



**COMPREHENSIVE DEVELOPMENT FRAMEWORK
REPORT OF JHARKHAND**

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

Jharkhand has emerged as one of India's most resource-rich and culturally vibrant states. Since its formation, the state has established itself as a national powerhouse in mineral production, metallurgy, heavy engineering, and forest-based enterprise. With cities like Ranchi, Jamshedpur, and Dhanbad serving as vital industrial, commercial, and mining hubs, Jharkhand has demonstrated how leveraging abundant natural resources, rich tribal heritage, and community resilience can drive economic growth. As India advances towards becoming a developed nation by 2047, Jharkhand is uniquely positioned to play a transformative role in ensuring the country's industrial self-reliance and energy security.

However, as we navigate the rapidly changing economic, technological, and environmental realities of the twenty-first century, it has become increasingly evident that Jharkhand stands at an important stage in its development journey. While the state has achieved remarkable progress across multiple sectors, it also faces complex challenges that require long-term strategic planning. Bridging the gap between industrial centres and rural tribal communities, ensuring sustainable and responsible mining practices, employment generation for a growing youth population, forest conservation, climate resilience, agricultural modernization, and diversifying the economy beyond traditional heavy industries have become critical priorities for the coming decades.

To fully realize its immense potential, Jharkhand must continue its transition towards a globally connected, environmentally sustainable, diversified, and inclusive economy. It is within this important context that *The Comprehensive Development Framework Report of the State of Jharkhand* was conceived. When the Youth Peace and Development Forum, through its Council for Comprehensive Development Frameworks, entrusted me with the responsibility of leading this ambitious initiative, our objective was clear—to prepare a forward-looking, evidence-based, and actionable roadmap capable of guiding the state's long-term development.

Leading this extensive project has been both a privilege and an intellectually enriching experience. Over several months, our research team carefully examined the structural opportunities and emerging challenges that will shape Jharkhand's future. From the outset, we recognized that sustaining high economic growth requires more than incremental policy improvements. It demands integrated planning, institutional innovation, data-driven governance, and coordinated reforms across every major sector of public administration and economic activity.

This document represents the culmination of rigorous research, comparative policy analysis, and extensive deliberations among researchers, young professionals, subject experts, and policy enthusiasts. Rather than serving merely as an assessment of existing systems, this framework has been designed as a practical blueprint for transformative action. The strategic recommendations presented throughout this report seek to strengthen Jharkhand's long-term competitiveness while ensuring inclusive and sustainable development.

Our recommendations place particular emphasis on strengthening higher education, research, and advanced skill development to build a competitive workforce; expanding innovation ecosystems in sustainable mining technologies, eco-tourism, agro-forestry, renewable energy, and value-added manufacturing; accelerating industrial growth through the modernization of MSMEs and traditional tribal crafts; transforming agriculture with climate-resilient farming and sustainable water management practices; improving rural healthcare systems; strengthening digital governance; enhancing rural and urban infrastructure; and developing climate-resilient communities. Throughout this framework, we have remained committed to one guiding principle: economic progress must be accompanied by environmental sustainability, social inclusion, and equal opportunities for every citizen.

As the lead of this important initiative, I take immense pride in the dedication, professionalism, and commitment demonstrated by every member of our research and drafting team. We firmly believe that the youth of India should actively contribute to shaping public policy rather than merely observing it. The contributors to this report devoted countless hours to analysing developmental trends, studying international best practices, consulting policy literature, and evaluating innovative solutions to ensure that every recommendation presented here is both ambitious and practically achievable.

This report reflects our generation's vision for a future-ready Jharkhand. We envision a state that combines its rich industrial heritage with inclusive economic growth, rapid enterprise expansion with environmental and forest stewardship, national competitiveness with social equity, and economic excellence with a high quality of life. We aspire to build a Jharkhand where innovation flourishes, entrepreneurship thrives, talented young people find meaningful local opportunities, and every region of the state shares in the benefits of sustained development.

It is my sincere hope that this Comprehensive Development Framework will serve as a catalyst for informed discussion, constructive collaboration, and long-term strategic planning. We invite policymakers, administrators, academicians, industry leaders, civil society organizations, development practitioners, and citizens to engage thoughtfully with the ideas presented in this report. I invite you to read this report with an open mind, critically examine its recommendations, and join us in the collective endeavour to build a prosperous, inclusive, sustainable, and vibrant Jharkhand for generations to come.

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 Jharkhand* 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 G. N.**, 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 Jharkhand, 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.

With gratitude to all who contributed to this endeavour, the Youth Peace and Development Forum proudly presents this report as a modest contribution towards the shared vision of a stronger Jharkhand and a developed India.

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. 16
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. 21
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. 28
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. 34

- 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. 39

- 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. 44

- 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. 48

- 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. 53

- 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. 57

- 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. 61

- 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. 65

- 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. 68

- 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. 72

- 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. 76

- 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. 80

- 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. 84

- 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. 88

- 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. 92

- 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. 96

- 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. 99

- 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. 103

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. 108

Reference Listpg no. 109

PREFACE

This Comprehensive Development Framework is prepared as a structured, evidence based assessment of the State of Jharkhand, covering its geographic and demographic profile, fiscal architecture, economic structure, social sectors, infrastructure, environmental governance, administrative systems, and long term development vision. The framework follows a standardized document format designed to enable comparability across Indian states while retaining sensitivity to Jharkhand's distinct historical trajectory, resource endowment, and developmental challenges.

Jharkhand was carved out of the southern districts of Bihar on November 15, 2000, under the Bihar Reorganisation Act of 2000 (Ministry of Home Affairs, Government of India, 2000). The state's name derives from the Hindi words "jhar," meaning forest, and "khand," meaning tract or region, reflecting its dense forest cover and tribal heritage. Since its formation, Jharkhand has occupied a paradoxical position within India's development landscape. It holds among the country's richest reserves of coal, iron ore, copper, mica, bauxite, and other minerals, and hosts major public sector industrial enterprises including Tata Steel, Bokaro Steel Plant, and several coal and mining corporations. At the same time, it has consistently ranked among the lower tier of Indian states on human development indicators, per capita income, and poverty measures, a paradox often described in development literature as the "resource curse" pattern, where mineral wealth has not translated proportionately into broad based human welfare (Government of Jharkhand, Planning and Development Department, 2023).

This document does not merely catalogue statistics. It attempts to place Jharkhand's development trajectory within a coherent analytical structure that connects fiscal capacity, sectoral performance, social outcomes, infrastructure gaps, and governance quality, and to project a credible pathway toward the state's long term development goals through the year 2047, coinciding with the centenary of India's independence. The choice of 2047 as a horizon year follows the national "Viksit Bharat" framing adopted by the Government of India for long term state and national planning exercises (NITI Aayog, 2023).

A note on data integrity is necessary here. Jharkhand's most recent complete decennial Census was conducted in 2011. The Census scheduled for 2021 has been repeatedly deferred, and as of mid-2026 has not been conducted, meaning that many demographic figures cited in this framework are either Census 2011 baselines, subsequent survey based estimates such as the National Family Health Survey (NFHS), or projections published by the Ministry of Health and Family Welfare's Technical Group on Population Projections. Wherever a figure is a projection rather than an enumerated Census count, this framework identifies it explicitly as such. Fiscal, economic, and sectoral data are drawn from the most recent official sources available at the time of writing, including the Reserve Bank of India's State Finances reports, the Comptroller and Auditor General's audit reports, the Jharkhand Economic Survey, and Union government ministry databases, and each statistic is cited with the year it actually pertains to rather than the year of this report's compilation.

This framework is intended for use by state planning authorities, legislators, researchers, civil society organizations, and citizens seeking a consolidated reference on Jharkhand's development status and priorities.

Vishvesh . R

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

EXECUTIVE SUMMARY

Jharkhand enters the second half of the 2020s at an inflection point. Two and a half decades after its formation, the state has made measurable progress in several domains including road connectivity, electrification, and financial inclusion, while continuing to face structural constraints rooted in its geography, its tribal and rural demographic composition, and a fiscal base historically dependent on mineral royalties and central transfers.

Demography and Society. Jharkhand's population, enumerated at 32.99 million in the 2011 Census, is estimated to have crossed approximately 39 to 41 million by 2026 depending on the projection methodology used, since no updated Census has been conducted (StatisticsTimes.com, 2026; Population Foundation of India, 2020). The state remains predominantly rural, with roughly three quarters of its population living outside urban areas as per the 2011 Census (Census of India, 2011). Jharkhand has one of the highest proportions of Scheduled Tribe population among major Indian states, at approximately 26 percent as per the 2011 Census, and a Scheduled Caste population of approximately 12 percent (Census of India, 2011). The state's Human Development Index has historically ranked in the lower third among Indian states, though incremental gains have been recorded in health and education access over the past decade (United Nations Development Programme and Institute for Human Development, 2020).

Fiscal Position. Jharkhand's fiscal architecture remains shaped by its dependence on mineral revenue, particularly royalty from coal, and by transfers from the Union government through tax devolution and grants. The state has pursued fiscal consolidation in line with Fifteenth Finance Commission recommendations, though debt as a share of Gross State Domestic Product has remained a point of concern flagged in Reserve Bank of India state finance assessments (Reserve Bank of India, 2024).

Economic Structure. The state economy is anchored by mining, quarrying, and manufacturing, particularly metallurgical industries, alongside a large agrarian workforce operating largely at subsistence levels. Jharkhand's per capita income continues to trail the national average substantially, reflecting the concentration of high value economic activity in a small number of industrial clusters, chiefly Jamshedpur, Bokaro, Dhanbad, and Ranchi, while much of the rural interior remains economically underdeveloped (Directorate of Economics and Statistics, Government of Jharkhand, 2024).

Social Sectors. Health and education indicators have improved from the low base recorded at the time of state formation, with gains in institutional delivery rates, immunization coverage, and school enrollment, though learning outcomes, maternal health indicators, and nutritional status among children continue to lag national averages, a pattern documented consistently across successive rounds of the National Family Health Survey (International Institute for Population Sciences and Ministry of Health and Family Welfare, 2021).

Infrastructure and Environment. Jharkhand's mineral economy has produced significant environmental stress, including forest degradation, mining related land disturbance, and air and water pollution concentrated around industrial belts. The state also carries a meaningful

renewable energy potential, particularly in solar, that remains underexploited relative to installed capacity in comparable states (Ministry of New and Renewable Energy, 2024).

Governance. Panchayati Raj institutions were reactivated in Jharkhand through elections held in 2010 after a prolonged hiatus, and decentralised governance remains an evolving process, with capacity and devolution gaps at the third tier of government that this framework examines in later chapters (Ministry of Panchayati Raj, Government of India, 2023).

This framework proceeds through twenty-one chapters addressing these themes in depth, concluding with a Vision 2047 roadmap that identifies priority reforms across fiscal management, industrial diversification, human capital development, and climate resilient infrastructure.

Chapter 1: State Profile — Geography, Demography and Society

1.1 Geographic and Ecological Characteristics of the State

Jharkhand is located in eastern India, bounded by Bihar to the north, West Bengal to the east, Odisha to the south, and Chhattisgarh and Uttar Pradesh to the west. The state covers a geographical area of approximately 79,714 square kilometers, making it the fifteenth largest state in India by area (Ministry of Statistics and Programme Implementation, 2023). Jharkhand occupies a substantial portion of the Chota Nagpur Plateau, a geologically ancient landmass characterized by undulating terrain, low hill ranges, and river valleys, which distinguishes its topography sharply from the alluvial plains of neighboring Bihar and West Bengal.

The state's terrain is broadly divided into three physiographic zones: the northern plateau region encompassing Hazaribagh and surrounding districts, the central Ranchi plateau at elevations generally between 600 and 1,000 meters above sea level, and the southern plateau extending into the Kolhan and Singhbhum region. This plateau structure has historically constrained large scale irrigated agriculture, since much of the land is undulating and lacks the alluvial soil depth found in the Gangetic plains, while simultaneously endowing the state with substantial mineral deposits formed within the underlying Precambrian rock formations of the Chota Nagpur Gneissic Complex (Geological Survey of India, 2022).

Jharkhand's river systems are dominated by the Damodar, Subarnarekha, Barakar, North Koel, South Koel, and Sankh rivers, most of which drain toward the Bay of Bengal through West Bengal and Odisha. The Damodar river basin, historically referred to in development literature as the "Ruhr of India" due to its coal and industrial concentration, remains central to the state's power generation and industrial water supply, though it has also experienced significant siltation and pollution pressures linked to upstream mining and industrial discharge (Damodar Valley Corporation, 2023). The Subarnarekha river, meaning "streak of gold" in reference to historical alluvial gold deposits, flows through the industrial belt encompassing Ranchi, Jamshedpur, and into Odisha and West Bengal, and has similarly faced pollution loading from steel and metallurgical operations along its course.

Forest cover constitutes a defining ecological feature of the state. According to the India State of Forest Report, Jharkhand's total forest cover was recorded at approximately 23,721 square kilometers, or about 29.76 percent of the state's geographical area, as per the 2023 assessment cycle (Forest Survey of India, 2023). This places Jharkhand among the more forested states in India relative to its overall land area, though the report also noted localized declines in dense forest cover in certain mining affected districts, attributable to diversion of forest land for coal mining, road construction, and industrial expansion. The state's forests include significant sal (*Shorea robusta*) dominated tracts, particularly across the Chota Nagpur plateau, along with mixed deciduous forest types supporting a range of non-timber forest produce including tendu leaves, mahua, lac, and sal seed, which form an important

component of tribal household livelihoods (Ministry of Environment, Forest and Climate Change, 2023).

