap identified in Sections 17.1 and 17.2, between the state's strong foundational knowledge institution base and its comparatively modest realized innovation and commercialization outcomes, mirrors a broader pattern this report has documented across multiple sectors: a state whose historical and structural strengths, in literacy discussed in Chapter 1, land reform discussed in Chapter 3, and now knowledge institutions discussed here, have not always converted into commensurate contemporary economic outcomes. Addressing this gap specifically for the state's knowledge institutions will require the kind of sustained, well-resourced policy attention the state's newly announced Science and Technology Talent Attraction Fund and Global Capability Centre Policy, both discussed in Section 17.1, represent, though the ultimate test, as with the state's industrial policy reforms discussed in Chapter 4, will be whether these announced initiatives translate into realized outcomes over the multi-year implementation horizon ahead.

Realizing the full development potential of these knowledge institutions will require continued investment in research infrastructure, sustained academic-industry linkage building discussed in Section 17.2, and a policy environment, including the Global Capability Centre Policy and startup ecosystem reforms discussed in Section 17.1, capable of retaining the state's substantial pool of technically trained graduates within the state's own economy rather than losing them to out-migration toward other Indian states' more established technology and research hubs, an outcome that would otherwise represent a significant loss of human capital investment for the state, and one directly connected to the youth out-migration patterns discussed in Chapter 20.

17.5 Building a Youth Innovation and Research Ecosystem

Youth innovation and research ecosystem building in West Bengal intersects closely with the state's efforts to formalize entrepreneurship education within its university curriculum, an approach articulated in the original Startup Bengal policy's stated aim of encouraging young people to consider entrepreneurship as a career choice by embedding appropriate learning modules within university curricula, organizing entrepreneurship development programmes in vocational institutions, and supporting outreach programmes, including interactions

between students and practicing entrepreneurs and the establishment of entrepreneurship development centres across the state's educational institutions (IndiaFilings, 2019).

This youth-focused innovation agenda connects directly to national initiatives such as the Atal Tinkering Labs programme, which establishes school-level innovation and prototyping facilities, and the National Initiative for Developing and Harnessing Innovations, which provides aid to innovators through mechanisms including idea-to-prototype support and entrepreneur-in-residence fellowships (Class24, 2025), both of which extend to schools and institutions within West Bengal alongside the state's own entrepreneurship education initiatives discussed above, providing a layered, multi-institutional support architecture for youth innovation spanning school-level exposure through university-level incubation.

The state's proposed Science and Technology Talent Attraction Fund, discussed in Section 17.1, represents a more recent and more explicitly resourced instrument for this youth innovation ecosystem-building agenda, intended to draw scientific and technical talent, including the state's own graduates who might otherwise migrate elsewhere, into research and innovation activity based within West Bengal, complementing the broader skill development and employability initiatives discussed in Section 17.6.

17.6 Skill Development, Employability and Workforce Alignment

West Bengal's Industrial Training Institute network is undergoing a significant modernization push through the Union government's Prime Minister Skilling and Employability Transformation scheme, commonly known as PM-SETU, first announced in the Union Budget 2024-25 with the objective of transforming vocational education and making India's workforce more industry-ready (Elets eGov, 2026). The state government has welcomed the scheme as a major opportunity to improve vocational education infrastructure and youth employment prospects, with the initiative expected to bring an investment of approximately 6,000 crore rupees toward modernizing the state's Industrial Training Institutes, upgrading training facilities, and aligning curriculum and equipment more closely with current industry requirements (Indian Masterminds, 2026).

This ITI modernization effort directly addresses the technical and vocational education gap discussed in Chapter 5, where the state's vocational education ecosystem was identified as comparatively underdeveloped relative to the scale of its school-going and working-age population. Combined with the state's broader workforce quality challenges discussed in Chapter 3, including the mismatch between the state's sectoral employment distribution and its output composition, the PM-SETU-driven ITI modernization, alongside the state's Startup Policy reforms, MSME credit expansion discussed in Chapter 4, and proposed Global Capability Centre attraction strategy, together constitute a coordinated, if still emerging, policy architecture aimed at improving the alignment between the skills the state's education and training system produces and the skills its economy, both its traditional manufacturing and agricultural base and its growing services and technology sectors, actually requires.

The success of this coordinated skilling and innovation architecture will ultimately be measured against the same metric that runs through this entire chapter and, indeed, this entire report: whether West Bengal's genuine and long-standing knowledge and human capital strengths, in literacy, in higher education, in research institutions, finally convert into a innovation and enterprise ecosystem commensurate with those strengths, closing the gap between the state's Aspiring Leader-level policy ambition documented as early as 2016 and its more modest realized position on national innovation benchmarks documented through the years since.

Chapter 18: Agriculture, Allied Sectors and Food Security

18.1 Cropping Pattern, Agricultural Productivity and Input Use

West Bengal's cropping pattern reflects the ecological diversity described in Chapter 1, spanning intensive rice cultivation across the central and southern Gangetic plains, jute along the Hooghly river basin, tea in the northern hill and Dooars belt, and increasingly diversified horticulture and specialty crop production, including a state policy focus, articulated in recent agricultural planning documents, on export-quality produce such as organic tea, jute, and the aromatic Gobindobhog variety of rice, promoted through dedicated cultivation clusters (Mitti Gold Organic, 2026). The state's cropping intensity, defined as the ratio of gross cropped area to net sown area and reflecting the extent to which land is used for more than one crop per year, stands at 194 percent, the highest of any Indian state and substantially above the national average of 143.6 percent, a reflection of the state's favorable rainfall, described in Chapter 1, and its extensive irrigation coverage discussed in Section 18.2 (Government of West Bengal, 2025).

Input use in the state's agricultural sector has increasingly incorporated digital and precision agriculture tools, with state policy guidelines encouraging farmers to use soil health cards and precise digital mapping to optimize fertilizer and other input applications, integrated with verified land records to ensure that subsidized high-technology machinery, micro-irrigation systems, and certified organic fertilizers reach genuine cultivators rather than being diverted through fraudulent claims (Mitti Gold Organic, 2026). The state's agricultural research and extension infrastructure, including its network of Krishi Vigyan Kendras, continues to support farmers in adopting these input optimization practices alongside more traditional agronomic advisory services.

18.2 Irrigation and Water Use Efficiency in Agriculture

West Bengal's irrigation coverage has expanded substantially over the past decade and a half, growing by 25.67 percent over the fifteen years preceding the most recent state government reporting, bringing 64.45 percent of the state's cultivable area under irrigation, above the national average of 56.3 percent (Government of West Bengal, 2025). This expansion has been supported by a combination of canal-fed command area development linked to the reservoir systems discussed in Chapter 10, continued expansion of groundwater-based minor irrigation through tube wells, and targeted water conservation investment in the drought-prone western plateau districts of Bankura and Purulia, discussed in Chapters 1 and 13, where rainwater harvesting schemes have been implemented specifically to expand irrigation potential in these historically water-stressed areas.

Water use efficiency improvements have been pursued through farm mechanization subsidy schemes that support the adoption of micro-irrigation systems alongside more conventional mechanization support for mini-tractors and power tillers, with subsidies of 40 to 50 percent offered on qualifying equipment under the state's farm mechanization subsidy framework

(Mitti Gold Organic, 2026). These efficiency-oriented investments are particularly significant in the context of the state's already high cropping intensity discussed in Section 18.1, since sustaining multiple cropping cycles per year on the same land places continuous demand on available water resources that efficient irrigation practice can help moderate.

18.3 Agricultural Marketing, Price Realisation and Farmer Income

Farmer income support in West Bengal is anchored by the Krishak Bandhu scheme, launched in December 2018 by then Chief Minister Mamata Banerjee as the state's flagship direct income assistance programme for cultivators, structured around two components: an assured income transfer and a death benefit insurance component (eGovtSchemes, 2026). The scheme's assured income component, revised over time, currently provides financial assistance of 10,000 rupees per acre annually, up to a maximum of 20,000 rupees for holdings of two acres or more, with a minimum guaranteed payment of 4,000 rupees annually even for smaller holdings, disbursed directly to farmer bank accounts in two installments timed to the Kharif and Rabi cropping seasons, alongside a death benefit of 2 lakh rupees, or 2.5 lakh rupees in the case of accidental death, for registered farmer families (Schemes In India, 2026; eGovtSchemes, 2026). As of the state's most recent reporting, financial assistance of 27,016 crore rupees had been disbursed to over 1.10 crore farmers in the state under the renamed Krishak Bandhu (Natun) scheme (Government of West Bengal, 2025), with over 90 lakh registered farmers benefiting from the programme as of mid-2026 (eGovtSchemes, 2026).