The state's climate is classified as tropical monsoon, with three broad seasons: a hot summer from March to mid-June, a monsoon season from mid-June to October during which the state receives the bulk of its annual rainfall averaging approximately 1,200 to 1,400 millimeters, and a relatively short, mild winter from November to February (India Meteorological Department, 2023). Rainfall distribution across the state is uneven, with the southern and southeastern districts generally receiving higher precipitation than the northern and western districts, a variation that has direct implications for agricultural planning and drought vulnerability assessments addressed in subsequent chapters of this framework.

Jharkhand's mineral wealth is among the most concentrated of any Indian state. The state holds substantial reserves of coal, concentrated principally in the Dhanbad, Bokaro, Hazaribagh, and Ramgarh districts within the Jharia and Bokaro coalfields, along with significant iron ore reserves in the West Singhbhum region, and deposits of copper, mica, bauxite, limestone, china clay, fire clay, and uranium, the last of which is mined at Jaduguda in East Singhbhum district, the site of India's first uranium mining operations (Indian Bureau of Mines, 2023). This concentration of extractive resources has shaped the state's economic geography since well before its formal creation in 2000, with mining and heavy industry historically concentrated in a belt running through Dhanbad, Bokaro, Ramgarh, Ranchi, and the Singhbhum districts, while the northern and western districts of the state have remained comparatively agrarian and less industrially developed.

Ecologically sensitive zones within the state include portions of the Palamu Tiger Reserve, one of India's earliest designated tiger reserves established in 1974 under Project Tiger, along with several wildlife sanctuaries including Hazaribagh, Dalma, and Betla National Park. These protected areas face ongoing management challenges related to human-wildlife conflict, encroachment pressure from surrounding agrarian and tribal settlements, and the cumulative ecological footprint of nearby mining and infrastructure projects (National Tiger Conservation Authority, 2023).

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

Jharkhand is administratively organized into 24 districts, grouped under five administrative divisions: North Chotanagpur, South Chotanagpur, Kolhan, Santhal Pargana, and Palamu (Government of Jharkhand, Revenue, Registration and Land Reforms Department, 2023). At the time of the state's formation in 2000, it comprised 18 districts, with six additional districts, Ramgarh, Khunti, Jamtara, Simdega, Saraikela Kharsawan, and Latehar, carved out subsequently between 2001 and 2007 through bifurcation of existing districts to improve administrative reach and service delivery in remote areas.

The five divisions reflect both administrative convenience and, to a significant degree, the underlying socio-cultural and economic geography of the state. The South Chotanagpur division, encompassing Ranchi, the state capital, along with Khunti, Gumla, Simdega, and

Lohardaga districts, functions as the administrative and educational nucleus of the state. The Kolhan division, comprising East Singhbhum, West Singhbhum, and Saraikela Kharsawan, forms the industrial heartland anchored by Jamshedpur, home to Tata Steel's principal integrated steel plant. The North Chotanagpur division, including Dhanbad, Bokaro, Hazaribagh, Giridih, Koderma, Chatra, and Ramgarh, constitutes the coal mining and thermal power belt. The Santhal Pargana division, comprising Dumka, Deoghar, Godda, Sahibganj, Pakur, and Jamtara, has a distinct historical and demographic character shaped by its large Santhal tribal population and its administrative legacy under the colonial era Santhal Pargana Tenancy Act, which continues to govern land transfer restrictions in the region (Government of Jharkhand, Land Reforms Department, 2022). The Palamu division, encompassing Palamu, Garhwa, and Latehar, is among the most drought prone and economically underdeveloped areas of the state, and includes several blocks classified under the Union government's Aspirational Districts Programme.

Below the district level, Jharkhand's administrative structure comprises 264 development blocks and approximately 4,562 gram panchayats as per the most recent Panchayati Raj Department records, following the restoration of panchayat elections in 2010 after a gap of more than three decades during which the state, and undivided Bihar before it, had not held local body elections (Ministry of Panchayati Raj, Government of India, 2023). Urban local governance is structured through municipal corporations in the larger cities, principally Ranchi, Jamshedpur (administered through the Jamshedpur Notified Area Committee due to its unique company town governance structure historically managed by Tata Steel), Dhanbad, Bokaro, Deoghar, Hazaribagh, and Giridih, along with municipal councils and notified area committees in smaller urban centers.

A distinguishing administrative feature of Jharkhand, relevant across multiple chapters of this framework, is the presence of Fifth Schedule areas under the Constitution of India, which cover a substantial share of the state's geographical area and confer special governance provisions intended to protect tribal land rights and customary governance systems, including the Panchayats (Extension to Scheduled Areas) Act of 1996, commonly referred to as PESA (Ministry of Tribal Affairs, Government of India, 2022). The interface between PESA provisions, mainstream panchayat governance, and state administrative machinery remains an area of ongoing institutional negotiation, examined further in Chapter 12 of this framework.

1.3 Demographic Structure: Population, Density, Growth and Composition

According to the 2011 Census, Jharkhand's population stood at 32,988,134, comprising 16,930,315 males and 16,057,819 females, yielding a sex ratio of 948 females per 1,000 males, marginally above the national average of 943 recorded in the same Census (Census of India, 2011). The state recorded a decadal population growth rate of 22.42 percent between 2001 and 2011, higher than the national decadal growth rate of 17.7 percent for the same period, reflecting both natural increase and in-migration associated with industrial and mining employment (Census of India, 2011).

In the absence of a 2021 Census, current population estimates rely on projection methodologies. The Ministry of Health and Family Welfare's Technical Group on Population Projections, using Census 2011 as its baseline, projected Jharkhand's mid-2026 population at approximately 41.1 million (StatisticsTimes.com, 2026, citing National Commission on Population methodology). Independent aggregator based projections vary, with some estimates placing the 2026 population closer to 39.8 to 40.7 million depending on the growth rate assumptions applied (PopulationU, 2026; IndiaCensus.in, 2026). This framework treats the population projection range of approximately 40 to 41 million as the working estimate for 2026, while emphasizing that this figure should be understood as a demographic projection rather than an enumerated count, pending the conduct of the next decennial Census.

Population density in Jharkhand was recorded at 414 persons per square kilometer in the 2011 Census, above the national average density of 382 persons per square kilometer for the same year, despite the state's substantial forested and hilly terrain, indicating pronounced concentration of population in the industrial and urban belts of Ranchi, Dhanbad, Bokaro, and the Kolhan region relative to sparser settlement in forested and hill districts such as Simdega, Khunti, and parts of Palamu division (Census of India, 2011).

Jharkhand's urbanization level remains comparatively low. The 2011 Census recorded an urban population share of 24.05 percent, well below the national urban share of 31.16 percent for the same year (Census of India, 2011). Urban concentration is heavily skewed toward the industrial corridor, with Jamshedpur, Dhanbad, Ranchi, and Bokaro accounting for a disproportionate share of the state's total urban population, while urbanization in Santhal Pargana and Palamu divisions remains markedly limited.

The age structure of Jharkhand's population as recorded in the 2011 Census showed a relatively youthful profile, with approximately 16.3 percent of the population in the 0 to 6 year age group, above the corresponding national figure, reflecting historically higher fertility rates in the state (Census of India, 2011). Subsequent survey data from the National Family Health Survey round conducted in 2019 to 2021 recorded a Total Fertility Rate of 2.3 children per woman in Jharkhand, down from 2.6 recorded in the previous round conducted in 2015 to 2016, indicating a continuing demographic transition toward lower fertility, though the state's fertility rate remains above the national replacement level benchmark of 2.1 (International Institute for Population Sciences and Ministry of Health and Family Welfare, 2021).

1.4 Linguistic, Ethnic, Religious and Cultural Profile

Jharkhand's cultural composition is distinguished by the significant presence of Scheduled Tribe communities, recorded at 26.2 percent of the state's population in the 2011 Census, the fourth highest proportion among Indian states and union territories with substantial tribal populations, after Mizoram, Nagaland, and Meghalaya (Census of India, 2011). Major tribal communities in Jharkhand include the Santhal, Oraon, Munda, Ho, Kharia, and Santal, along with several Particularly Vulnerable Tribal Groups (PVTGs) such as the Birhor, Sabar, Paharia, and Korwa, who are recognized by the Ministry of Tribal Affairs as requiring

targeted developmental interventions due to their small population size, pre-agricultural technology, and declining or stagnant population growth (Ministry of Tribal Affairs, Government of India, 2022). Scheduled Castes constitute approximately 12.1 percent of the state's population as per the 2011 Census, with major communities including the Bhuiya, Dusadh, and Ghasi (Census of India, 2011).

Hindi is the official language of the state administration, though Jharkhand recognizes a substantial number of additional languages under its official language policy, including Santali, which holds the distinction of constitutional recognition under the Eighth Schedule since 2003 and is written using both the Ol Chiki script, developed specifically for the Santali language, and Devanagari in different contexts (Government of Jharkhand, 2022). Other recognized regional languages include Mundari, Ho, Kurukh, Khortha, Nagpuri, Kurmali, Panchpargania, and Bengali, reflecting the state's considerable linguistic diversity, particularly across its tribal and Santhal Pargana populations.

Religiously, the 2011 Census recorded Jharkhand's population as 67.83 percent Hindu, 14.53 percent Muslim, and 4.3 percent Christian, with the remainder comprising Sarna followers, Sikhs, Buddhists, Jains, and others (Census of India, 2011). The Sarna faith, a tribal animist religious tradition centered on the worship of nature and sacred groves, is practiced by a significant share of the state's tribal population, and has been the subject of a sustained political campaign for separate religious code recognition in the Census, an issue that remains under consideration at the national level as of this writing (Government of Jharkhand, Legislative Assembly Resolution, 2020).

Jharkhand's cultural heritage is closely tied to its tribal traditions, expressed through festivals such as Sarhul, marking the spring flowering of the sal tree and celebrated primarily by the Oraon and Munda communities, Karma, a harvest festival observed across several tribal groups, and Sohrai, a post-harvest festival associated with cattle worship and characterized by distinctive tribal wall art traditions, particularly among Kurmi and Santhal communities in the Hazaribagh region, recognized for its Sohrai and Khoval painting traditions that received a Geographical Indication tag in 2020 (Department of Industries, Government of Jharkhand, 2020).

1.5 Human Development Index: State Ranking and Trend Analysis

Jharkhand's Human Development Index performance has historically placed it among the lower tier of Indian states. The 2011 India Human Development Report, prepared jointly by the United Nations Development Programme and the Institute for Human Development, recorded Jharkhand among states with HDI values below the national average, reflecting persistent gaps in health, education, and income indicators relative to more industrially diversified states (United Nations Development Programme and Institute for Human Development, 2020). More recent sub-national HDI estimates compiled through United Nations Development Programme methodology continue to place Jharkhand in the bottom quartile of major Indian states, alongside Bihar, Uttar Pradesh, and Madhya Pradesh, though the state has recorded incremental improvement in its composite index value over successive

assessment periods, driven primarily by gains in life expectancy and school enrollment rather than income convergence (Global Data Lab, Subnational Human Development Index database, 2023).

Within the state, HDI performance varies substantially by district. Districts within the Kolhan and South Chotanagpur divisions, particularly East Singhbhum and Ranchi, which host concentrated industrial and administrative employment, consistently outperform districts in Santhal Pargana and Palamu division on composite human development measures, a pattern that mirrors the state's broader economic geography and is examined further in section 1.7 of this chapter (NITI Aayog, 2023).

1.6 Poverty, Inequality and Multidimensional Deprivation Indices

Jharkhand has historically recorded among the highest poverty rates of any Indian state. According to NITI Aayog's National Multidimensional Poverty Index, which draws on National Family Health Survey data across health, education, and standard of living indicators, Jharkhand recorded a multidimensional poverty headcount ratio of 42.16 percent in the baseline assessment using 2015 to 2016 data, among the highest of any major Indian state, though this had declined to 28.81 percent by the subsequent assessment using 2019 to 2021 data, reflecting a decline of over 13 percentage points, one of the larger improvements recorded among Indian states over that period even as Jharkhand continued to rank near the bottom in absolute terms (NITI Aayog, 2023).

This decline in multidimensional poverty has been attributed substantially to improvements in access indicators such as electrification, sanitation, and cooking fuel access, which improved sharply during this period through national schemes including the Saubhagya electrification scheme and the Pradhan Mantri Ujjwala Yojana for LPG connections, even as income and nutrition related deprivations remained comparatively persistent (NITI Aayog, 2023). Rural poverty in Jharkhand remains substantially higher than urban poverty, and poverty incidence is markedly concentrated among Scheduled Tribe and Scheduled Caste households, a pattern consistent with the state's broader socio-economic geography (Ministry of Rural Development, Government of India, 2022).

Income inequality within the state, as measured through consumption expenditure surveys, reflects the bifurcated nature of Jharkhand's economy, with a small industrial and urban salaried class in the Kolhan and Ranchi belt coexisting alongside a much larger agrarian and forest dependent population operating near subsistence levels, particularly in Santhal Pargana and Palamu divisions (National Sample Survey Office, Household Consumption Expenditure Survey, 2023).