Complementing this income support, the state's Bangla Shasya Bima crop insurance scheme has safeguarded 1.13 crore farmers against crop losses, with claims worth 3,938 crore rupees disbursed to affected farmers at zero premium cost to the beneficiary as of 2025 (Government of West Bengal, 2025). This zero-cost insurance model, in which the state government absorbs the premium burden entirely rather than requiring farmer co-payment, represents a distinctive design choice within the state's agricultural risk management architecture relative to the more common premium-sharing models used in several other Indian states under the national Pradhan Mantri Fasal Bima Yojana framework. Agricultural marketing infrastructure improvements, including continued investment in market linkages discussed in the context of rural connectivity in Chapter 12, remain necessary to ensure that farmers benefiting from this income and insurance support are also able to realize fair prices for their produce through efficient market access, rather than relying on income transfers alone to compensate for persistently weak price realization at the point of sale.

18.4 Food Processing Industry and Value Chain Development

Food processing industry development in West Bengal draws on the state's substantial raw material base in rice, jute, fish, and horticultural produce discussed throughout this chapter, though the scale of formal food processing investment and value addition in the state remains modest relative to its raw agricultural output volume, a gap consistent with the broader manufacturing underperformance discussed in Chapter 3. The state's own agricultural farms and demonstration units, operated by the Department of Agriculture, produced substantial

quantities of seed and food grain as of October 2025, including 307.26 metric tonnes of paddy seed, 18.2 metric tonnes of pulse seed, 158 metric tonnes of rice, 18 metric tonnes of pulses, and 22,000 litres of mustard oil, alongside 62.25 metric tonnes of fruits and vegetables and 11.05 lakh seedlings (West Bengal Finance Department, 2026), figures indicative of the state's own institutional role in seed multiplication and quality input supply for the broader farming community, complementing private sector value chain development.

Since 2011, state expenditure on agriculture and allied sectors has increased 9.16-fold, according to the state's 2026-27 budget documentation, reflecting the sustained fiscal priority attached to the sector discussed in Chapter 2 (West Bengal Finance Department, 2026). Continued development of cold chain infrastructure, food processing clusters linked to the state's specialty crop production discussed in Section 18.1, and stronger linkages between farmer producer organizations and food processing enterprises remain identified priorities for translating the state's raw agricultural output advantage into higher value-added food processing sector growth.

18.5 Animal Husbandry, Dairy and Poultry: Economic Contribution

Animal husbandry activity within West Bengal's state farm and demonstration network produced a range of livestock outputs as of October 2025, including 2.68 lakh day-old chicks distributed to government departments and a further 3.78 lakh distributed to Self Help Groups discussed in Chapter 12, alongside 38,500 Black Bengal goat kids, a breed indigenous to the state valued for its meat and skin quality, 15,275 ducklings, 5.36 lakh eggs, and 552 piglets (West Bengal Finance Department, 2026). The prominence of Self Help Group-directed livestock distribution reflects the state's broader strategy, discussed in Chapters 7 and 12, of using livestock and poultry rearing as a supplementary livelihood activity for rural women organized through Self Help Group structures.

Dairy development in the state remains less commercially organized around large-scale cooperative federations than in states such as Gujarat, though continued expansion of the state's own livestock breeding and distribution programmes, alongside targeted support for goat and poultry rearing well suited to smallholder and landless rural households, provides an important supplementary income stream for the state's rural population, particularly relevant to households with limited or no landholding who cannot benefit directly from the crop-focused Krishak Bandhu scheme discussed in Section 18.3.

18.6 Fisheries: Inland, Marine and Aquaculture

West Bengal's fisheries sector, spanning inland fisheries in the state's extensive river, pond, and wetland network discussed in Chapters 1 and 13, marine fisheries along its Bay of Bengal coastline, and aquaculture in both freshwater and brackish water systems in the southern deltaic districts, received a proposed allocation of 34 crore rupees for the 2026-27 financial year under the state's departmental budget (West Bengal Finance Department, 2026). The state's fisheries sector holds particular significance for livelihood security in the Sundarbans

region discussed in Chapters 13 and 14, where fishing represents one of the principal livelihood activities for forest-fringe communities alongside the human-wildlife conflict risks discussed in Chapter 14.

A specific programme targeting the western plateau districts, referenced in recent farmer subsidy scheme documentation, focuses on converting barren land in Bankura and Purulia into productive orchards and fisheries through collective farming approaches and water conservation grants, an initiative that extends the state's fisheries development agenda beyond its traditional deltaic and riverine strongholds into the water-stressed plateau districts identified as developmentally lagging in Chapter 1 (Mitti Gold Organic, 2026).

18.7 Horticulture, Floriculture and Medicinal Plants

Horticultural diversification in West Bengal has proceeded alongside the state's continued rice dominance, with vegetable cultivation across the central and southern plains, floriculture in and around the Kolkata Metropolitan Area serving urban flower markets and export demand, and medicinal and aromatic plant cultivation representing smaller but growing components of the state's agricultural portfolio. The Darjeeling hills additionally support horticultural crops including oranges and cardamom alongside the region's dominant tea economy discussed in Chapter 3, diversifying the hill economy beyond its plantation crop base.

State support for horticultural diversification operates through the same input subsidy, insurance, and mechanization support architecture discussed in Sections 18.2 and 18.3, extended to horticultural crops alongside the state's staple cereal and jute production, with continued emphasis on organic certification and export quality standards, discussed in Section 18.1, particularly relevant to the state's higher-value horticultural and specialty crop segments seeking access to premium domestic and export markets.

18.8 Agricultural Credit, Insurance and Risk Management

Agricultural credit access in West Bengal operates through a combination of commercial bank lending, regional rural bank financing, and cooperative credit institutions discussed in Chapter 3, supplemented by the state's direct income support under Krishak Bandhu and its zero-premium crop insurance under Bangla Shasya Bima, both discussed in Section 18.3. This combination of direct income transfer, insurance protection, and continued efforts to expand formal credit access reflects a comprehensive, if not always perfectly coordinated, approach to agricultural risk management in the state, addressing income risk through Krishak Bandhu, production risk through Bangla Shasya Bima, and, to the extent formal credit access continues to expand, liquidity risk through improved access to institutional agricultural finance rather than dependence on informal, higher-cost credit sources.

The scale of financial commitment behind this risk management architecture, evidenced by the 27,016 crore rupees disbursed under Krishak Bandhu and the 3,938 crore rupees in

zero-cost crop insurance claims discussed in Section 18.3, represents a substantial and sustained fiscal commitment to agricultural risk management, one that must be weighed against the state's broader fiscal capacity constraints discussed in Chapter 2, even as it provides the state's large agrarian population, comprising over a third of the workforce as discussed in Chapter 3, with a meaningful measure of income security and risk protection.

Chapter 19: Tourism, Culture and Creative Economy

19.1 Tourism Asset Inventory: Natural, Heritage, Religious and Adventure

West Bengal possesses one of the most ecologically and culturally diverse tourism asset bases of any Indian state, spanning the Darjeeling Himalayan hill stations in the north, the UNESCO World Heritage Sundarbans mangrove forest and Bengal tiger habitat in the south, the colonial heritage architecture of Kolkata, and the cultural and educational landscape of Santiniketan, itself inscribed on the UNESCO World Heritage List (Travel And Tour World, 2026). Kolkata's principal heritage landmarks, including the Victoria Memorial and the Howrah Bridge, discussed further in the urban heritage context of Chapter 11, anchor the city's identity as both the former capital of British India and the enduring cultural capital of eastern India, a legacy connected to the Bengal Renaissance discussed in Chapter 1 (Incredible India, 2026).

The Darjeeling Himalayan Railway, a narrow-gauge heritage line spanning 88 kilometers from New Jalpaiguri to Darjeeling and climbing from approximately 100 meters to over 2,200 meters in elevation through a series of engineering features including zigzags and loops, holds UNESCO World Heritage recognition and includes Ghum railway station, the world's highest railway station, along its route (Grokopedia, 2026; Incredible India, 2026). This engineering heritage asset, distinct from the state's broader conventional rail network discussed in Chapter 8, functions simultaneously as a functioning transport link and as a tourism attraction in its own right, with dedicated heritage steam locomotive "toy train" services operating specifically for tourists alongside the line's regular passenger services, illustrating a dual transport-and-tourism function unusual among the state's infrastructure assets discussed elsewhere in this report.