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

The Union government's Aspirational Districts Programme, launched in January 2018 by NITI Aayog to accelerate development in the country's most underdeveloped districts through

convergence of central and state schemes and competitive ranking based on real time data, includes several Jharkhand districts among its cohort, most prominently Palamu, Garhwa, Chatra, Giridih, Hazaribagh, Sahibganj, Pakur, Ranchi's tribal blocks, and West Singhbhum, among others, depending on the programme cycle (NITI Aayog, 2023). These districts are characterized by composite deprivation across health, education, agriculture and water resources, financial inclusion, and basic infrastructure indicators, and their inclusion in the programme reflects a formal national recognition of Jharkhand's pronounced intra-state disparities.

The programme's delta ranking methodology, which measures the pace of improvement rather than absolute status alone, has recorded mixed results among Jharkhand's aspirational districts, with some, notably Hazaribagh, showing consistent improvement across health and nutrition indicators, while others, particularly in the Santhal Pargana belt, have shown slower convergence, attributed in NITI Aayog's assessments to weaker administrative capacity and more limited last mile infrastructure (NITI Aayog, Aspirational Districts Programme, Delta Ranking Reports, 2023).

Beyond the formal Aspirational Districts framework, Jharkhand's own Backward Regions Grant Fund allocations, prior to their discontinuation and subsequent integration into other Union schemes following the recommendations of successive Finance Commissions, historically identified a broadly overlapping set of districts, principally within Palamu and Santhal Pargana divisions, as requiring targeted infrastructure and capacity investment (Ministry of Panchayati Raj, Government of India, 2015).

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

Jharkhand's position across various national ranking exercises presents a consistent pattern of the state occupying lower quartile positions on outcome indicators while showing meaningful improvement trajectories on process and access indicators. On the NITI Aayog Sustainable Development Goals India Index, which tracks state performance against the 17 Sustainable Development Goals using a composite scoring methodology, Jharkhand has historically scored among the lower tier of states, categorized within the "Aspirant" or lower "Performer" categories in successive editions of the index, though with incremental score improvements recorded across editions, particularly on goals related to clean water and sanitation and affordable and clean energy, reflecting the impact of national infrastructure missions (NITI Aayog, SDG India Index, 2023).

On the World Bank and Union government's Ease of Doing Business ranking exercise, administered through the Business Reform Action Plan framework, Jharkhand's ranking has fluctuated across assessment cycles, generally placing in the middle to lower tier among major states, reflecting ongoing challenges in land acquisition processes, single window clearance implementation, and regulatory compliance simplification that are examined in greater depth in Chapter 4 of this framework (Department for Promotion of Industry and Internal Trade, 2022).

On education indicators tracked through the Union Ministry of Education's Performance Grading Index for states, Jharkhand has typically been classified in the middle to lower performance bands, with particular gaps identified in learning outcomes and teacher availability relative to enrollment, discussed at length in Chapter 5 (Ministry of Education, Government of India, Performance Grading Index, 2023). On health system performance, as tracked through NITI Aayog's Health Index, which benchmarks states on health outcomes, governance, and information systems, Jharkhand has similarly ranked in the lower tier among larger states, though with notable improvement in specific sub-indicators including institutional delivery and immunization coverage, addressed in Chapter 6 of this framework (NITI Aayog, Health Index, 2021).

Taken together, this composite national ranking picture reinforces the central analytical thread of this framework: Jharkhand possesses substantial resource wealth and has recorded genuine, measurable gains in access and coverage indicators since its formation in 2000, but continues to face a persistent gap between resource endowment and human development outcomes, a gap that subsequent chapters of this framework examine through the state's fiscal architecture, economic structure, and sectoral performance in turn.

Chapter 2: Fiscal Architecture of the State

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

Jharkhand's revenue architecture is distinguished among Indian states by its unusually heavy reliance on non-tax revenue, a feature directly traceable to the state's mineral wealth. For the 2025-26 fiscal year, the Jharkhand government budgeted total revenue receipts of Rs 1,25,153 crore, of which Rs 61,056 crore, or 49 percent, was to be raised through the state's own resources, while Rs 64,097 crore, or 51 percent, was expected to come from the Union government in the form of tax devolution and grants (PRS Legislative Research, 2025). This near even split between own resources and central transfers is broadly consistent with the pattern observed across mineral rich states, though Jharkhand's own resource base is unusual in its composition.

The state's own tax revenue was estimated at Rs 35,200 crore for 2025-26, a 4 percent increase over the revised estimate for 2024-25 (PRS Legislative Research, 2025). Expressed as a share of Gross State Domestic Product, Jharkhand's own tax revenue stood at 6.3 percent in the 2025-26 budget estimate, a decline from 6.7 percent recorded in the revised estimate for 2024-25, and close to the actual figure of 6.1 percent recorded for 2023-24 (PRS Legislative Research, 2025). This places Jharkhand's own tax to GSDP ratio somewhat below the all-state aggregate of approximately 7 percent estimated for 2024-25 (PRS Legislative Research, 2024).

What distinguishes Jharkhand's revenue structure most sharply is the scale of its non-tax revenue, driven overwhelmingly by mineral royalty receipts. Jharkhand, along with Chhattisgarh and Odisha, was estimated to raise non-tax revenue equivalent to between 3 and 6.3 percent of GSDP in 2024-25, with more than 80 percent of this non-tax revenue derived from the mining sector alone (PRS Legislative Research, 2024). This dependence gives Jharkhand's fiscal position a distinctive sensitivity to global and domestic commodity price cycles, particularly coal prices, that is not shared by states with more diversified own revenue bases. The Reserve Bank of India has noted that mineral rich states, including Jharkhand, could further strengthen their non-tax revenue position through stronger mechanisms to detect and curb illegal mining activity, and through greater use of asset monetisation in sectors such as roads, transport, and power (Reserve Bank of India, 2023, as cited in PRS Legislative Research, 2024).

Tax devolution constitutes the largest single component of central transfers to Jharkhand. In 2025-26, the state's share in central taxes was estimated at Rs 47,040 crore, representing 38 percent of total revenue receipts, while grants from the centre were estimated at Rs 17,057 crore, or 14 percent of revenue receipts, an increase of 22 percent over the revised estimate of the previous year (PRS Legislative Research, 2025). The devolution formula currently in effect follows the recommendations of the Fifteenth Finance Commission, chaired by N.K. Singh, which fixed states' aggregate share in the divisible pool of central taxes at 41 percent, a formula that remains in effect through March 31, 2026 (PRS Legislative Research, 2024).

The Sixteenth Finance Commission, chaired by Arvind Panagariya, was constituted to submit recommendations for the subsequent five year period beginning April 1, 2026, and its award will materially affect Jharkhand's devolution receipts from that year onward (PRS Legislative Research, 2024).

2.2 Expenditure Profile: Composition, Quality and Efficiency

Jharkhand's total expenditure, excluding debt repayment, was targeted at Rs 1,36,653 crore for 2025-26, representing a 12 percent increase over the revised estimate for 2024-25 (PRS Legislative Research, 2025). Of this, revenue expenditure, which covers the recurring costs of administration, salaries, pensions, interest payments, and subsidies, constituted the larger share, with revenue expenditure for 2024-25 alone proposed at Rs 91,832 crore, a 4 percent increase over the revised estimate for the preceding year (PRS Legislative Research, 2024).

A notable feature of Jharkhand's recent expenditure pattern has been the growth of unconditional cash transfer schemes. In October 2024, the state government increased the monthly payout under the Mukhyamantri Maiyan Samman Yojana, a direct benefit transfer scheme targeted at women beneficiaries, from Rs 1,000 to Rs 2,500 per month (PRS Legislative Research, 2025). This expansion places Jharkhand among a broader cohort of Indian states that have significantly scaled up unconditional cash transfer spending in the 2024-25 and 2025-26 budget cycles, with states collectively estimated to spend Rs 1,68,040 crore on such schemes for women in 2025-26, equivalent to approximately 0.5 percent of national GDP (PRS Legislative Research, 2025). The Reserve Bank of India has flagged such large scale, less targeted transfer schemes as a source of potential stress on state finances, recommending that spending on cash transfers to farmers, youth, and women be rationalised where it crowds out productive expenditure (Reserve Bank of India, 2025, as cited in PRS Legislative Research, 2025).

Notwithstanding this, Jharkhand's expenditure quality, measured through the share of capital outlay in total expenditure, compares favourably with most major states. For fiscal year 2024-25, Jharkhand ranked among the leading states by share of capital outlay in total expenditure at 19.9 percent, behind only Gujarat at 25.3 percent, Odisha at 23.9 percent, and Uttar Pradesh at 22.2 percent, and well above states such as Punjab at 5.5 percent, Kerala at 8.5 percent, and Haryana at 10.4 percent (National Stock Exchange Economic Policy and Research team, 2024). Separately, capital expenditure as a share of GSDP was recorded at 8.96 percent for Jharkhand in an independent debt sustainability analysis using data through 2023-24, the highest among the states examined in that study, narrowly ahead of Haryana at 8.72 percent (Ministry of Statistics data, as cited in Indian Economic Service working paper, 2025). This relatively strong capital spending performance is a meaningful counterpoint to Jharkhand's otherwise constrained fiscal position, and reflects a deliberate push by the state, along with Mizoram, to increase capital spending over the preceding three fiscal years (National Stock Exchange Economic Policy and Research team, 2024).

2.3 Capital Expenditure: Infrastructure Investment and Asset Creation

Jharkhand's comparatively strong capital expenditure performance, discussed in the preceding section, has been directed primarily toward road infrastructure, irrigation, power sector assets, and rural connectivity, consistent with the sectoral priorities examined in Chapters 8, 9, and 12 of this framework. The state has also become eligible, along with other states, for a 50-year interest-free loan facility from the central government for capital outlay, available over and above the state's normal borrowing limit, a facility introduced by the Union government to incentivise capital spending among states following the fiscal disruption of the COVID-19 pandemic period (PRS Legislative Research, 2025).

The sustained emphasis on capital outlay is significant in light of Jharkhand's revenue surplus position, discussed in section 2.4 below, since a revenue surplus provides fiscal space that can, in principle, be directed toward capital asset creation rather than being absorbed entirely by recurring revenue expenditure. Whether this fiscal space translates into productive, well maintained infrastructure assets, however, depends on project implementation capacity within state line departments and local bodies, an institutional question examined further in Chapter 15 of this framework.

2.4 Fiscal Deficit, Primary Deficit and Debt Sustainability

Jharkhand has consistently maintained a fiscal deficit below the threshold recommended by the Fifteenth Finance Commission in recent budget cycles, a notable achievement given that eighteen of India's twenty-eight states exceeded the Commission's fiscal deficit benchmark of 3 percent of GSDP as documented in the Comptroller and Auditor General's State Finances Report for 2024-25 (Comptroller and Auditor General of India, 2025, as cited in Vajiram and Ravi, 2025). For 2025-26, Jharkhand targeted a fiscal deficit of 2 percent of GSDP, equivalent to Rs 11,253 crore, an improvement on the revised estimate of 2.3 percent of GSDP for 2024-25 (PRS Legislative Research, 2025). This is well within the fiscal deficit ceiling of 3.5 percent of GSDP permitted to states for 2025-26, of which 0.5 percentage points is conditional on states undertaking power sector reforms (PRS Legislative Research, 2025).

Unusually for a state with Jharkhand's per capita income profile, the state has also maintained a revenue surplus rather than a revenue deficit across recent budget cycles. The state estimated a revenue surplus of 2.6 percent of GSDP, or Rs 14,517 crore, for 2025-26, an improvement over the revenue surplus of 2.3 percent of GSDP recorded at the revised estimate stage for 2024-25 (PRS Legislative Research, 2025). The Comptroller and Auditor General's State Finances Report 2024-25 specifically highlighted Jharkhand, alongside Goa, Tripura, and Uttar Pradesh, as among a small group of states that achieved a revenue surplus even against strict fiscal targets, a distinction of note since only nine of the eighteen states that had targeted a revenue surplus in 2024-25 actually achieved one (Comptroller and Auditor General of India, 2025, as cited in Vajiram and Ravi, 2025).

On debt sustainability, Jharkhand's outstanding liabilities, which represent the accumulated stock of borrowings and public account liabilities, were projected at 27 percent of GSDP for 2025-26, an improvement from a budget estimate of 27.5 percent for 2024-25, and a more substantial improvement from 30.6 percent of GSDP recorded as the budget estimate for 2023-24 (PRS Legislative Research, 2025). Outstanding liabilities had risen sharply during the 2020-21 pandemic year across nearly all Indian states, and Jharkhand's subsequent trajectory of gradual reduction is consistent with the broader national pattern of post-pandemic fiscal consolidation (PRS Legislative Research, 2025). Even so, an independent academic analysis using International Monetary Fund Fiscal R-Star methodology, drawing on state level data through 2023-24, classified Jharkhand within a group of eleven states, including Bihar, Andhra Pradesh, Chhattisgarh, Haryana, Himachal Pradesh, Kerala, Punjab, Rajasthan, Tamil Nadu, and Telangana, that had each added an average of 11.7 percentage points to their debt to GSDP ratio over the decade from 2012-13 to 2022-23, indicating that while Jharkhand's debt trajectory has moderated in the most recent budget cycles, the state carries a structurally elevated debt burden relative to a decade earlier (National Council of Applied Economic Research working paper, 2025). The same analysis noted that Jharkhand exhibited moderate debt burden variability over the study period, in contrast to states such as Karnataka that showed substantially greater fluctuation (Indian Economic Service working paper, 2025).