Beyond Darjeeling itself, the state's northern hill tourism circuit includes Kalimpong, valued for its monasteries, flower nurseries, and comparatively less crowded, calmer atmosphere relative to Darjeeling, and Mirik, while the coastal circuit centers on Digha, with its seven-kilometer stretch of sandy shoreline, and the neighboring beach town of Mandarmani, both popular weekend getaway destinations from Kolkata (Incredible India, 2026; TravelTriangle, 2026). Religious and pilgrimage tourism draws on sites including the Kalighat Temple in Kolkata, one of the Shakti Peethas of significance in Hindu pilgrimage tradition, while adventure tourism opportunities are concentrated in the Himalayan foothill districts, including trekking routes accessible from Darjeeling and Kalimpong toward the Singalila ridge, and, increasingly, in eco-tourism circuits developed within the Sundarbans, discussed further in Section 19.3, including guided boat safaris through the mangrove creeks in search of the region's distinctive wildlife.

19.2 Tourism Infrastructure: Hotels, Connectivity and Facilitation

Accommodation infrastructure across West Bengal's tourism circuits varies considerably by destination, ranging from budget hostels, boutique hotels, and luxury chains concentrated in

Kolkata's Park Street, Salt Lake, and Esplanade areas, to tea estate bungalows and colonial-era heritage hotels in Darjeeling and Kalimpong, eco-resorts and river lodges in the Sundarbans catering to nature-focused visitors, and art-themed guesthouses and homestays in Santiniketan reflecting that town's distinctive cultural identity (TravelTriangle, 2026). This differentiated accommodation landscape reflects the state's broader tourism strategy of developing distinct destination identities rather than a single homogenous tourism product across all its circuits, a strategy made explicit in the state's more recent tourism repositioning discussed in Section 19.3.

Connectivity to the state's tourism circuits relies substantially on the road and rail infrastructure discussed in Chapter 8, though this connectivity faces notable seasonal vulnerabilities, with National Highway 10, the principal road link connecting the plains to Darjeeling and Sikkim, facing recurrent closures from landslides during the monsoon season, including multiple documented blockages in 2025 that disrupted hill-bound travel, while other routes serving the coastal and Sundarbans areas face seasonal flooding and, in some stretches, poor maintenance (Grokikipedia, 2026). This seasonal connectivity vulnerability directly parallels the broader climate risk profile discussed in Chapter 14, since the same monsoon and cyclone hazards that threaten the state's agricultural and coastal populations also disrupt the tourism sector's peak-season accessibility, creating a compounding economic vulnerability for tourism-dependent local economies in both the Himalayan foothill and Sundarbans coastal circuits.

Tourist facilitation and safety have also been identified as areas requiring continued attention, with documented incidents in 2025 of taxi drivers and unofficial agents in Kolkata directing tourists to unauthorized hotels or inflating fares, alongside broader patterns of aggressive touting and falsified guiding services at tourist sites that have required police intervention and continue to represent a trust and reputation challenge for the state's tourism sector (Grokikipedia, 2026). Addressing these facilitation gaps through better-regulated tourist transport, certified guide programmes, and clearer tourist information and grievance redress mechanisms represents an achievable, comparatively low-capital-intensity improvement relative to the larger infrastructure investments discussed elsewhere in this chapter, and one that could meaningfully improve visitor experience and repeat-visitation rates across the state's tourism circuits.

19.3 Domestic and International Tourist Flows: Trends and Targets

West Bengal's tourism development strategy received a significant boost with the Centre's approval for the state to develop two globally benchmarked tourism destinations under the Union government's national tourism development framework, announced in the Union Budget 2025-26, which envisages the creation of at least one such destination in every Indian state and Union Territory, supported by private investment and performance-linked incentives for destination management (The Statesman, 2026). Under this framework, the state government has identified Digha for development as a premier coastal tourism destination and the Sundarbans for development as an eco-friendly, carbon-neutral tourism circuit, while

Kalimpong has been separately identified as a future hub for nature and adventure tourism, complementing the more established Darjeeling and Mirik hill circuits (The Statesman, 2026).

This national destination development framework, applied consistently across all Indian states, provides West Bengal an opportunity to benchmark its own tourism infrastructure and destination management practices against other states' parallel development efforts, a comparative dimension that could accelerate the adoption of best practices in destination management, sustainability certification, and private investment facilitation of the kind more established Indian tourism destinations, such as Goa and Kerala, have developed over previous planning cycles.

The state's broader tourism repositioning strategy, discussed at the Travel and Tourism Fair Kolkata 2026, emphasizes placing culture, crafts, cuisine, festivals, and community-based experiences at the center of a more sustainable, experience-led tourism economy, with the explicit goal of distributing tourism's economic benefits beyond Kolkata and the established hill and coastal circuits into destinations such as Santiniketan, Bishnupur, and Purulia, drawing on rural Bengal's cultural resources, existing visitor demand, and community networks (Travel And Tour World, 2026). This strategy explicitly recognizes that sustainable tourism must be tailored differently across the state's distinct destinations, given that the Sundarbans faces UNESCO-identified vulnerabilities including cyclones, saline intrusion, pollution, and climate change, discussed in Chapter 14, while Darjeeling faces an entirely different set of pressures centered on traffic congestion, landslides, and limited urban space (Travel And Tour World, 2026). The inclusion of Purulia, one of the developmentally lagging districts identified repeatedly throughout this report, within this diversified tourism strategy is particularly notable, since community-based rural tourism of the kind envisioned for Purulia, drawing on the district's Chhau dance tradition discussed in Section 19.5 and its tribal cultural heritage discussed in Chapter 7, represents a potential complementary livelihood strategy for a district whose conventional agricultural and industrial development prospects have been more constrained.

19.4 Cultural Heritage Preservation and Institutional Framework

Santiniketan, founded by Rabindranath Tagore and inscribed on the UNESCO World Heritage List, represents the most internationally recognized formal heritage preservation achievement within the state's cultural heritage portfolio, alongside the state's broader engagement with the Union government's Heritage City Development and Augmentation Yojana discussed in the urban heritage context of Chapter 11. The Visva-Bharati University, established by Tagore at Santiniketan and later designated a central university, functions simultaneously as an active institution of higher learning, discussed in the context of knowledge institutions in Chapter 17, and as a living heritage site whose distinctive open-air pedagogical tradition and architectural character continue to draw visitors alongside students.

Bishnupur, in Bankura district, with its distinctive terracotta temple architecture built predominantly during the Malla dynasty's rule, represents a further significant heritage site increasingly incorporated into the state's diversified tourism strategy discussed in Section 19.3, its intricately carved terracotta panels depicting scenes from Hindu epics and everyday life representing a distinctive regional architectural tradition found nowhere else in India at comparable scale.

Institutional preservation of the state's cultural heritage operates through the state Department of Tourism in coordination with the Archaeological Survey of India for centrally protected monuments and the state's own archaeology and museums directorate for state-protected heritage sites, a framework that must balance conservation imperatives against the growing tourism development pressure on these same heritage assets discussed throughout this chapter, a tension familiar from heritage tourism management challenges globally, where increased visitor footfall, while economically beneficial, can itself accelerate wear on fragile heritage structures absent careful visitor management and conservation-oriented site design.

19.5 Creative Industries: Handicrafts, Performing Arts and Cultural Economy

West Bengal's handicraft economy encompasses a range of geographically distinct craft traditions, including Baluchari and Tant sarees, terracotta items and leatherwork associated with Santiniketan, Tibetan carpets, woollens, and handmade jewellery in Darjeeling, and Kantha embroidery produced across rural Bengal, with Kolkata's New Market, Gariahat, and College Street areas functioning as major retail and wholesale hubs for these craft products alongside books and general merchandise (TravelTriangle, 2026). These craft traditions connect directly to the artisanal and small-scale manufacturing sector discussed in the informal economy analysis of Chapter 3, representing a significant, if often informally organized, component of the state's creative economy, and to the Geographical Indication registration opportunities discussed in the intellectual property context of Chapter 17.

Performing arts traditions in the state include classical music, theatre, and dance, alongside distinctive folk performance forms including Baul music, a mystic folk tradition with Bhakti and Sufi influences recognized by UNESCO as an Intangible Cultural Heritage of Humanity, and Chhau, a semi-classical masked dance form originating in the state's western districts, particularly Purulia, discussed in Section 19.3 (TravelTriangle, 2026). These living performing arts traditions, sustained through both formal institutional patronage and informal community practice, represent an important, if difficult to fully monetize, component of the state's broader creative economy and cultural tourism appeal discussed in Section 19.3, with Purulia's Chhau tradition in particular offering a concrete example of how the state's diversified, community-based tourism strategy could translate an existing cultural asset into direct economic benefit for one of its most developmentally lagging districts.