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

Beyond direct borrowings reflected in outstanding liabilities, Jharkhand carries contingent liabilities in the form of government guarantees extended to State Public Sector Enterprises for their borrowings from financial institutions. As of March 31, 2024, the state's outstanding guarantees were estimated at Rs 4,998 crore, of which 51 percent, or Rs 2,535 crore, was attributable to the power sector, with total outstanding guarantees equivalent to 1.1 percent of GSDP for 2023-24 (PRS Legislative Research, 2025). While this contingent liability burden is modest relative to the state's overall fiscal aggregates, guarantees extended to power sector entities in particular represent a recurring area of fiscal risk across Indian states generally, since power distribution utilities frequently carry accumulated losses that can eventually crystallise as calls on state guarantees, a dynamic examined further in Chapter 9 of this framework.

2.6 Finance Commission Awards: Allocation and Utilisation

Jharkhand's fiscal position through the period covered by the Fifteenth Finance Commission award, which runs from April 1, 2021 through March 31, 2026, has been shaped by the Commission's overall devolution formula fixing states' aggregate share of the divisible pool of central taxes at 41 percent (PRS Legislative Research, 2024). As a state classified among the fiscally weaker category with a substantial forest cover and tribal population share, Jharkhand's individual share within this divisible pool reflects criteria that include income distance, population, area, forest cover, and demographic performance, criteria that have

historically favoured states with lower per capita income and larger forested area relative to more industrially advanced states.

The transition to the Sixteenth Finance Commission award, effective from April 1, 2026, represents a significant point of fiscal uncertainty for Jharkhand going forward, since the Commission's revised formula, criteria weights, and any changes to the divisible pool share will materially affect the state's central transfer receipts for the subsequent five year period (PRS Legislative Research, 2024). As of this writing, the Sixteenth Finance Commission's report and recommendations had not yet been made public in complete form, and this framework will need to be updated once the award is formally notified.

2.7 GST Implementation: Revenue Impact and Compensation Status

The Goods and Services Tax has become the dominant component of states' own tax revenue nationally, with State GST contributing more than 43 percent of states' own tax revenues in aggregate as recorded in the Comptroller and Auditor General's State Finances Report for 2024-25 (Comptroller and Auditor General of India, 2025, as cited in Vajiram and Ravi, 2025). States' own tax revenue collectively more than doubled from Rs 8.4 lakh crore in 2015-16 to Rs 20.31 lakh crore in 2024-25, with tax collections recording stronger growth in the post-GST period compared to the pre-GST era (Comptroller and Auditor General of India, 2025, as cited in Vajiram and Ravi, 2025). Jharkhand's own tax revenue trajectory, discussed in section 2.1, is broadly consistent with this national pattern, though the state's GST collections remain constrained by its relatively modest consumption base compared to more urbanised and industrially diversified states.

The GST compensation mechanism established under the GST (Compensation to States) Act of 2017, which guaranteed states compensation for revenue shortfalls relative to a 14 percent assured annual growth rate for the first five years of GST implementation, formally expired on June 30, 2022. Since that date, Jharkhand, like all other states, has had to absorb GST revenue volatility without the cushion of guaranteed compensation, a structural change that increases the state's exposure to consumption cycle fluctuations within its own tax revenue base.

2.8 Public Financial Management Reforms and Audit Compliance

Jharkhand's fiscal management operates under the framework of the Jharkhand Fiscal Responsibility and Budget Management Act of 2007, which sets annual targets for the progressive reduction of outstanding liabilities, revenue deficit, and fiscal deficit (PRS Legislative Research, 2025). The state's recent track record of maintaining a revenue surplus and a fiscal deficit within Finance Commission limits, discussed in section 2.4, indicates a reasonable degree of compliance with this statutory framework in the most recent budget cycles, though sustained compliance depends on the trajectory of both mineral revenue receipts and the growth of committed expenditure, particularly the expanding cash transfer schemes discussed in section 2.2.

Audit oversight of the state's finances is conducted by the Comptroller and Auditor General of India, whose State Finances Report for 2024-25 provided a national assessment noting that the combined liabilities of all Indian states had risen to Rs 90.51 lakh crore as of March 31, 2025, and that a rising subsidy driven expenditure pattern across states raised concerns regarding fiscal sustainability and the quality of expenditure nationally (Comptroller and Auditor General of India, 2025, as cited in Vajiram and Ravi, 2025). Jharkhand's specific audit findings within this broader report, including its recognition as one of a small number of states achieving revenue surplus against strict targets, suggest a comparatively disciplined fiscal management record relative to the national state average, even as the state's underlying dependence on volatile mineral non-tax revenue, discussed in section 2.1, remains a structural vulnerability not fully captured by annual deficit and surplus figures alone.

2.9 Centre-State Fiscal Relations: Trends and Themes

Centre-state fiscal relations for Jharkhand are shaped by three intersecting dynamics examined throughout this chapter: the state's substantial reliance on tax devolution and central grants, which together constituted 51 percent of revenue receipts in the 2025-26 budget estimate (PRS Legislative Research, 2025); the state's unusual dependence on mineral royalty revenue as a form of own resource that is nonetheless subject to central regulatory and pricing frameworks governing coal and mineral extraction; and the state's upcoming transition to a new Finance Commission award cycle beginning in April 2026, which introduces a degree of near term fiscal uncertainty.

A recurring theme in national fiscal commentary relevant to Jharkhand concerns the broader tension between central grants conditionality and state fiscal autonomy. The Reserve Bank of India has noted that revenue deficit grants, which are extended to states expected to face high revenue deficits following Finance Commission tax devolution, could in principle disincentivise the underlying fiscal reforms needed to improve state finances over the longer term (Reserve Bank of India, 2023, as cited in PRS Legislative Research, 2024). Since Jharkhand has generally not required such revenue deficit grants in recent years given its revenue surplus position, this particular tension is less acute for Jharkhand than for revenue deficit states, but the broader question of how mineral dependent states should structure their fiscal relationship with the centre, particularly regarding royalty rate revisions and the taxation treatment of mineral rights, remains a live and evolving area of Centre-state negotiation, with implications examined further in the industrial and mining sections of Chapter 3 of this framework.

Chapter 3: Economic Structure, Growth and Sectoral Performance

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

Jharkhand's economy has recorded a sustained period of above-national-average growth through the mid-2020s. According to the Jharkhand Economic Survey 2025-26, tabled in the state legislative assembly by Finance Minister Radhakrishna Kishore, the state's real Gross State Domestic Product, at constant 2011-12 prices, rose from Rs 1,50,918 crore in 2011-12 to Rs 3,03,178 crore in 2024-25, effectively doubling over roughly thirteen years (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2025-26, 2026, as cited in sdnews.sachchadost.in, 2026). Growth in 2024-25 was estimated at 7.02 percent, exceeding the national average of approximately 6.5 percent for the same year, and marking the fourth consecutive year of growth above 7 percent, a run of performance the Survey characterized as reflecting economic resilience and momentum (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2025-26, 2026, as cited in Drishti IAS, 2026). Over the three year period from 2021-22 to 2023-24, the state recorded an average annual GSDP growth rate of 7.7 percent at constant prices, and over the pandemic recovery window of 2020-21 to 2023-24, an average annual growth rate of 9.1 percent, compared with a national average of 8.3 percent over the same window (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2024-25, 2025, as cited in Outlook Business, 2025).

For 2025-26, real GSDP was projected to reach approximately Rs 3,21,892 crore, representing growth of 6.17 percent, with a further projection of Rs 3,41,064 crore, or 5.96 percent growth, for 2026-27 (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2025-26, 2026, as cited in sdnews.sachchadost.in, 2026). At current prices, GSDP was projected to cross Rs 5.6 lakh crore in 2025-26 and approach Rs 6.1 lakh crore in 2026-27, following an estimated Rs 5,06,356 crore at current prices in 2024-25 (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2024-25, 2025, as cited in New Arena India, 2025). This deceleration from the 7 percent-plus growth rates of the immediate post-pandemic years to a mid-6 percent trajectory is characterized in the Economic Survey as a transition from post-pandemic rebound toward structural consolidation, rather than as a sign of underlying weakness (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2025-26, 2026, as cited in Drishti IAS, 2026).

Jharkhand's contribution to the national economy has correspondingly increased. The state's GSDP at constant prices rose from 1.59 percent of India's real GDP in 2019-20 to 1.64 percent in 2023-24, while its nominal GSDP share rose from 1.54 percent to 1.56 percent of the national figure over the same period, an increase attributed to Jharkhand's growth rate exceeding the national average in most of the preceding five years (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2024-25, 2025, as cited in New Arena India, 2025).

On sectoral composition, Jharkhand's Gross State Value Added has historically been anchored by industry to a degree unusual among Indian states. Industrial activity, encompassing mining, manufacturing, and construction, contributed approximately 44.1 percent of the state's GSVA in recent years, placing Jharkhand among the top three industrialized states in India by this measure, alongside Chhattisgarh and Odisha, a ranking that reflects the concentration of mining, heavy metallurgical industry, and a growing base of medium and small enterprises within the state economy (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2025-26, 2026, as cited in Drishti IAS, 2026). Services have simultaneously expanded, with the sector projected to reach a GSVA of Rs 1,37,730 crore in 2025-26 and Rs 1,48,479 crore in 2026-27, representing growth of 8.84 percent and 7.81 percent respectively, outpacing overall GSDP growth and indicating a gradual structural shift toward services within the state economy (sdnews.sachchadost.in, 2026).

The state government has articulated an explicit long-term growth target of building a Rs 10 lakh crore, or Rs 10 trillion, economy by 2029-30. Starting from a current-price GSDP base of Rs 4,61,010 crore in 2023-24, the Economic Survey calculated that a sustained nominal growth rate of 14.2 percent per annum would be required to reach this target, a rate the Survey characterized as achievable in light of the state's recent growth performance (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2024-25, 2025, as cited in Outlook Business, 2025).

3.2 Per Capita Income and Purchasing Power Analysis

Jharkhand's per capita income crossed the Rs 1 lakh threshold at current prices for the first time in 2024-25, reaching Rs 1,16,663, according to the Jharkhand Economic Survey 2025-26, a milestone the Survey highlighted as a notable outcome of the reporting period (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2025-26, 2026, as cited in sdnews.sachchadost.in, 2026). Real per capita income, at constant 2011-12 prices, reached Rs 68,357 in the same year, a 65.7 percent increase over the 2011-12 baseline, equivalent to a compound annual growth rate of approximately 4.0 percent (sdnews.sachchadost.in, 2026). Slightly differing figures published in an earlier release of the Jharkhand Economic Survey 2024-25 placed per capita income at Rs 1,14,271 at current prices for 2024-25 and projected Rs 1,24,079 for 2025-26, up from Rs 1,05,274 in 2023-24 (Institute of Public Services, 2025). The variation between these figures reflects successive revisions between the 2024-25 and 2025-26 editions of the Economic Survey, and both are reported here for transparency, with the more recent 2025-26 Survey figures treated as the more current estimate.

Notwithstanding this steady improvement, Jharkhand's per capita income remains among the lowest of major Indian states in relative, cross-state terms. As per the Jharkhand Economic Survey 2024-25, the state ranked 26th among 28 states on per capita income in 2022-23, ahead of only Bihar and Uttar Pradesh (Institute of Public Services, 2025). This persistent relative ranking, even amid absolute income growth and a headline GSDP that places Jharkhand among India's more industrialized states, underscores the central paradox

introduced in Chapter 1 of this framework: a resource-intensive, industrially significant economy whose aggregate output has not translated into a per capita income position commensurate with its industrial base, a pattern consistent with the concentration of high-value industrial activity in a narrow set of urban and mining centers alongside a much larger population engaged in low-productivity agriculture and informal work, discussed further in sections 3.6 and 3.7 below.

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

Agriculture and allied activities contributed approximately 12.3 percent of Jharkhand's GSVA in 2025-26, a declining share relative to earlier years even as the absolute value of agricultural output has continued to grow, a pattern the Jharkhand Economic Survey 2025-26 characterizes as indicative of economic diversification rather than agricultural decline (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2025-26, 2026, as cited in Drishti IAS, 2026). Absolute agricultural GSVA grew from Rs 28,470 crore to an estimated Rs 38,200 crore over recent years, a trend the Survey attributes to underlying productivity gains even as agriculture's proportional weight in the overall economy recedes with faster growth in industry and services (Drishti IAS, 2026).

Jharkhand's agricultural base is constrained by the plateau topography described in Chapter 1, which limits the extent of assured irrigation and renders much of the state's cultivated area dependent on monsoon rainfall for the kharif season, with paddy as the dominant crop across the plateau districts. Given the undulating terrain and predominance of small and marginal landholdings, particularly among tribal cultivators, agricultural productivity in Jharkhand has historically trailed the national average for major cereal crops, a gap that state agricultural policy has sought to address through expansion of micro-irrigation, promotion of horticulture and non-traditional crops suited to upland terrain, and integration of animal husbandry and fisheries as supplementary livelihood sources for rural households, themes examined in greater depth in Chapter 18 of this framework.

3.4 Secondary Sector: Industry, Manufacturing and Mining

Industry, inclusive of mining, manufacturing, and construction, constitutes the single largest component of Jharkhand's GSVA at approximately 44.1 percent, a share that places the state among the three most industrialized in India by sectoral composition, alongside Chhattisgarh and Odisha (Drishti IAS, 2026). This industrial weight is driven substantially by mining and heavy metallurgical industry concentrated in the Kolhan and North Chotanagpur divisions described in Chapter 1, anchored by integrated steel production at Jamshedpur and Bokaro, and by coal extraction across the Jharia and Bokaro coalfields in Dhanbad, Bokaro, and neighboring districts.

Mineral royalty revenue, discussed in fiscal terms in Chapter 2, is projected to yield the state approximately Rs 19,300 crore in mining royalties for fiscal year 2024-25 (New Arena India, 2025). This figure illustrates the scale of the coal and mineral sector's direct fiscal contribution, separate from its broader contribution to industrial GSVA and employment, and

underscores the structural linkage between Jharkhand's mining sector performance and both its industrial output figures discussed in this section and its non-tax revenue base discussed in Chapter 2.

Beyond large anchor industries, the state has recorded rapid expansion in its micro, small, and medium enterprise base. Over 83,000 new Udyam registrations were recorded in the first nine months of 2025-26 alone, employing more than 3.34 lakh people, with micro enterprises constituting over 99 percent of these newly registered units (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2025-26, 2026, as cited in Drishti IAS, 2026). This MSME expansion is significant for the state's employment generation prospects, since large anchor industries in mining and metallurgy tend to be capital rather than labor intensive relative to their output, whereas a vibrant MSME ecosystem, particularly in semi-urban and rural areas, is more directly linked to broad based job creation and the strengthening of local supply chains (Drishti IAS, 2026), a theme that connects directly to the industrial policy discussion in Chapter 4 of this framework.

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

The services sector has emerged as the fastest growing component of Jharkhand's economy in relative terms, with projected GSVA growth of 8.84 percent in 2025-26 and 7.81 percent in 2026-27, outpacing both the industrial sector's more moderate expansion and the overall GSDP growth rate for the same years (sdnews.sachchadost.in, 2026). This acceleration in services reflects, in part, the expansion of financial inclusion infrastructure within the state, with banking network expanding to 3,449 branches and 3,338 ATMs as of September 2025 (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2025-26, 2026, as cited in Drishti IAS, 2026). The Jharkhand Economic Survey 2025-26 also references the state government's investment in higher education infrastructure supportive of the services economy, including the establishment of two new universities oriented toward skill development and financial technology, alongside the Jharkhand Student Research and Innovation Policy of 2025 (Drishti IAS, 2026), initiatives examined further in Chapters 5 and 17 of this framework.

3.6 Informal Economy: Size, Significance and Integration Challenges

Nationally, the Periodic Labour Force Survey has documented a gradual decline in the share of workers engaged in what the survey classifies as "Proprietary and Partnership Enterprises," a broad informal enterprise category, which fell from 19.9 percent to 18.1 percent between 2023 and 2024 (Ministry of Statistics and Programme Implementation, Press Note on PLFS Calendar Year 2024, 2025). Nationally, the share of self-employed workers, a proxy commonly used for informal economic activity, also declined gradually across recent years, from 58.2 percent in 2023 to 57.5 percent in 2024 and 56.2 percent in 2025 (Ministry of Statistics and Programme Implementation, PLFS Annual Report 2025, 2026, as cited in Press Information Bureau, 2026).

Jharkhand specific informal sector data disaggregated at state level from the most recent PLFS rounds was not identified with sufficient precision for inclusion here, and this framework flags this as a specific data gap warranting attention from state statistical authorities, particularly given the structural importance of informal, non-farm rural livelihoods, including forest produce collection, artisanal and small scale mining adjacent activity, and seasonal construction labor, within Jharkhand's rural economy. What can be stated with confidence, given the state's employment structure discussed in section 3.7 below, is that Jharkhand's informal economy is likely to constitute a substantial share of total employment given the state's low worker population ratio in salaried categories relative to self-employment and casual labor, consistent with national patterns in states with a comparable rural and tribal demographic composition.

3.7 Labour Market: Employment, Unemployment and Workforce Quality

Jharkhand's labour market indicators, as captured in national Periodic Labour Force Survey bulletins, present a mixed picture relative to other Indian states. In the April to June 2024 quarterly bulletin, Jharkhand recorded the lowest male Worker Population Ratio of any Indian state or union territory reporting data, at 61.5 percent, against a national male WPR figure considerably higher in most other large states, with Gujarat recording the highest at 76.1 percent (Ministry of Statistics and Programme Implementation, PLFS Quarterly Bulletin April-June 2024, 2024, as cited in Rural India Online, 2024). This comparatively low male WPR is a notable indicator of labour market slack or workforce composition specific to Jharkhand, warranting closer state level analysis than is available in the national bulletins alone.

At the national level, the labour market has shown steady improvement across recent years relevant as context for Jharkhand's own trajectory. The rural Labour Force Participation Rate for persons aged 15 and above rose from 50.7 percent in 2017-18 to 63.7 percent in 2023-24, while the rural Worker Population Ratio rose from 48.1 percent to 62.1 percent over the same period, and the national Unemployment Rate for persons aged 15 and above declined from 8.4 percent in rural areas in 2017-18 to 4.2 percent in 2023-24 (Ministry of Statistics and Programme Implementation, PLFS Annual Report 2023-24, 2024, as cited in Press Information Bureau, 2024). By 2025, the national Unemployment Rate in usual status for persons aged 15 and above stood at 3.1 percent for both men and women, with youth unemployment, covering ages 15 to 29, declining to 9.9 percent in 2025 from 10.3 percent in 2024 (Ministry of Statistics and Programme Implementation, PLFS Annual Report 2025, 2026, as cited in Press Information Bureau, 2026). Since Jharkhand's rural and tribal demographic profile places it structurally closer to the national rural labour market pattern than to the urban pattern, these national rural trends provide relevant, if imperfect, context for the state's likely trajectory, pending the release of Jharkhand-specific PLFS state factsheets for the most recent survey years.

Workforce quality in Jharkhand continues to be shaped by comparatively lower educational attainment and technical skill levels in much of the rural and tribal population relative to the skill requirements of the state's capital-intensive mining and metallurgical core industries, a

mismatch that channels a large share of the state's working age population into agriculture, informal non-farm work, and out-migration for employment in other states, a pattern examined further in Chapter 20 of this framework under the theme of internal and inter-state migration.

3.8 Inflation, Price Stability and Consumer Welfare

Jharkhand has generally maintained inflation within the Reserve Bank of India's upper tolerance limit of 6 percent in recent years. The average rate of inflation in the state was recorded at 5.7 percent for 2023-24, moderating to approximately 4 percent for the period up to October 2024 within the 2024-25 fiscal year (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2024-25, 2025, as cited in Outlook Business, 2025). The Jharkhand Economic Survey 2025-26 similarly noted a significant decline in inflation from around 6 percent in 2023-24 to lower levels in 2024-25, consistent with the broader national disinflation trend observed across this period (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2025-26, 2026, as cited in Drishti IAS, 2026). This relative price stability is a favourable condition for consumer welfare in a state where a large share of the population operates near subsistence income levels, since inflation volatility tends to disproportionately affect lower income and rural households with limited capacity to smooth consumption.

3.9 Growth Corridors: Engines of Economic Expansion

Jharkhand's principal growth corridor remains the industrial belt running through Ranchi, Bokaro, Dhanbad, and the Kolhan region encompassing Jamshedpur, Saraikela Kharsawan, and the Singhbhum districts, an axis that concentrates the bulk of the state's mining, metallurgical, and heavy manufacturing capacity along with its most developed transport and power infrastructure, discussed further in Chapters 8 and 9. Emerging growth corridors include the expansion of MSME clusters beyond this traditional industrial core, supported by the rapid Udyam registration growth documented in section 3.4, and the gradual development of a services and knowledge economy corridor centered on Ranchi, supported by new higher education and skill institutions referenced in section 3.5. The state's long-term Rs 10 lakh crore economy target by 2029-30, discussed in section 3.1, is explicitly premised on sustaining growth across all three of these corridors simultaneously, industrial, MSME, and services, rather than relying on the traditional mining and metallurgical core alone, a diversification imperative that recurs throughout the industrial policy discussion in Chapter 4 and the innovation ecosystem discussion in Chapter 17 of this framework.

Chapter 4: Investment, Industry and Private Sector Development

4.1 Investment Climate Assessment and Ease of Doing Business

Jharkhand's investment climate has been shaped over the past decade by a sustained state government effort to formalize and simplify regulatory clearance processes, centered on the Jharkhand Single Window Clearance Act of 2015. The Act established a statutory framework intended to create an investor friendly environment through accelerated, time bound grant of licenses, permissions, and approvals, and to simplify the regulatory framework governing new investment by reducing procedural requirements and rationalizing documentation (Government of Jharkhand, Jharkhand Gazette Extraordinary, 2021). The Act's provisions include deemed approval where clearances are not issued within stipulated timelines, self-certification for eligible categories of investment, third party inspection mechanisms, and a formal appeals process, features the state government has characterized as landmark provisions for investors (Government of Jharkhand, Department of Industries, 2025).

Operationally, this framework is implemented through a single window clearance web portal administered by the Jharkhand Industrial Infrastructure Development Corporation, which functions as a one stop service for investors from within the state, from other parts of India, and from abroad, providing a combined application form, single sign-on integration across department portals, and a comprehensive online checklist of required no objection certificates, licenses, and registrations (Jharkhand Industrial Infrastructure Development Corporation, 2025). This consolidation of clearance functions reflects a broader effort by the state to position itself, in its own promotional materials, as one of the more competitive and investment ready states in the country, leveraging its mineral resource base alongside a growing services sector as complementary pillars of investor appeal (Jharkhand Industrial Infrastructure Development Corporation, 2025).

Notwithstanding these formal reforms, independent policy analysis has identified persistent structural constraints on Jharkhand's investment climate, including inconsistent power supply and inadequate logistics networks in areas beyond the established mining and industrial belt, a gap between workforce skills and the requirements of modern industry that necessitates reliance on external talent, and residual concerns among investors regarding bureaucratic inertia and inconsistent policy implementation despite the single window architecture (Jharkhand PCS Notes, 2025). Historical law and order concerns associated with left wing extremism in parts of the state, while diminishing in intensity in recent years, are also noted in policy assessments as a continuing, if reduced, deterrent to investment in certain districts, particularly within Palamu and parts of Santhal Pargana divisions (Jharkhand PCS Notes, 2025).

4.2 Industrial Policy Framework and MSME Development

Jharkhand's principal industrial policy instrument has been the Jharkhand Industrial and Investment Promotion Policy of 2016, subsequently supplemented by sector specific policies

and periodic amendments to incentive structures. The 2016 policy and its successors provide a package of fiscal incentives including capital investment subsidies for new and expanding manufacturing units, interest subsidies on loans particularly targeted at the MSME sector, skill development subsidies intended to align workforce capability with industrial requirements, and electricity duty exemptions for mega projects, defined as those with fixed asset investment exceeding Rs 100 crore, including a 50 percent exemption for facilities employing waste heat recovery and power wheeling technologies for a period of five years (Government of Jharkhand, Jharkhand Gazette Extraordinary, 2021).

The state has continued to refine incentive administration, with the Department of Industries standardizing the disbursement process across policies to reduce duplication, requiring applicants to select a single applicable incentive type from either a sector specific policy or the general Industrial and Investment Promotion Policy rather than claiming overlapping benefits (Jharkhand Industrial Infrastructure Development Corporation, 2025). MSME development has received particular policy emphasis, consistent with the sector's employment generating potential discussed in Chapter 3, through targeted financial assistance, credit guarantee facilitation, capacity building and training programmes for MSME owners and employees, and market access support intended to strengthen the competitiveness of small and micro enterprises against the backdrop of the sector's rapid recent registration growth, with over 83,000 new Udyam registrations recorded in the first nine months of 2025-26 alone (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2025-26, 2026, as cited in Drishti IAS, 2026).

4.3 Large and Anchor Industries: Sectoral Analysis

Jharkhand's industrial base is anchored by a small number of large scale enterprises whose economic footprint substantially exceeds their number. The state's pharmaceutical sector has been designated a thrust sector under industrial policy, with market value growing from Rs 896 crore in fiscal year 2015 to Rs 1,248 crore in fiscal year 2017, an average annual growth rate of approximately 18 percent over that period, with the state contributing approximately 5 percent of the pharmaceutical market in eastern India and 1 percent of the overall Indian pharmaceutical market as of the policy's most recent published assessment (Government of Jharkhand, Jharkhand Gazette Extraordinary, 2021). A dedicated pharmaceutical park of 35 acres has been proposed at Bijupara, Ranchi, approved for support under the Ministry of Micro, Small and Medium Enterprises' Cluster Development Programme (Government of Jharkhand, Jharkhand Gazette Extraordinary, 2021).

Beyond pharmaceuticals, Jharkhand's traditional anchor industries remain concentrated in steel, mining equipment, and heavy engineering, with the state characterized in its own industrial policy documentation as one of India's foremost engineering goods manufacturing destinations, supported by low manufacturing costs, an established technology base, and a skilled human resource pool in its established industrial centers (Government of Jharkhand, Jharkhand Gazette Extraordinary, 2021). The automobile and ancillary industries sector has also been identified as an area with an existing presence and further growth potential, alongside logistics and warehousing, given Jharkhand's strategic location for both intra-state

trade and as a transit hub connecting eastern and northern Indian markets (Jharkhand PCS Notes, 2025).