19.6 Film, Media and Content Industries as Economic Drivers

West Bengal, and Kolkata in particular, retains a historically significant position within Indian cinema, having produced globally recognized filmmakers including Satyajit Ray, whose legacy continues to anchor the state's identity as a center of serious, art-house Indian cinema alongside its more commercially oriented Bengali film industry (TravelTriangle, 2026). This cinematic legacy, combined with the state's broader literary and intellectual heritage discussed in Chapter 1, continues to shape both the state's cultural tourism appeal, with Ray-associated and literary heritage sites forming part of Kolkata's cultural tourism circuit, and its media and content production sector more broadly.

The Bengali film and television industry, headquartered predominantly in Kolkata, continues to produce content for both the state's own substantial Bengali-speaking audience and, increasingly, for the wider Bengali-speaking diaspora across India and internationally, including in Bangladesh, given the shared linguistic and cultural heritage discussed in Chapter 1. This diaspora-oriented content market represents a growing, if not yet fully quantified, revenue opportunity for the state's media industry, extending its addressable audience well beyond the state's own resident population and connecting to the broader discussion of cross-border cultural and economic ties with Bangladesh discussed in Chapter 4's treatment of regional cooperation.

Durga Puja, described as one of India's grandest festive celebrations and a defining feature of the state's cultural calendar, has itself grown into a significant driver of both cultural tourism and a distinct seasonal creative economy encompassing pandal art and design, decorative lighting, and a wide range of festival-associated commerce, representing one of the most economically significant expressions of the state's living cultural heritage discussed throughout this chapter (Incredible India, 2026; TravelTriangle, 2026). The scale of economic activity generated during this festival period, spanning artisan employment in pandal and idol construction, the hospitality and retail sectors' seasonal peak demand, and increasingly organized "pandal-hopping" tourism that draws visitors from across India and internationally to experience Kolkata's distinctive celebration of the festival, represents one of the clearest existing examples within the state's economy of cultural heritage directly and substantially translating into measurable economic activity, a model the state's broader tourism repositioning strategy discussed in Section 19.3 appears to be seeking, in effect, to replicate across a wider set of destinations and cultural assets throughout the year rather than concentrating this economic benefit within a single festival season.

Chapter 20: Cross-Cutting Themes and Integrated Policy Imperatives

20.1 Sustainable Development Goals of the State

West Bengal's engagement with the 2030 Agenda for Sustainable Development is tracked primarily through NITI Aayog's Sustainable Development Goals India Index, discussed in Chapter 1, on which the state's movement into the front-runner category by the 2023-24 edition reflects genuine, if uneven, progress across the seventeen goals. The state's strongest Sustainable Development Goal performance areas, consistent with the sectoral findings throughout this report, lie in poverty reduction, discussed in Chapter 1, gender parity in basic education enrolment, discussed in Chapter 5, and, per the state's own 2025 development profile discussed in Chapter 6, communicable disease control, while its weaker performance areas include non-communicable disease management, discussed in Chapter 6, and full achievement of maternal mortality reduction targets, also discussed in that chapter.

Cross-cutting Sustainable Development Goal integration in the state requires that the sector-specific gains documented in Chapters 5 through 19 be understood as interdependent rather than isolated, since progress on health, discussed in Chapter 6, is inseparable from progress on water and sanitation, discussed in Chapter 10, and from the persistent intra-state disparities concentrated in the same cluster of western plateau and northern border districts identified repeatedly throughout this report, from the aspirational districts discussed in Chapter 1 to the health system gaps discussed in Chapter 6 and the minority welfare concerns discussed in Chapter 7.

20.2 Gender Mainstreaming Across Sectors

Gender mainstreaming in West Bengal's development policy is most concretely institutionalized through the Kanyashree Prakalpa scheme discussed in Chapter 7, whose documented association with rising female educational aspiration and postgraduate enrolment represents one of the state's most significant gender policy successes. This success in education, however, has not yet been matched by comparable gains in female labour force participation, which, as discussed in Chapter 3, remains below the national average, indicating that the gender mainstreaming agenda in the state has advanced further in the education and health domains, including institutional delivery and adolescent health services discussed in Chapter 6, than in the economic domain of employment and entrepreneurship.

Effective gender mainstreaming going forward will require closer integration between the state's education-focused gender interventions and its economic and employment policy discussed in Chapters 3 and 4, ensuring that the rising educational aspirations documented among Kanyashree beneficiaries translate into expanded formal employment and entrepreneurship opportunities for women, including through the Self Help Group-based livelihood programmes discussed in Chapter 12 and continued attention to closing the gender

gap in the one-third reserved seats for women in Panchayati Raj institutions discussed in Chapter 7, ensuring that formal representation translates into substantive decision-making influence.

20.3 Youth Policy and Demographic Dividend Realisation

West Bengal's demographic profile presents a distinctive and somewhat paradoxical youth policy challenge. A significant proportion of the state's population remains below 30 years of age, reflecting a demographic dividend consistent with the broader national pattern in which the United Nations Department of Economic and Social Affairs estimates that over 66 percent of India's population is under the age of 35 and one-fifth of the world's youth live in India (West Bengal PCS Notes, 2024; GIS Reports, 2025). Yet West Bengal's own fertility transition, discussed in Chapter 6, has already advanced further than the national average, with a Total Fertility Rate already below replacement level, meaning the state's demographic dividend window is comparatively narrower and closing faster than in many other Indian states, an important nuance for the state's youth and workforce planning horizon through 2047.

A defining feature of the state's youth policy challenge is persistent and substantial youth out-migration to other Indian states in search of higher education and employment opportunities, a pattern long documented in migration research spanning the 1991, 2001, and 2011 Census rounds and continuing into the present period, with West Bengal's out-migrant workers historically flowing toward Delhi, Maharashtra, Gujarat, and, increasingly in recent decades, toward Kerala and Tamil Nadu, alongside significant flows to Gulf countries (Institute for Advanced Studies, n.d.). Bengali migrant workers employed in southern Indian states including Karnataka have been documented earning on average around 1.7 lakh rupees annually and remitting almost two-thirds of their earnings back to their families in West Bengal, illustrating both the economic significance of this out-migration for sending households and the extent to which the state's own labour market, discussed in Chapter 3, has not generated sufficient formal employment opportunities to retain this working-age population within the state (Springer Nature, 2022). This dynamic is particularly pronounced among rural Muslim youth, whose out-migration patterns and reliance on social networks to secure employment in destination states have been the subject of dedicated academic study, reflecting the concentration of out-migration pressure in the minority-concentration districts discussed in Chapter 7 (IDEAS RePEc, 2022).

Realizing the full economic benefit of the state's demographic dividend, rather than exporting it as a remittance-generating but locally underutilized workforce, will depend substantially on the success of the skill development, industrial policy, and startup ecosystem reforms discussed in Chapters 4, 17, and elsewhere in this report, in generating sufficient formal, productive employment opportunities within the state itself to reduce the economic necessity of youth out-migration, even as some measure of labour mobility will likely remain a feature of the state's economy given established migration networks and the comparative wage differentials with more industrially dynamic states.

20.4 Migration: Internal, Inter-State and International Dimensions

West Bengal's migration profile, discussed in part in Section 20.3, encompasses three distinct dimensions: substantial out-migration of working-age residents to other Indian states, discussed above; in-migration of workers from poorer neighboring states, particularly Bihar and Jharkhand, into the state's own industrial and agricultural labour markets, a pattern noted in Chapter 3's discussion of the informal economy; and international migration dynamics tied to the state's extensive border with Bangladesh, discussed in Chapter 1, encompassing both historical Partition-era population movements and continuing, more contested contemporary cross-border movement that intersects with border security administration discussed in Chapter 15.

A further important international migration dimension, referenced in the World Bank's assessment of the state's demographic trajectory, is the possibility that regional out-migration destinations, particularly among youth pursuing higher education abroad, could over time replicate patterns observed in southern Indian states such as Kerala, where a shift from Gulf-based migration, which historically preserved strong financial and emotional ties to the home state, toward migration to Europe, Canada, and Australia for study purposes, raises the prospect of more permanent emigration and reduced future remittance flows (Catholic Connect, 2026). While West Bengal's own international migration patterns remain more heavily weighted toward Gulf countries than toward Western student migration relative to Kerala, the broader national trend toward tightening immigration policies in several Western destination countries, noted in recent assessments of India's demographic dividend, could constrain this migration channel over the coming decades in ways that affect West Bengal alongside other significant migrant-sending Indian states (GIS Reports, 2025).

20.5 Science, Technology and Innovation for Development

The state's science, technology, and innovation policy architecture, discussed in depth in Chapter 17, including the proposed Science and Technology Talent Attraction Fund and Global Capability Centre Policy, represents the state's principal instrument for converting its historically strong knowledge institution base, discussed in Chapters 1 and 17, into a more dynamic contemporary innovation economy. Cross-cutting integration of science, technology, and innovation policy with the state's health system, discussed in Chapter 6, its agricultural extension services, discussed in Chapter 18, and its climate adaptation planning, discussed in Chapter 14, represents an important frontier for the state's innovation policy, extending beyond the information technology and startup-centric framing discussed in Chapter 17 into applied technology deployment across the state's core developmental sectors.

20.6 Statistical System Strengthening and Evidence-Based Policymaking

This report's own preparation has repeatedly encountered data quality and availability constraints characteristic of the broader challenges facing West Bengal's, and India's, statistical system, most notably the absence of a completed 2021 Census, discussed in

Chapter 1, which has required reliance on projected rather than enumerated population figures throughout this report, and the notable inconsistencies observed across successive UDISE+ reporting cycles regarding secondary school dropout rates, discussed in Chapter 5, where officially reported figures fluctuated considerably between consecutive years in ways that suggest either genuine underlying volatility or measurement and reporting inconsistencies requiring further methodological scrutiny.

Strengthening the state's statistical system, including more consistent and timely district-level data collection across health, education, and economic indicators, and closer integration between the state's own departmental data systems and national statistical exercises, represents a foundational, if unglamorous, precondition for the evidence-based policymaking this report and the sectoral chapters throughout it are intended to support, particularly given the recurring finding across multiple chapters that the state's most acute developmental challenges are concentrated in a specific cluster of western plateau and northern border districts whose progress can only be accurately tracked and targeted with reliable, granular, and consistently reported data.

20.7 Public Participation: Behavioural Change and Citizen Engagement

Public participation and behavioural change communication feature prominently across several of the programmes discussed throughout this report, including the community-based Jal Bachao water conservation committees discussed in Chapter 12, the social audit and public disclosure requirements embedded in the new rural employment guarantee framework discussed in Chapter 12, and the sustained community engagement required for effective Open Defecation Free Plus sustainability discussed in Chapter 10. These participatory mechanisms represent an increasingly important complement to the state's more conventional beneficiary-transfer-oriented welfare architecture discussed in Chapter 7, since sustained behaviour change around water use, sanitation practice, and civic monitoring of scheme implementation cannot be achieved through cash transfers alone.

Strengthening citizen engagement mechanisms, including expanding the reach and utilization of the state's digital governance and mobile application platforms discussed in Chapter 16 to support two-way citizen feedback rather than one-way service delivery alone, represents an important frontier for the state's governance modernization agenda, one that connects directly to the administrative governance reform priorities discussed in Chapter 15 and that will play an important role in determining whether the ambitious Vision 2047 strategic framework presented in the concluding chapter of this report is realized through genuine broad-based citizen participation or remains a top-down planning exercise with more limited grassroots ownership.

Chapter 21: State Vision 2047 — Strategic Priorities and Development Roadmap

21.1 Long-Term Vision and Flagship Missions

As West Bengal looks toward 2047, the centenary year of India's independence, its long-term development vision must reconcile the state's genuine and hard-won strengths, its foundational literacy and human development gains discussed in Chapter 1, its improving Sustainable Development Goal trajectory discussed in Chapters 1 and 20, its comparatively advanced demographic transition discussed in Chapter 6, its rich cultural and knowledge institution inheritance discussed in Chapters 1, 17, and 19, with the equally real structural constraints documented throughout this report: a per capita income persistently below the national average despite a sixth-ranked aggregate economy, discussed in Chapter 3, a manufacturing base that has never fully recovered its mid-twentieth-century primacy, discussed in Chapter 4, an investor perception challenge rooted in specific historical episodes, also discussed in Chapter 4, and a cluster of western plateau and northern border districts whose lagging performance recurs across nearly every sector examined in this report, from poverty and health in Chapters 1 and 6 to education in Chapter 5 and minority welfare in Chapter 7.

The state's flagship missions for the period ahead, built on the initiatives already underway and documented throughout this report, center on five interlocking priorities: first, converting the state's large aggregate economy and improving fiscal consolidation trajectory, discussed in Chapter 2, into broad-based per capita income growth; second, translating the newly approved Industrial Policy 2026-2030 and associated investment promotion reforms, discussed in Chapter 4, into realized private investment and manufacturing employment at a scale that finally reverses the state's long industrial decline; third, closing the persistent secondary and higher secondary education participation gap documented in Chapter 5 while resolving the institutional credibility damage from the School Service Commission recruitment scandal; fourth, building climate-resilient infrastructure and livelihoods in the Sundarbans and Darjeeling Himalayan regions identified as the state's most climate-vulnerable areas in Chapter 14; and fifth, closing the intra-state development gap concentrated in Purulia, Bankura, Jhargram, Malda, Murshidabad, and the Dinajpur districts that recurs as the single most consistent finding across this report's twenty chapters.

21.2 Medium-Term Priority Action Plan (2025–2030)

In the medium term, through 2030, the state's most time-sensitive priorities follow directly from the specific commitments and reform processes already underway as documented in this report. On fiscal consolidation, discussed in Chapter 2, sustaining the improving trajectory in the revenue deficit and fiscal deficit recorded in the 2025-26 and 2026-27 budgets, while successfully navigating the transition to the Sixteenth Finance Commission's award, represents the essential fiscal precondition for the expanded capital expenditure the state's

infrastructure priorities, discussed in Chapters 8 through 11, require. On industrial policy, discussed in Chapter 4, the near-term test will be whether the single-window investment mechanism, the industrial policy's MSME and ease of doing business reforms, and the proposed Global Capability Centre Policy discussed in Chapter 17 translate Bengal Global Business Summit pledges into realized, operational investment rather than repeating the pattern of announced-but-unrealized commitments that has shaped investor perception of the state historically.

On education, discussed in Chapter 5, the priority through 2030 is achieving the National Education Policy 2020's goal of universal school completion, a target several independent analyses have already flagged as at risk given the state's current secondary participation trajectory, requiring sustained attention to the teacher deployment maldistribution and foundational learning gaps documented in that chapter. On health, discussed in Chapter 6, the World Bank-financed Health System Reform Program approved in January 2026 provides a concrete, outcome-linked framework for closing the reproductive, maternal, and adolescent health gaps concentrated in the same five districts, Purulia, Birbhum, Murshidabad, Malda, and Uttar Dinajpur, identified in that chapter, with the programme's mid-term review points offering natural checkpoints for this report's own periodic revision. On rural development, discussed in Chapter 12, successfully implementing the new Viksit Bharat-Guarantee for Rozgar and Aajeevika Mission (Gramin) Act, 2025, including its expanded 125-day employment guarantee, its village-level planning requirements, and its enhanced monitoring architecture, while managing the state's normative co-financing obligations under the new framework, represents a substantial near-term administrative and fiscal test.

21.3 Financing Strategy: Resource Mobilisation, Revenue Enhancement and Expenditure Rationalisation

The state's long-term development financing strategy must address the structural revenue base weakness documented in Chapter 2, namely West Bengal's below-median own tax and non-tax revenue collection relative to other Indian states. Revenue enhancement priorities include continued strengthening of State Goods and Services Tax compliance and collection efficiency, discussed in Chapter 2, expansion of the state's own tax base through continued formalization of the informal economy discussed in Chapter 3, and more efficient realization of non-tax revenue from state public sector undertakings and mineral resources, including the prospective Deucha-Pachami coal block discussed in Chapters 4, 9, and 13, balanced against the environmental and social costs of large-scale mineral extraction discussed in Chapter 13.

Expenditure rationalization, meanwhile, must address the persistent weight of committed expenditure, salaries, pensions, and interest payments, on the state's revenue expenditure, discussed in Chapter 2, which continues to constrain the fiscal space available for the capital expenditure the state's infrastructure priorities require. The fifty-year interest-free capital expenditure loan facility extended by the Union government, discussed in Chapter 2, alongside continued Finance Commission devolution and disaster management grants relevant to the state's climate resilience priorities discussed in Chapter 14, will remain

important supplementary financing instruments for the state's capital investment agenda through the period covered by this report's planning horizon, alongside continued, if more gradual, expansion of public-private partnership financing discussed in Chapter 4.