4.4 Special Economic Zones, Industrial Corridors and Clusters

Jharkhand has identified several Special Economic Zones spanning mining, textiles, and information technology sectors, intended to encourage export oriented production and attract both domestic and foreign investment (Jharkhand PCS Notes, 2024). The state's industrial geography, discussed in Chapters 1 and 3, remains organized around established clusters in the Kolhan and North Chotanagpur belts, with core heavy industry, including steel and machinery manufacturing, concentrated in Jamshedpur and Bokaro, while newer textile parks and MSME clusters are emerging in the Ranchi to Khunti corridor (sarkari.finance, 2025). Jharkhand's connectivity to national industrial corridor frameworks includes integration with the Amritsar-Kolkata Industrial Corridor and eastern dedicated freight rail infrastructure, intended to streamline the movement of minerals and bulk industrial goods to national and export markets (sarkari.finance, 2025), a theme connected to the freight corridor discussion in Chapter 8 of this framework.

4.5 Foreign Direct Investment: Inflows, Sectoral Distribution and Policy

According to industry tracking data, Jharkhand attracted approximately 1.1 billion US dollars in foreign direct investment between October 2019 and March 2024, with the largest share of this investment directed toward mining, power, steel, and logistics (sarkari.finance, 2025). This figure should be treated as an indicative order of magnitude rather than a definitive official statistic, since it derives from an industry aggregator source rather than a primary Department for Promotion of Industry and Internal Trade dataset, and this framework recommends that state planning authorities verify and publish official FDI inflow figures disaggregated by sector and year to support more precise policy analysis in future editions of this document.

Investor confidence in Jharkhand's FDI proposition is generally attributed in available industry analysis to the state's mineral resource security, its single window clearance architecture discussed in section 4.1, and the ongoing development of dedicated industrial parks in key zones (sarkari.finance, 2025). The state's industrial policy documents also record specific efforts to institutionalize foreign investment facilitation, including proposed technological collaboration arrangements with overseas corporate bodies, multinational companies, and non-resident Indian investors in sectors identified for special priority, namely infrastructure, power, mineral development, food processing, biotechnology, and non-conventional energy, along with a proposed Non-Resident Indian investment facilitation cell to be established both in New Delhi and Ranchi (Government of Jharkhand, Jharkhand Gazette Extraordinary, 2021).

4.6 Public Sector Undertakings: Performance and Reform Agenda

Jharkhand's industrial landscape includes a significant presence of central and state public sector undertakings, most prominently in the coal and power sectors, given the state's mineral endowment described in Chapters 1 and 3. Central public sector coal mining entities operate extensively across the Jharia and Bokaro coalfields, and the state's thermal power generation capacity is substantially delivered through public sector plants at Bokaro, Patratu, and Tenughat, which the state's own promotional materials describe as powering the industrial corridor and broader regional grid, with Jharkhand contributing more than 25 percent of India's coal production (sarkari.finance, 2025). State level public sector undertakings, including entities responsible for industrial infrastructure development such as the Jharkhand Industrial Infrastructure Development Corporation, play a coordinating role in land allotment, industrial park development, and investment facilitation discussed throughout this chapter.

The performance and reform agenda for these undertakings, particularly regarding operational efficiency, debt servicing capacity, and the contingent fiscal liabilities they can generate for the state government through loan guarantees, discussed in Chapter 2, remains an area requiring sustained institutional attention, particularly for state owned power sector entities, which nationally represent a recurring source of fiscal stress across Indian states through accumulated distribution losses.

4.7 Public-Private Partnership Framework and Pipeline

The state's investment promotion policy architecture explicitly encourages private sector participation in infrastructure and industrial development through public private partnership models, with particular emphasis on infrastructure development including dedicated industrial zones, parks, and Special Economic Zones intended to attract both domestic and foreign capital (Jharkhand PCS Notes, 2025). The Jharkhand State Investment Promotion Policy framework has historically emphasized fast track clearance mechanisms for such partnership projects, including streamlined land allotment processes intended to reduce the time between project conception and implementation (Jharkhand PCS Notes, 2025). Sector specific applications of the public private partnership model in Jharkhand span renewable energy development, discussed further in Chapter 9, urban infrastructure and Smart Cities implementation, discussed in Chapter 11, and tourism infrastructure development in circuits such as Netarhat, Betla, Deoghar, and Parasnath, discussed further in Chapter 19 (sarkari.finance, 2025).

4.8 Regional Cooperation: Shared Region and Growth

Jharkhand's industrial and investment geography is inherently regional in character, given its position bordering four states, Bihar, West Bengal, Odisha, and Chhattisgarh, and its integration into eastern India's broader mineral and industrial economy. Cooperation with neighboring states on shared infrastructure, particularly power evacuation, freight rail capacity, and river basin management for the Damodar and Subarnarekha systems discussed in Chapter 1, forms a practical, if often institutionally under-formalized, dimension of

Jharkhand's regional development strategy. The state's integration with the Amritsar-Kolkata Industrial Corridor, referenced in section 4.4, further situates Jharkhand's industrial growth strategy within a broader multi-state corridor planning framework administered at the national level, requiring sustained inter-state coordination on right of way, logistics infrastructure, and complementary industrial siting decisions to realize the corridor's full potential, a theme this framework returns to in the inter-state cooperation discussion of Chapter 21.

Chapter 5: Education — Access, Quality and Future Readiness

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

Jharkhand has recorded a significant and well documented improvement in elementary school retention over the decade spanning 2014-15 to 2024-25. According to the Unified District Information System for Education Plus, the state's primary school dropout rate fell from 6.41 percent in 2014-15 to 0 percent in 2024-25, with both boys and girls recording zero primary dropout, a milestone highlighted in a NITI Aayog report released on May 8, 2026 (Ministry of Education, Government of India, UDISE+ 2024-25, 2025, as cited in GKToday, 2026). This improvement was not linear; the state's primary dropout rate had stood above 11 percent as recently as 2022-23 before falling sharply in the subsequent two years (GKToday, 2026). Upper primary dropout similarly declined, from 7.42 percent in 2014-15 to 1.7 percent in 2024-25, and secondary dropout fell from 23.2 percent to 3.5 percent over the same period, with Jharkhand ranking fourth nationally in secondary dropout reduction for 2024-25 (Ministry of Education, Government of India, UDISE+ 2024-25, 2025, as cited in GKToday, 2026). A separate UDISE+ comparison recorded Jharkhand's secondary stage dropout rate falling from 10.27 percent in 2023-24 to zero in 2024-25 (Ministry of Education, Government of India, UDISE+ 2024-25, 2025, as cited in Careers360, 2025).

Despite these retention gains, enrolment coverage at the elementary level has shown a more complicated trend. Jharkhand's primary Gross Enrolment Ratio declined from 109.2 percent in 2014-15 to 92.5 percent in 2024-25 (Ministry of Education, Government of India, UDISE+ 2024-25, 2025, as cited in GKToday, 2026). Analysts attribute part of this decline to improved data accuracy following the introduction of the Student Data Management Information System within UDISE+, which corrected earlier overcounting, alongside genuine demographic and migration effects, though this framework notes, consistent with independent education researchers, that some of the reported decline in enrolment nationally and in Jharkhand specifically may reflect data reliability transition effects rather than purely substantive changes in school participation (Education for All in India, 2025).

As of September 2023, approximately 86,000 children remained outside formal schooling in Jharkhand (Ministry of Education, Government of India, UDISE+ 2024-25, 2025, as cited in GKToday, 2026). In response, the Jharkhand Education Project Council launched the Ruar-2025 campaign on April 25, 2025, targeting 59,094 identified out-of-school children for reintegration into the formal education system, and the state planned a household survey from November 15, 2025 through January 10, 2026 to identify remaining out-of-school children in support of a village and ward level zero dropout target (Education for All in India, 2026).

Structural constraints on elementary education quality remain substantial. Jharkhand reported 9,172 single teacher schools in 2025-26, the third highest count among Indian states, a burden documented in the Ministry of Education's analysis of single teacher schools and schools without enrolment, which specifically recommends prioritizing teacher recruitment through

the Samagra Shiksha scheme to address this gap (Ministry of Education, Government of India, Single-Teacher Schools and Schools without Enrolment: Analysis of UDISEPlus 2024-25, 2025, as cited in Education for All in India, 2026). The state's overall teaching vacancy count stood at 99,565 across all educational levels in 2025-26, of which 80,341 vacancies were at the elementary level alone (Ministry of Education, Government of India, UDISE+ 2024-25, 2025, as cited in GKToday, 2026), a shortfall examined further in section 5.5 of this chapter.

5.2 Secondary and Senior Secondary Education: Transition and Achievement

Jharkhand's secondary education indicators present a more mixed picture than the strong elementary retention gains discussed above. Secondary Gross Enrolment Ratio rose from 66.05 percent in 2014-15 to 72 percent in 2024-25, a meaningful improvement though still below universal coverage (Ministry of Education, Government of India, UDISE+ 2024-25, 2025, as cited in GKToday, 2026). At the national level, secondary GER stood at 78.7 percent for 2024-25, meaning Jharkhand continued to trail the national average despite its improvement trajectory (Ministry of Education, Government of India, UDISE+ 2024-25, 2025, as cited in Education for All in India, 2025).

A more detailed age specific enrolment analysis using UDISE+ 2024-25 data identified Jharkhand, alongside Bihar, as a state needing particular intervention on age appropriate secondary enrolment, with an Age-Specific Enrolment Ratio of 76.5 percent for the 14 to 15 year age group but only 41.0 percent for the 16 to 17 year age group, reflecting sharp attrition between the secondary and higher secondary stages and persistent tribal and rural access gaps (Ministry of Education, Government of India, UDISE+ 2024-25, 2025, as cited in Education for All in India, 2025). This pattern is consistent with the national finding that transition from secondary to higher secondary education stood at only 75.1 percent and that retention through higher secondary was just 47.2 percent nationally, with states carrying large rural and tribal populations, including Jharkhand, generally underperforming this already modest national benchmark (Ministry of Education, Government of India, UDISE+ 2024-25, 2025, as cited in Education for All in India, 2025).

On the Ministry of Education's Performance Grading Index 2.0, which evaluates states and union territories on school education performance, Jharkhand was classified within the lower "Akanshi" category alongside Uttar Pradesh, Bihar, West Bengal, Madhya Pradesh, and several northeastern and union territory administrations, indicating continued room for improvement relative to the leading states, even as the national performance gap between the highest and lowest scoring states narrowed from 51 percent in 2017-18 to 31.4 percent in the most recent assessment cycle (Ministry of Education, Government of India, PGI 2.0, 2026, as cited in Ensure IAS, 2026).

5.3 Higher Education: Institutional Capacity, Gross Enrolment and Quality

Jharkhand's higher education system continues to expand its institutional base, with the state government establishing two new universities oriented toward skill development and

financial technology as part of its most recent economic planning cycle, alongside the introduction of the Jharkhand Student Research and Innovation Policy of 2025 intended to strengthen research capacity and industry linkages within the state's higher education institutions (Government of Jharkhand, Finance Department, Jharkhand Economic Survey 2025-26, 2026, as cited in Drishti IAS, 2026). Notwithstanding this institutional expansion, Jharkhand's higher education Gross Enrolment Ratio has historically trailed the national average, consistent with the state's broader pattern of secondary to higher secondary attrition discussed in section 5.2, which constrains the pool of students proceeding to tertiary education. This framework identifies higher education Gross Enrolment Ratio, disaggregated by gender and social category, as a specific data gap for Jharkhand warranting a dedicated statistical publication by the state's Directorate of Higher Education to support more precise future planning.

5.4 Technical, Vocational Education and Training (TVET) Ecosystem

The state's industrial policy framework, discussed in Chapter 4, explicitly links skill development to its industrial and MSME growth strategy, with skill development subsidies incorporated into the Jharkhand Industrial and Investment Promotion Policy and its successor incentive frameworks (Government of Jharkhand, Jharkhand Gazette Extraordinary, 2021). At the national policy level, the Samagra Shiksha scheme's teacher related provisions, including the NISHTHA training programme and multi-grade teaching training modules, provide mechanisms directly applicable to Jharkhand's secondary teacher shortfall and its associated vocational education capacity constraints, particularly given the state's high concentration of single teacher schools discussed in section 5.1 (Ministry of Education, Government of India, Teacher-Related Provisions under Samagra Shiksha, 2024, as cited in Education for All in India, 2026). Strengthening the TVET ecosystem in Jharkhand remains closely tied to the workforce quality constraints identified in Chapter 3, where a mismatch between rural and tribal workforce skills and the requirements of the state's capital intensive core industries was identified as a structural driver of both informal employment and out-migration.

5.5 Teacher Recruitment, Training and Professional Development

Teacher availability represents one of the most significant structural constraints on education quality in Jharkhand. The state's total teaching vacancy count of 99,565 positions across all levels in 2025-26, including 80,341 at the elementary level, represents a substantial share of the state's sanctioned teaching posts and directly underlies the single teacher school burden discussed in section 5.1 (Ministry of Education, Government of India, UDISE+ 2024-25, 2025, as cited in GKToday, 2026). Independent education analysis has specifically recommended that the state prioritize teacher recruitment through the Samagra Shiksha scheme framework to address this gap, and has noted that the quality strain imposed by single teacher schools falls disproportionately on girl students, even as Jharkhand's Gender Parity Index at the secondary level has been recognized as above the national average, indicating a nuanced picture in which gender parity in enrolment coexists with quality constraints tied to

teacher availability (Ministry of Education, Government of India, The Status of Girls' Education in India in 2025, 2025, as cited in Education for All in India, 2026).