21.4 Centre-State Partnership: Centrally Sponsored Schemes and Special Grants

West Bengal's development trajectory through 2047 will continue to depend substantially on effective partnership with the Union government across the centrally sponsored schemes documented throughout this report, from the Jal Jeevan Mission discussed in Chapter 10 and PMAY-Gramin discussed in Chapter 12 to PM-SETU discussed in Chapter 17 and the national tourism development framework discussed in Chapter 19. The change of state government following the 2026 assembly elections, discussed in Chapters 2, 4, and 15, with a Bharatiya Janata Party-led state administration now operating within a Bharatiya Janata Party-led Union government coalition structure, introduces a materially different Centre-state political dynamic than existed under the state's preceding administration, one that could plausibly ease the pace of centrally sponsored scheme fund releases and special assistance package negotiations discussed in Chapter 2, though the durability and practical consequences of this dynamic remain to be observed as the new administration's budgetary and administrative choices unfold in the years ahead.

21.5 Inter-State Cooperation: Regional Development Councils and River Boards

West Bengal's geographic position, bordering Jharkhand, Odisha, Bihar, Assam, and Sikkim in addition to its international borders discussed in Chapter 1, necessitates continued inter-state cooperation on shared river basin management, discussed in Chapters 10 and 13, particularly for the Damodar Valley system shared with Jharkhand and the broader Ganga-Bhagirathi-Hooghly system whose upstream management involves multiple states and the Union government's Namami Gange Mission discussed in Chapter 10. Coordinated regional industrial corridor planning with neighboring states, discussed in the growth corridor analysis of Chapter 3 and the regional cooperation discussion of Chapter 4, alongside continued labor mobility management given the substantial bidirectional migration flows between West Bengal and its neighboring states discussed in Chapter 20, will remain important dimensions of the state's inter-state cooperation agenda through 2047.

21.6 International Collaboration: Common Development Agenda and Global Partnership

West Bengal's international collaboration priorities center on three distinct relationships: its shared Sundarbans management responsibilities with Bangladesh, discussed in Chapters 13 and 14, requiring continued cross-border cooperation on climate adaptation and disaster risk reduction given the transboundary nature of the delta's ecological and climate vulnerabilities; its broader trade and connectivity relationship with Bangladesh, Bhutan, and Nepal through the Siliguri corridor and cross-border land customs stations discussed in Chapters 3 and 4; and its engagement with international development finance institutions, exemplified by the

World Bank's Health System Reform Program discussed in Chapter 6 and the Asian Development Bank's climate resilience programming discussed in Chapter 14, both of which provide not only financing but technical and governance benchmarking support relevant to the state's broader institutional reform agenda discussed in Chapter 15.

21.7 Monitoring, Evaluation and Results Framework

The monitoring and evaluation architecture required to track West Bengal's progress against the priorities outlined in this chapter draws on the same statistical system strengthening agenda discussed in Chapter 20, given this report's own repeated encounters with data quality and consistency limitations across the Census, UDISE+, and other administrative data systems referenced throughout its twenty-one chapters. A results framework for the state's Vision 2047 agenda should, at minimum, track: fiscal consolidation indicators discussed in Chapter 2; realized, as opposed to announced, private investment and manufacturing employment growth discussed in Chapter 4; secondary and higher secondary education completion rates discussed in Chapter 5; the district-level maternal, adolescent, and non-communicable disease indicators discussed in Chapter 6; and progress on closing the intra-state disparity gap concentrated in the specific cluster of districts identified repeatedly throughout this report.

Given the World Bank Health System Reform Program's explicit design around outcome-linked, rather than input-linked, financing disbursement discussed in Chapter 6, this results-based financing model may offer a template worth considering for other sectoral financing arrangements within the state, both domestically financed and externally supported, as a means of strengthening the state's own results measurement discipline beyond the health sector alone.

21.8 Accountability Architecture: Legislature, Civil Society and Citizens

Ultimate accountability for the realization of the priorities set out in this Comprehensive Development Framework rests with the West Bengal Legislative Assembly, the state's civil society organizations, its independent media, long a distinctive strength of the state given its publishing and intellectual heritage discussed in Chapter 1, and its citizens themselves, whose engagement through the participatory mechanisms discussed in Chapter 20, from social audits under the new rural employment guarantee framework to community water governance committees, will determine whether this framework's priorities translate into lived improvement in the daily lives of the state's population, projected to exceed 100 million people as discussed in Chapter 1.

This report has sought to provide these institutions and citizens with an evidence-based, sector-by-sector account of where West Bengal stands as of 2026, and where its most pressing opportunities and constraints lie. It closes not with a claim to have resolved the tensions it has documented, between the state's aggregate economic scale and its lagging per capita income, between its historical human development strengths and its contemporary

institutional credibility challenges, between its improving fiscal trajectory and its still-constrained capital expenditure capacity, but with the more modest aim of having laid these tensions out clearly enough that the state's policymakers, researchers, and citizens can engage with them directly, informed, and with the specificity that genuine development planning requires.

End Note

This Comprehensive Development Framework has assembled, across twenty-one chapters, a sector-by-sector portrait of West Bengal as it stood in 2026: a state of over one hundred million people occupying a comparatively narrow strip of eastern India between the Himalayan foothills and the Bay of Bengal, carrying a cultural and intellectual inheritance disproportionate to its geographic footprint, and navigating a development trajectory shaped as much by its own history as by the choices its institutions make in the years immediately ahead. In closing, it is worth drawing together, deliberately and briefly, the threads that ran through this document, since no single chapter captures them on its own.

The first thread is scale without proportional prosperity. West Bengal's Gross State Domestic Product ranks sixth among Indian states, yet its per capita income has sat roughly a fifth below the national average for years running, a gap this report, following independent economists, has termed premature tertiarisation: a services sector generating more than half the state's output while employing barely a third of its workforce, alongside an agricultural sector that still employs more than a third of workers for a fifth of output. Closing this gap is not a matter of any single policy lever discussed in Chapters 3, 4, or 17, but of sustained coherence across industrial policy, skill development, and labour market formalization operating together over a period measured in decades rather than budget cycles.

The second thread is geography as destiny, at least so far. Nearly every chapter of this report, from poverty in Chapter 1, to health system gaps in Chapter 6, to minority welfare in Chapter 7, to agricultural water stress in Chapter 18, converges on the same cluster of districts: Purulia, Bankura, and Jhargram in the western plateau; Malda, Murshidabad, and the two Dinajpurs along the northern border. That this pattern recurs so consistently across independently sourced datasets, from the Census to NITI Aayog's poverty indices to World Bank health financing documents, suggests it is not a statistical artifact but a durable structural feature of the state's development geography, one that will require deliberately place-based policy design rather than statewide averages to address.

The third thread is a foundational strength not yet fully converted into contemporary advantage. West Bengal's literacy base, its early and comparatively thorough land reform, its historic public health infrastructure, and its knowledge institutions represent real assets, documented in Chapters 1, 5, and 17, that many states lack. Yet these assets have coexisted, in the period this report covers, with a serious institutional integrity crisis in teacher recruitment, discussed in Chapters 5 and 15, and with a higher education and vocational training system that has not kept pace with either the state's own historical promise or its neighbors' more recent gains. Whether the state's foundational strengths translate into twenty-first century competitiveness will depend substantially on how thoroughly the recruitment scandal's institutional aftermath is resolved and how effectively the newly approved Industrial Policy, Startup Policy, and PM-SETU-backed skilling investment discussed in Chapters 4, 5, and 17 are implemented.

The fourth thread, and the one most specific to this particular moment in the state's history, is transition. This report was compiled in the months immediately following a change of state government after the 2026 assembly elections, the first of its kind in West Bengal since independence. Chapters 2, 4, and 15 in particular have had to describe fiscal, industrial, and administrative arrangements that are, as of this writing, still being defined by the incoming administration. This is not a flaw in the report so much as an honest reflection of the moment: readers returning to this document in later years will be able to judge, with the benefit of hindsight this report cannot claim, whether the new administration's stated priorities, on fiscal consolidation, industrial climate, and administrative reform, were realized in practice.

Finally, this report has tried throughout to distinguish between what is documented and what is merely announced, between realized investment and pledged investment, between nominal coverage and effective financial protection, between sanctioned houses and completed ones. That distinction, more than any single statistic in this document, is the discipline future revisions of this framework should continue to apply. West Bengal's development story, like that of any large and complex society, will not be settled by this or any single report. It will be settled, chapter by chapter and district by district, in the years between now and 2047.

Reference List

- Academia.edu. (2025, October 12). *Kanyashree Prakalpa in West Bengal: A journey towards women empowerment*. <https://www.academia.edu/>
- AIM India. (2026, June 1). *Digital India Mission 2026: Pillars, impact & latest updates*. <https://aimindia.in/>
- All India Trinamool Congress. (n.d.-a). *All you need to know about the new Startup Policy of Bengal*. <https://aitcofficial.org/>
- All India Trinamool Congress. (n.d.-b). *Rapid urban development in Bengal*. <https://aitcofficial.org/>
- APAC News Network. (2025, December 8). *Expanding IT/ITeS ecosystem ensures AI-powered cybersecurity measures by West Bengal govt*. <https://apacnewsnetwork.com/>
- Arnab Ray. (2026, June). *West Bengal Budget 2026 for startups, entrepreneurs and investors*. <https://www.arnabarray.com/>
- ASER Centre. (2024). *Annual Status of Education Report 2023*, as cited in Education for All in India (2026).
- Asian Development Bank. (2026). *57334-001: Supporting West Bengal State for climate resilience*. <https://www.adb.org/projects/57334-001/main>
- Basic Home Loan. (2026, March 13). *West Bengal Housing Board schemes 2026: Latest updates*. <https://www.basichomeloan.com/>
- Business Standard. (2023, August 22). *West Bengal sees microfinance as a key driver of economic growth: Mitra*. <https://www.business-standard.com/>
- Business Standard. (2025, February 12). *West Bengal Budget 2025-26: Rs 3.89 trn earmarked to push growth, welfare*. <https://www.business-standard.com/>
- Careers360. (2025). *West Bengal jobs 2025-26: Latest government recruitment exams*. <https://competition.careers360.com/>
- CareerPower. (2026). *WB Gram Panchayat recruitment 2026 for 6500+ DEO, Assistant & other posts*. <https://www.careerpower.in/>
- Catholic Connect. (2026, April 13). *Ageing population and migrant flows: South India confronts a demographic test*. <https://catholicconnect.in/>

Climate Change Program. (2026). *Collective action to reduce climate disaster risks and enhancing resilience of the vulnerable coastal communities around the Sundarbans in Bangladesh and India*. <https://www.drcsc.org/CCDRER/>

Deccan Chronicle. (2026, June 8). *Rural tap water coverage reaches nearly 82% under Jal Jeevan Mission: Govt*. <https://www.deccanchronicle.com/>

Deccan Herald. (n.d.). *"Dismal performance," says Centre over Bengal's implementation of Jal Jeevan Mission*. <https://www.deccanherald.com/>

Deccan Herald. (2025a, February 5). *Bengal Global Business Summit 2025: With a year to go for polls, Mamata govt secures Rs 91,000 crore in investment commitments*. <https://www.deccanherald.com/>

Deccan Herald. (2025b). *Jal Shakti ministry eyes 2025 to complete tap water connections in rural India*. <https://www.deccanherald.com/>

Deccan Herald. (2026, May 14). *West Bengal must create ecosystem where startups flourish*. <https://www.deccanherald.com/>

Delhi Law Academy. (2025, August 26). *West Bengal Judiciary Exam 2025: Notification, vacancies & apply online*. <https://www.delhilawacademy.com/>

Department of Backward Classes Welfare, Government of West Bengal. (2026). *Scheduled tribes of West Bengal*. <https://adibasikalyan.gov.in/>

Department of Panchayat and Rural Development, Government of West Bengal. (2026). *Pradhan Mantri Awaas Yojana-Gramin scheme details*. <https://prd.wb.gov.in/>

Dhyeya IAS. (2025, December 22). *Jal Jeevan Mission: Social transformation via universal tap water access*. <https://www.dhyeyaias.com/>

Directorate of Census Operations, West Bengal. (2011). *Census of India 2011: West Bengal*. Government of India.

Down To Earth. (2024, April 22). *West Bengal most vulnerable to climate risk, flags India's first assessment report*. <https://www.downtoearth.org.in/>

eGovtSchemes. (2026, June 5). *Krishak Bandhu 2026: Status check, beneficiary list & 10,000 rupees per year*. <https://www.egovtschemes.com/>

Education for All in India. (2026, January 5). *School education in West Bengal: Where do we stand? An analysis of UDISE+ data 2021-22 to 2024-25*. <https://educationforallinindia.com/>

Elets eGov. (2024, December 10). *Transformation of West Bengal into an ICT leader*. <https://egov.eletsonline.com/>

Elets eGov. (2026, June 15). *West Bengal eyes ITI modernisation and job growth through PM-SETU scheme.* <https://egov.eletsonline.com/>

Galaxy Classes. (2026, March 16). *India State of Forest Report (ISFR) 2023.* <https://www.galaxyclasses.co.in/>

GIS Reports. (2025, May 21). *India's demographic dividend: Potential or pitfall?* <https://www.gisreportsonline.com/>

GPT Sir Current Affairs. (2026, May 4). *West Bengal Cabinet approves new Industrial Policy 2026 with focus on MSMEs.* <https://www.wonderslate.com/>

Government of West Bengal. (2025, December 19). *Women empowerment and governance report card.* https://wb.gov.in/pdf/report_card/WBGovRC_English.pdf

Government of West Bengal. (2026). *Kanyashree Prakalpa.* Department of Women Development and Social Welfare. <https://www.wbkanyashree.gov.in/>

Grokikipedia. (2026a, January 14). *Healthcare in West Bengal.* <https://grokipedia.com/>

Grokikipedia. (2026b, January 14). *Ministry of Health & Family Welfare (West Bengal).* <https://grokipedia.com/>

Grokikipedia. (2026c, January 14). *Tourism in West Bengal.* <https://grokipedia.com/>

Grokikipedia. (2026d, January 17). *Economy of West Bengal.* <https://grokipedia.com/>

Grokikipedia. (2026e, January 17). *Education in West Bengal.* <https://grokipedia.com/>

Gulf News. (2019, December 30). *Kerala tops Niti's SDG Index, Bihar worst performer.* <https://gulfnews.com/>

IBG News. (2026, July 14). *Industrial Bengal 2.0: Can CM Suvendu Adhikari bring a new dawn to West Bengal's investment climate?* <https://ibgnews.com/>

IDEAS RePEc. (2022). *Out-migration of Muslim youth from rural West Bengal to other states in India: Reasons and role of social networks.* <https://ideas.repec.org/>

Incredible India. (2026, June 1). *West Bengal.* Ministry of Tourism, Government of India. <https://www.incredibleindia.gov.in/>

India Brand Equity Foundation. (2025). *West Bengal: State presentation and economic growth report.* <https://www.ibef.org/states/west-bengal>

India Today. (2019, December 2). *The green march: The state's comprehensive environment protection plan is showing results on the ground.* <https://www.pressreader.com/>

India Water Portal. (2025, February 5). *Budget 2025-26: Aiming for 100% rural tap water coverage by 2028*. <https://www.indiawaterportal.org/>

IndiaFilings. (2019, February 17). *Startup Policy support in West Bengal for entrepreneurs*. <https://www.indiafilings.com/>

Indian Masterminds. (2026, June 13). *West Bengal: PM-SETU scheme to transform ITIs and boost youth employment with 6,000 crore rupee investment*. <https://indianmasterminds.com/>

Indiastat. (2026a). *Social and welfare schemes: Tribal sub-plan and special component plan data, West Bengal*. <https://www.indiastat.com/>

Indiastat. (2026b). *Status of malnutrition indicators for children of age group 0-5 years from Poshan Tracker in West Bengal*. <https://www.indiastat.com/>

InfraInfoHub. (2025, March 10). *West Bengal mega projects 2025: Building a bright future of the state*. <https://infrainfohub.com/>

Institute for Advanced Studies in Panchayati Raj. (n.d.). *Regional disparity in patterns of out-migration from West Bengal*. <https://iasp.ac.in/>

International Forum for Environment, Sustainability and Technology. (2025). *Enabling renewable energy growth in West Bengal*. <https://iforest.global/>

Mercom India. (2025, August 18). *West Bengal issues rooftop solar regulations for prosumers*. <https://www.mercomindia.com/>

Millennium Post. (2026, July). *Dropout rates decline across school levels in Bengal: Report*. <https://www.millenniumpost.in/>

Ministry of Environment, Forest and Climate Change. (2012). *West Bengal State Action Plan on Climate Change*. Government of India. <https://moef.gov.in/>

Ministry of MSME. (n.d.). *Raising and accelerating MSME performance: Strategic investment plan, West Bengal*. RAMP. <https://ramp.msme.gov.in/>

Mitti Gold Organic. (2026, June). *West Bengal farmer subsidy schemes 2026: Krishak Bandhu & organic grants*. <https://www.mittigoldorganic.com/>