Central government residential schooling models, including Eklavya Model Residential Schools, which provide quality residential education for Scheduled Tribe students in sub-district areas with high tribal concentration, serve as an important complement to the regular teacher recruitment pipeline in Jharkhand, given the state's 27 percent Scheduled Tribe enrolment share, the highest concentration among major Indian states, and function as a safety net for tribal children who might otherwise drop out at the secondary stage due to the access and staffing constraints discussed above (Education for All in India, 2026). Additionally, 139 schools in Jharkhand have been selected under the PM Schools for Rising India, or PM SHRI, scheme for comprehensive upgradation as model institutions embodying National Education Policy 2020 principles, including holistic pedagogy, digital infrastructure, early childhood care and education, vocational education, sports, and eco-sensitive design, intended to function as quality anchors for surrounding government schools (Education for All in India, 2026).

5.6 Digital Education, EdTech Integration and ICT in Schools

Digital infrastructure integration in Jharkhand's schools is being advanced substantially through the PM SHRI programme referenced in section 5.5, which explicitly incorporates digital infrastructure as a core component of its model school framework across the 139 selected institutions in the state (Education for All in India, 2026). Beyond this targeted programme, broader digital education integration in Jharkhand remains linked to the state's overall digital infrastructure development discussed in Chapter 16 of this framework, particularly broadband and connectivity coverage in the state's more remote forested and hill districts, where physical distance and terrain, discussed in Chapter 1, compound the access challenges already documented for secondary and higher secondary education in this chapter.

5.7 Special Education: Children with Disabilities and Inclusive Schooling

National UDISE+ data collection includes indicators on accessibility for Children with Special Needs, or CWSN, as part of its sixteen key performance dimensions tracked for states including Jharkhand (Education for All in India, 2026). Jharkhand specific CWSN accessibility data disaggregated at a level of detail sufficient for standalone policy analysis was not identified with confidence in the sources available for this framework, and this represents a further specific data gap this framework flags for attention, given the elevated vulnerability of children with disabilities to exclusion from formal schooling in contexts already characterized by teacher shortages, single teacher schools, and terrain related access constraints, as documented throughout this chapter for Jharkhand's general school population.

5.8 State-Specific Educational Challenges and Reform Priorities

Synthesizing the data presented throughout this chapter, Jharkhand's education sector presents a genuinely mixed record. The state has achieved a rare and well documented success in

eliminating primary school dropout between 2014-15 and 2024-25, a genuine policy achievement recognized in national NITI Aayog reporting (GKToday, 2026). At the same time, the state continues to face a severe secondary to higher secondary transition problem, with Age-Specific Enrolment Ratio collapsing from 76.5 percent to 41.0 percent across this transition, a teacher availability crisis reflected in nearly 100,000 vacancies and almost 9,200 single teacher schools, and a lower Performance Grading Index classification relative to leading states (Education for All in India, 2025, 2026; GKToday, 2026; Ensure IAS, 2026).

The state's most critical reform priority, as identified consistently across the UDISE+ based analyses reviewed for this chapter, is addressing the severe secondary dropout rate among tribal girls specifically, an issue the Samagra Shiksha framework's upgraded Kishori Vidyalayas, extended to cover Classes 6 through 12, are explicitly designed to target (Education for All in India, 2026). Given Jharkhand's demographic profile discussed in Chapter 1, with Scheduled Tribe communities constituting over a quarter of the state's population and the highest ST enrolment share of any major Indian state at 27 percent, the success or failure of this specific intervention will disproportionately determine whether Jharkhand's overall education outcomes converge toward the national average or continue to lag, a theme this framework returns to in the social justice and inclusion discussion of Chapter 7.

Chapter 6: Health, Nutrition and Population

6.1 Public Health Infrastructure: Facilities, Human Resources and Gaps

Jharkhand's public health delivery system is structured through the standard three tier rural health architecture, comprising Sub-Health Centres, Primary Health Centres, and Community Health Centres, supplemented by District Hospitals and Sadar Hospitals at the district headquarters level, and a smaller number of tertiary teaching hospitals concentrated in Ranchi, principally Rajendra Institute of Medical Sciences, the state's premier government medical college and referral hospital. The National Health Systems Resource Centre, the Ministry of Health and Family Welfare's designated technical think tank, maintains a state specific health system dossier for Jharkhand as part of its national monitoring architecture, reflecting the sustained institutional attention the state's health infrastructure gaps have received at the national level (National Health Systems Resource Centre, Health Dossier, 2021).

Consistent with the terrain and settlement pattern discussed in Chapter 1, Jharkhand's public health infrastructure faces particular strain in reaching dispersed rural and tribal populations across its forested and hilly districts, where facility density, road access, and the availability of qualified medical and paramedical staff all tend to be lower than in the industrial and urban belt running through Ranchi, Dhanbad, Bokaro, and the Kolhan region. This urban-rural and industrial-tribal infrastructure gradient recurs as a theme throughout this chapter and is consistent with the broader intra-state disparity pattern documented in Chapter 1.

6.2 Epidemiological Profile: Communicable and Non-Communicable Disease Burden

Jharkhand's disease burden reflects a transitional epidemiological profile common to many Indian states with a large rural and tribal population, combining a persistent burden of communicable disease, particularly water and vector borne illness linked to sanitation and water access gaps discussed in Chapter 10, with a rising burden of non-communicable disease associated with changing dietary patterns and lifestyle factors in the state's growing urban and industrial workforce. This framework identifies a disaggregated, current epidemiological surveillance dataset specific to Jharkhand, covering both communicable and non-communicable disease incidence by district, as a data gap not resolved with sufficient precision in the sources available for this chapter, and recommends that the state's Directorate of Health Services publish a consolidated annual epidemiological bulletin to support more precise future editions of this framework.

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

Maternal and child health indicators for Jharkhand, as captured in the National Family Health Survey round 5, conducted between 2019 and 2021, present a picture of persistent and comparatively severe child undernutrition alongside gradual improvement in several process

indicators. According to the state specific NFHS-5 factsheet, 40 percent of children under age five in Jharkhand were stunted, or too short for their age, 22 percent were wasted, or too thin for their height, and 37 percent were underweight at the time of the survey (International Institute for Population Sciences and ICF, National Family Health Survey (NFHS-5), India, 2019-21: Jharkhand, 2021). These figures place Jharkhand among the states with the most severe child undernutrition burden in India; a separate comparative analysis of NFHS-4 state level data had similarly identified Jharkhand as recording the highest wasting prevalence, at 27.6 percent, and the highest underweight prevalence, at 47.8 percent, of any Indian state in the 2015-16 survey round (State-level Perspectives on Malnutrition Crisis, NFHS analysis, 2023). A separate clinical epidemiology study analyzing decadal change from NFHS-1 through NFHS-5 found that Jharkhand recorded the largest decadal decline in wasting prevalence, at 10.14 percentage points, of any Indian state over the period studied, indicating that despite continuing to rank among the most severely affected states in absolute terms, Jharkhand has also been among the faster improving states on this specific indicator (Clinical Epidemiology and Global Health, 2023).

On breastfeeding and complementary feeding practices, the Jharkhand NFHS-5 factsheet recorded that among children not receiving breastmilk in their first six months of life, when nearly all babies in the state are in fact breastfed, 27 percent of children were stunted, 32 percent were wasted, and 37 percent were underweight, underscoring the compounding relationship between infant feeding practices and undernutrition outcomes in the state (International Institute for Population Sciences and ICF, 2021). On micronutrient supplementation, 71 percent of children aged 9 to 35 months in Jharkhand had received a vitamin A supplement in the six months preceding the survey, while only 52 percent of the youngest children aged 6 to 23 months living with their mother had consumed vitamin A rich foods, and only 22 percent of children in this age group had eaten iron rich foods, though 33 percent had received iron supplements in the preceding week (International Institute for Population Sciences and ICF, 2021).

On fertility, Jharkhand's Total Fertility Rate was recorded at 2.3 children per woman in NFHS-5, down from 2.6 in NFHS-4, but remaining above the national replacement level benchmark of 2.1, and Jharkhand was specifically identified as one of only four states, alongside Madhya Pradesh, Rajasthan, and Uttar Pradesh, among the Phase-II NFHS-5 states that had not yet achieved replacement level fertility at the time of the survey (International Institute for Population Sciences and Ministry of Health and Family Welfare, 2021; Press Information Bureau, NFHS-5 Uptick in Health Indicators, 2021). This framework was unable to identify a verified, Jharkhand-specific Maternal Mortality Ratio or Infant Mortality Rate figure from a primary Sample Registration System bulletin current enough for confident citation, and flags precise, current district disaggregated MMR and IMR figures for Jharkhand as a further specific data gap for state health authorities to address in future statistical publications, rather than presenting an estimate this framework cannot verify.

6.4 Universal Health Coverage: State Health Assurance Schemes

Jharkhand implements the national Ayushman Bharat Pradhan Mantri Jan Arogya Yojana, which the National Family Health Survey's associated policy commentary identifies as among the initiatives, alongside Surakshit Matritva Aashwasan and the National Rural Health Mission, that have contributed to accelerated progress on maternal and child health indicators across the Phase-II NFHS-5 states, of which Jharkhand is one (Press Information Bureau, NFHS-5 Uptick in Health Indicators, 2021). The scheme provides a health insurance cover intended to reduce out of pocket expenditure for hospitalization among economically vulnerable households, a population share that, given Jharkhand's multidimensional poverty profile discussed in Chapter 1, is likely to be proportionally larger in Jharkhand than in more economically advanced states, though this framework was unable to identify a current, state specific Ayushman Bharat enrollment and claims utilization figure for Jharkhand with sufficient confidence for inclusion here, and flags this as an additional priority for future data collection.

6.5 Mental Health Services: Availability, Access and Stigma Reduction

Mental health service availability and utilization data specific to Jharkhand was not identified with sufficient reliability in the sources reviewed for this framework. This represents a significant and consequential data gap, since mental health infrastructure and district level programme implementation under the National Mental Health Programme are known nationally to be unevenly distributed, with rural and tribal areas generally facing more limited access to trained mental health professionals than urban centers. Given Jharkhand's predominantly rural settlement pattern, discussed in Chapter 1, this framework recommends that the state's Directorate of Health Services and the Ranchi Institute of Neuro-Psychiatry and Allied Sciences, the state's principal mental health referral institution, jointly publish a current district level mental health infrastructure and service utilization assessment to inform future editions of this framework.

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

Nationally, the Poshan Tracker system recorded that among approximately 7.44 crore children under six years measured in November 2023, 37.51 percent were found to be stunted, 17.43 percent underweight, and 6 percent of children under five wasted, figures the Ministry of Women and Child Development has noted are lower than those projected by NFHS-5, reflecting differences in measurement methodology and population coverage between the two systems (Ministry of Women and Child Development, Poshan Tracker data, 2023, as cited in Press Information Bureau, 2023). Given Jharkhand's NFHS-5 stunting, wasting, and underweight figures documented in section 6.3, which place the state among the most severely affected in the country, the Integrated Child Development Services scheme, delivered through the state's Anganwadi network, and the Mid-Day Meal scheme in schools, carry particular weight as delivery mechanisms for Jharkhand's nutrition policy response, operating under the umbrella of Mission Poshan 2.0, launched by the Union government to strengthen nutritional content, delivery, outreach, and outcomes with a focus on practices that

build health, wellness, and resistance to disease and malnutrition (Press Information Bureau, NFHS-5 Uptick in Health Indicators, 2021). Given the severity of Jharkhand's underlying nutrition indicators relative to most other Indian states, this framework recommends that state authorities publish Jharkhand-specific Poshan Tracker outcome data, disaggregated by district and by tribal and non-tribal population, to allow for a more precise assessment of programme effectiveness than the national aggregate figures permit.

6.7 Population Stabilisation and Family Planning

Jharkhand's demographic transition, discussed in Chapter 1, continues to lag the national pace on fertility decline, with the state's NFHS-5 Total Fertility Rate of 2.3 remaining above the replacement level of 2.1 and above the national average of 2.0 recorded in the same survey round (International Institute for Population Sciences and Ministry of Health and Family Welfare, 2021; Press Information Bureau, 2021). Contraceptive Prevalence Rate improved substantially at the all-India level between NFHS-4 and NFHS-5, rising from 54 to 67 percent, though Jharkhand was specifically identified as one of the states, alongside Arunachal Pradesh and Uttar Pradesh, recording a comparatively smaller improvement, at 12 percentage points, than many other Phase-II states over the same period (Press Information Bureau, NFHS-5 Uptick in Health Indicators, 2021). This slower pace of contraceptive uptake, combined with the state's above-replacement fertility rate, indicates that population stabilisation in Jharkhand will likely continue somewhat behind the national curve, a dynamic with direct implications for the state's demographic projections discussed in Chapter 1 and for the pace at which Jharkhand can expect to realize a favorable working age dependency ratio, or demographic dividend, relative to more demographically advanced Indian states.

6.8 Health System Strengthening and Future Preparedness

Taken together, the evidence reviewed in this chapter indicates that Jharkhand's health system has participated in the broad national gains recorded between NFHS-4 and NFHS-5 in institutional delivery, immunization coverage, and women's financial inclusion linked to health scheme access, including a national rise in women operating bank or savings accounts from 53 to 78.6 percent, relevant to direct benefit transfer delivery for maternal health incentive schemes, while continuing to rank among the states with the most severe underlying child nutrition burden in the country (Rural India Online, NFHS-5 Compendium of Fact Sheets, 2021). The most urgent health system strengthening priority identified by this chapter's review is closing the specific data gaps flagged throughout, particularly current, state-verified figures for Maternal Mortality Ratio, Infant Mortality Rate, mental health service availability, and Ayushman Bharat utilization, since credible planning for Jharkhand's health future depends on the availability of exactly this kind of granular, current, state-specific data, which this framework was unable to source with full confidence at the time of writing. Substantively, the persistence of severe child undernutrition despite two and a half decades of statehood and substantial national scheme investment indicates that nutrition specific and nutrition sensitive interventions, spanning maternal health, water and sanitation access discussed in Chapter 10, and household food security discussed in Chapter

18, will need sustained, converged, and closely monitored implementation if Jharkhand is to close this gap over the period covered by this framework's Vision 2047 horizon, discussed in Chapter 21.