National Centre for Disease Control. (2024, October 21). *State Action Plan on Climate Change and Human Health, West Bengal*. Ministry of Health and Family Welfare. <https://ncdc.mohfw.gov.in/>

National Informatics Centre. (2026). *West Bengal State Centre*. <https://wb.nic.in/>

New Kerala. (2026, June). *West Bengal Budget 2026-27: Deficit down, debt up*. <https://www.newkerala.com/>

News on Air. (2023, July 17). *Over 13 crore people lifted out of poverty in 5 years between 2015-16 and 2019-21, says NITI Aayog.* <https://www.newsonair.gov.in/>

News on Air. (2025a, February 5–6). *8th Global Bengal Business Summit inaugurated in Kolkata and BGBS 2025 secures over 4.40 lakh crore in investment proposals.* <https://www.newsonair.gov.in/>

News on Air. (2025b, February 12). *West Bengal Budget 2025: 18 lakh crore GSDP, 1,500 crore for roads, new Nadi Bandhan scheme announced.* <https://www.newsonair.gov.in/>

News on Air. (2026, March 14). *PM Modi inaugurates and lays foundation stone for development projects worth Rs 18,680 crore in Kolkata.* <https://www.newsonair.gov.in/>

NewsClick. (2023, September 3). *West Bengal initiatives aim to revolutionise climate resilience and disaster preparedness.* <https://www.newsclick.in/>

NIIR Project Consultancy. (2026, June 24). *West Bengal Budget MSME opportunities: Business ideas.* <https://www.niir.org/>

NITI Aayog. (2023). *National Multidimensional Poverty Index: A progress review 2023.* Government of India. <https://www.niti.gov.in/>

NITI Aayog. (2025a). *Macro and fiscal landscape of the State of West Bengal.* Government of India. <https://niti.gov.in/>

NITI Aayog. (2025b). *Summary report: West Bengal.* Government of India. <https://www.niti.gov.in/sites/default/files/2025-03/Summary-Report-West-Bengal.pdf>

Observer Research Foundation. (2024, July 24). *Towards sustainable and inclusive cities: The case of Kolkata.* <https://www.orfonline.org/>

Observer Research Foundation. (2026, May 6). *Forging a phoenix from the ashes: An agenda for Bengal's economic reset.* <https://www.orfonline.org/>

PMAY-Urban. (2026). *Pradhan Mantri Awas Yojana-Housing for All (Urban).* Ministry of Housing and Urban Affairs. <https://pmaymis.gov.in/>

PMF IAS. (2026, May 19). *India State of Forest Report 2023.* <https://www.pmfias.com/>

Press Information Bureau. (2024, July 12). *Release of SDG India Index 2023-24.* Government of India. <https://www.pib.gov.in/>

Press Information Bureau. (2025, October 26). *Jal Jeevan Mission.* Government of India. <https://static.pib.gov.in/>

PRS Legislative Research. (2025). *West Bengal budget analysis 2025-26.* <https://prsindia.org/>

- PRS Legislative Research. (2026). *West Bengal budget analysis 2026-27*. <https://prsindia.org/>
- PW OnlyIAS. (2026, May 22). *World Cities Report 2026: Global housing crisis and India's urban challenges*. <https://pwonlyias.com/>
- ResearchGate. (2024a). *A comparative study of tribal education development in India: With special reference to Purulia district, West Bengal*. <https://www.researchgate.net/>
- ResearchGate. (2024b, October 21). *Kanyashree Prakalpa in West Bengal: A review-based analysis*. <https://www.researchgate.net/>
- ResearchGate. (2025, December 10). *West Bengal population, welfare and development profile 2025*. <https://www.researchgate.net/>
- Sarkari Yojana. (2026, March 9). *Pradhan Mantri Awas Yojana Gramin (PMAY-G) 2026: Latest updates*. <https://sarkariyojana.com/>
- Schemes In India. (2026, May 15). *Krishak Bandhu West Bengal*. <https://schemesinindia.in/>
- SolarQuarter. (2025, September 3). *West Bengal issues new rules to boost rooftop solar for prosumers from July 31, 2025*. <https://solarquarter.com/>
- Springer Nature. (2022, June 20). *Bengali migrant workers in South India: A mixed-method inquiry into their earnings, livings and struggle during Covid pandemic*. *The Indian Journal of Labour Economics*. <https://link.springer.com/>
- Springer Nature. (2023). *Community vulnerability and disaster risk reduction at Sundarbans*. <https://link.springer.com/>
- Springer Nature. (2024). *Integrating master planning with Smart City Initiative: Challenges and opportunities in New Town, Kolkata*. <https://link.springer.com/>
- Standing Committee on Rural Development and Panchayati Raj. (2025). *Report, 2024–2025*. Lok Sabha Secretariat. <https://images.assettype.com/downtoearth/>
- StatisticsTimes. (2026). *West Bengal population 2026*. <https://statisticstimes.com/>
- Swarajya. (2024, December 26). *After falling short by four crore tap connections, Water Ministry pushes Jal Jeevan Mission completion target to 2025*. <https://swarajyamag.com/>
- Synergy Solar Suppliers. (2025, December 29). *Solar subsidy in West Bengal 2026*. <https://synergysolar.in/>
- Testbook. (2025). *National highways in West Bengal: Connectivity and importance*. <https://testbook.com/>

Testbook. (2026). *Latest WB Govt Jobs 2026*.
<https://testbook.com/news/west-bengal-govt-jobs/>

The News Mill. (2026, May 23). *West Bengal adopts Telecom RoW rules to boost digital infrastructure*. <https://thenewsmill.com/>

The Statesman. (2026). *West Bengal gets Centre's approval to develop 2 global tourism destinations: Shankar Ghosh*. <https://www.thestatesman.com/>

The Traveler. (2026, June 8). *West Bengal unveils bullet train vision and metro mega-push*.
<https://www.thetraveler.org/>

Travel And Tour World. (2026). *Kolkata pairs up with Darjeeling, Santiniketan, Bishnupur, Purulia, and Digha as West Bengal places living culture at the heart of sustainable tourism growth*. <https://www.travelandtourworld.com/>

TravelTriangle. (2026). *West Bengal tourism: Everything you need to know about tourism in West Bengal*. <https://traveltriangle.com/>

Webel Technology Limited. (2026). *e-Governance initiatives*.
<https://wbwebeltechnology.co.in/>

West Bengal Finance Department. (2025). *Overview of fiscal policy and status of the state, February 2025*. Government of West Bengal. <https://finance.wb.gov.in/>

West Bengal Finance Department. (2026, February 5). *Budget speech 2026–2027*. Government of West Bengal. <https://finance.wb.gov.in/>

West Bengal Forest Department. (2026). *Forest cover data*. Government of West Bengal.
<https://forest.wb.gov.in/>

West Bengal Industrial Development Corporation. (2026). *Haldia Industrial Park*.
<https://www.wbidc.com/>

West Bengal PCS Notes. (2024, December 24). *Population geography of West Bengal*.
<https://westbengal.pscnotes.com/>

West Bengal PCS Notes. (2025). *West Bengal: Transport*. <https://westbengal.pscnotes.com/>

Wikipedia. (2026a). *2025 West Bengal teachers' protests*. <https://en.wikipedia.org/>

Wikipedia. (2026b). *Kolkata Metro*. <https://en.wikipedia.org/>

Wikipedia. (2026c). *Kolkata Metropolitan Area*. <https://en.wikipedia.org/>

Wikipedia. (2026d). *Kolkata Municipal Corporation*. <https://en.wikipedia.org/>

- Wikipedia. (2026e). *List of Scheduled Castes in West Bengal*. <https://en.wikipedia.org/>
- Wikipedia. (2026f). *List of Scheduled Tribes in West Bengal*. <https://en.wikipedia.org/>
- Wikipedia. (2026g). *Pradip Mazumdar*. <https://en.wikipedia.org/>
- Wikipedia. (2026h). *Rajeev Kumar (IPS)*. <https://en.wikipedia.org/>
- Wikipedia. (2026i). *Varanasi–Kolkata Expressway*. <https://en.wikipedia.org/>
- Wikipedia. (2026j). *Viksit Bharat–Guarantee for Rozgar and Aajeevika Mission (Gramin) Act, 2025*. <https://en.wikipedia.org/>
- Wikipedia. (2026k). *West Bengal Civil Service*. <https://en.wikipedia.org/>
- Wikipedia. (2026l). *West Bengal Housing Infrastructure Development Corporation*. <https://en.wikipedia.org/>
- World Bank. (2026, January 15). *New World Bank financing approved to increase access to better-quality healthcare for more than 90 million people in West Bengal*. <https://www.worldbank.org/>