Chapter 7: Social Justice, Inclusion and Community Welfare

7.1 Scheduled Castes: Demographic Profile, Deprivation and Development Programmes

Scheduled Castes constitute approximately 12.1 percent of Jharkhand's population as per the 2011 Census, with major communities including the Bhuiya, Dusadh, and Ghasi, as established in Chapter 1 of this framework (Census of India, 2011). Welfare programming for Scheduled Castes in Jharkhand is administered through the state's Department of Scheduled Tribe, Scheduled Caste, Minority and Backward Class Welfare, which since December 2024 has been headed by Cabinet Minister Chamra Linda, with the minority welfare portfolio held separately by Hafizul Hassan (Government of Jharkhand, Department of Scheduled Tribe, Scheduled Caste, Minority and Backward Class Welfare, 2025, as cited in Wikipedia contributors, 2026).

The department's principal instruments for Scheduled Caste welfare include the E-Kalyan scholarship portal, which facilitates online applications for pre-matric, post-matric, and merit-cum-means scholarships for Scheduled Caste, Scheduled Tribe, Other Backward Class, and minority students, with eligibility generally requiring a minimum of 50 percent marks in the preceding examination and an annual family income ceiling of Rs 2.5 lakh for Scheduled Caste and Scheduled Tribe applicants (Government of Jharkhand, Department of Scheduled Tribe, Scheduled Caste, Minority and Backward Class Welfare, 2025, as cited in Wikipedia contributors, 2026). The Chief Minister's Employment Generation Programme, expanded in 2024, provides entrepreneurship and self-employment support targeted at unemployed youth from marginalized communities, explicitly including Scheduled Caste, Scheduled Tribe, Other Backward Class, and Divyangjan, or persons with disabilities, applicants (Indian Masterminds, 2024, as cited in Wikipedia contributors, 2026). A state administered loan scheme, publicized in 2021, provides subsidized credit to Scheduled Caste, Scheduled Tribe, and backward class entrepreneurs as part of the state government's broader economic mobility strategy for these communities (Prabhat Khabar, 2021, as cited in Wikipedia contributors, 2026).

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

Jharkhand's Scheduled Tribe population, recorded at 26.2 percent of the state's total population in the 2011 Census, the fourth highest proportion among Indian states, remains the central constituency for the state's social justice policy architecture, discussed in demographic and cultural terms in Chapter 1 (Census of India, 2011). Nationally, Scheduled Tribes numbered 10.45 crore as per the 2011 Census, representing 8.6 percent of India's total population across more than 705 distinct groups, most of whom inhabit remote and less accessible terrain of the kind described for Jharkhand's plateau and forest districts in Chapter 1 (Ministry of Tribal Affairs data, as cited in Dhyeya IAS, 2026).

Jharkhand has occupied a particularly prominent position in national tribal welfare policy rollout in recent years. On October 2, 2024, Prime Minister Narendra Modi launched the Dharti Aaba Janjatiya Gram Utkarsh Abhiyan, also referred to as PM JUGA, from Hazaribagh in Jharkhand, a scheme carrying a budget of Rs 79,150 crore intended to improve social infrastructure, health, education, and livelihood outcomes across approximately 63,000 tribal villages nationally, benefiting over 5 crore tribal people across 549 districts in 30 states and union territories, through 25 coordinated interventions spanning 17 central ministries (Prime Minister's Office, October 2, 2024, as cited in Dhyeya IAS, 2026). PM JUGA builds on the earlier Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan, or PM JANMAN, launched on November 15, 2023, Janjatiya Gaurav Divas, marking the birth anniversary of tribal freedom fighter Birsa Munda, who was born in what is now Jharkhand's Khunti district, and which focuses specifically on improving living conditions for Particularly Vulnerable Tribal Groups, covering approximately 28 lakh individuals across 22,000 habitations nationally, including Jharkhand's own PVTG communities such as the Birhor, Sabar, Paharia, and Korwa introduced in Chapter 1 (Government of India, Press Information Bureau, 2025, as cited in India's Largest Tribal Village Development Scheme report, 2025). A Paharia Health Sub-Centre has been specifically established by Jharkhand's Department of Welfare in areas dominated by the Paharia community, reflecting targeted sub-tribal welfare provisioning within the state (Jharkhand.MyGov.in, Department profile, 2025).

At the national level, forest rights recognition under the Forest Rights Act, relevant to Jharkhand given its substantial forest cover documented in Chapter 1, had resulted in the distribution of 23.43 lakh land titles covering 1.8 crore acres nationally as of October 31, 2023, a programme of direct relevance to Jharkhand's forest dwelling tribal population, though this framework was unable to source a Jharkhand-specific breakdown of this national figure with sufficient confidence for inclusion here, and recommends that the state Forest Department publish a current, district-disaggregated Forest Rights Act implementation report (Ministry of Tribal Affairs data, as cited in Dhyeya IAS, 2026). Central financial commitment to tribal development nationally has grown substantially, with the Development Action Plan for Scheduled Tribes budget rising from Rs 25,000 crore annually to Rs 1.2 lakh crore in 2023-24, and the Union Budget 2024-25 allocation to the Ministry of Tribal Affairs itself rising to Rs 13,000 crore, a 73.6 percent increase over the previous year's estimate (Union Budget documents, as cited in Dhyeya IAS, 2026), funding growth from which Jharkhand, as the state with the fourth largest tribal population share in the country, stands to draw disproportionate benefit relative to most other states.

The state government has also moved to extend Scheduled Tribe recognition considerations to diaspora communities of Jharkhand tribal origin; in October 2024, the state established a Tea Tribes Welfare Committee to assess the socio-economic conditions of tea garden workers of Jharkhand tribal origin residing in Assam and other states, with a view toward ensuring these communities receive appropriate benefits and recognition, including potential Scheduled Tribe status consideration (India Today NE, 2024, as cited in Wikipedia contributors, 2026). Within the state, a Jharkhand Tribal Advisory Council has been constituted with the Chief Minister serving as chairperson, institutionalizing tribal

community input into state policy formulation at the highest level of government (Jagran, 2025, as cited in Wikipedia contributors, 2026).

7.3 Other Backward Classes: Identification, Reservation and Social Mobility

Other Backward Classes in Jharkhand are administered under the same state Department of Scheduled Tribe, Scheduled Caste, Minority and Backward Class Welfare that oversees Scheduled Caste and Scheduled Tribe welfare, reflecting an integrated institutional approach to social justice policy in the state (Government of Jharkhand, Department of Scheduled Tribe, Scheduled Caste, Minority and Backward Class Welfare, 2025). OBC students are covered under the same E-Kalyan scholarship architecture described in section 7.1, and OBC youth are similarly eligible under the Chief Minister's Employment Generation Programme, indicating that the state's principal social mobility instruments, scholarship support and self-employment financing, are designed with a broadly common architecture across Scheduled Caste, Scheduled Tribe, and Other Backward Class beneficiary groups, differentiated primarily through eligibility criteria and community specific sub-schemes rather than entirely separate delivery systems (Wikipedia contributors, 2026).

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

Jharkhand's gender equity indicators present a mixed picture across the sectors examined throughout this framework. On education, Chapter 5 documented that Jharkhand's Gender Parity Index at the secondary level has been recognized as above the national average, even as the state continues to face a severe secondary to higher secondary transition problem that disproportionately affects tribal girls, an issue the state's Kishori Vidyalaya framework under Samagra Shiksha has been specifically extended to address (Ministry of Education, Government of India, 2025, as cited in Education for All in India, 2026). On labour force participation, Chapter 3 documented that Jharkhand recorded the lowest male Worker Population Ratio of any Indian state in the April to June 2024 quarterly PLFS bulletin, at 61.5 percent, though this framework flagged the absence of a correspondingly precise, current female Worker Population Ratio figure specific to Jharkhand as a data gap warranting further state level statistical attention (Ministry of Statistics and Programme Implementation, PLFS Quarterly Bulletin, 2024, as cited in Rural India Online, 2024).

On direct economic empowerment through cash transfer policy, Chapter 2 documented the state government's October 2024 decision to more than double the monthly payout under the Mukhyamantri Maiyan Samman Yojana, its flagship women's direct benefit transfer scheme, from Rs 1,000 to Rs 2,500 per month, placing Jharkhand within a broader national cohort of states that significantly scaled up women focused unconditional cash transfer spending across the 2024-25 and 2025-26 budget cycles (PRS Legislative Research, 2025). While such schemes provide meaningful direct income support, the Reserve Bank of India's cautionary note, discussed in Chapter 2, regarding the fiscal sustainability and targeting efficiency of large scale, less conditional cash transfer schemes applies to this Jharkhand programme as much as to comparable schemes in other states, and this framework recommends that future

editions assess the Maiyan Samman Yojana's impact on women's broader economic agency and workforce participation, not solely its coverage and disbursement volume, once such impact data becomes available.

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

Child nutrition outcomes in Jharkhand, documented extensively in Chapter 6, represent the most severe and best quantified dimension of the state's child welfare challenge, with NFHS-5 recording 40 percent stunting, 22 percent wasting, and 37 percent underweight prevalence among children under five in the state (International Institute for Population Sciences and ICF, 2021). Beyond nutrition, this framework was unable to source current, Jharkhand-specific data on Protection of Children from Sexual Offences Act case registration, disposal rates, or child labour incidence with sufficient reliability for inclusion, and flags both as priority areas for a dedicated state Department of Women, Child Development and Social Security data publication to support more complete future editions of this framework. Given Jharkhand's substantial mining and quarrying sector documented in Chapters 3 and 4, and the historical association between extractive and informal economic activity and child labour risk in comparable Indian states, this data gap is one this framework regards as a genuine priority rather than a mere statistical omission.

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

Old age welfare provisioning in Jharkhand operates through the standard national and state social security pension architecture applicable to elderly persons below the poverty line, integrated within the broader social security and beneficiary linked welfare system discussed in section 7.9 of this chapter. This framework was unable to source current, Jharkhand-specific elderly pension coverage rates, care infrastructure capacity, or old age dependency projections disaggregated for the state with sufficient confidence for detailed treatment here, and recommends that the state's Department of Social Welfare publish a dedicated elderly welfare status report, particularly important given the demographic transition dynamics discussed in Chapters 1 and 6, where Jharkhand's slower than national average fertility decline suggests a correspondingly delayed, but eventually significant, growth in the state's elderly dependent population over the multi-decade horizon covered by this framework.

7.7 Persons with Disabilities: Rights, Accessibility and Empowerment

Persons with disabilities, referred to as Divyangjan in Indian government policy terminology, are explicitly included as a target beneficiary category under Jharkhand's Chief Minister's Employment Generation Programme, discussed in section 7.1, alongside Scheduled Caste, Scheduled Tribe, and Other Backward Class youth (Indian Masterminds, 2024, as cited in Wikipedia contributors, 2026). Beyond this specific employment generation inclusion, this framework was unable to source a comprehensive, current assessment of disability prevalence, accessibility infrastructure compliance, or dedicated disability welfare scheme

coverage specific to Jharkhand, and identifies this as a further specific data and policy documentation gap requiring attention from the state's disability welfare administration in future planning cycles.

7.8 Minority Communities: Development, Representation and Welfare

Minority welfare in Jharkhand, encompassing primarily the state's Muslim population, recorded at 14.53 percent of the state's total population in the 2011 Census, the second largest religious group in the state after Hindus, is administered as a distinct portfolio within the state's Department of Scheduled Tribe, Scheduled Caste, Minority and Backward Class Welfare, held since December 2024 by Minister Hafizul Hassan (Census of India, 2011; Government of Jharkhand, Department of Scheduled Tribe, Scheduled Caste, Minority and Backward Class Welfare, 2025, as cited in Wikipedia contributors, 2026). Minority students are covered under the same E-Kalyan scholarship framework described in section 7.1, providing pre-matric, post-matric, and merit-cum-means scholarship support alongside Scheduled Caste, Scheduled Tribe, and Other Backward Class beneficiaries (Wikipedia contributors, 2026).

7.9 Social Security and Beneficiary-Linked Welfare Architecture

Jharkhand's social security architecture increasingly operates through a converged, digitally administered beneficiary identification and direct benefit transfer system, exemplified by the E-Kalyan scholarship portal described throughout this chapter, and by the Mukhyamantri Maiyan Samman Yojana discussed in section 7.4. This model, consistent with the national policy trend toward direct benefit transfer delivery documented in the National Family Health Survey's finding that women's operation of bank or savings accounts rose from 53 to 78.6 percent nationally between NFHS-4 and NFHS-5, positions Jharkhand's welfare delivery system to leverage growing financial inclusion infrastructure for more efficient and better targeted social security disbursement, provided the underlying beneficiary identification data remains accurate and current across the state's Scheduled Caste, Scheduled Tribe, Other Backward Class, minority, women, elderly, and disability welfare programmes examined throughout this chapter (Rural India Online, NFHS-5 Compendium, 2021). The central challenge for this architecture going forward, as this chapter's recurring data gaps illustrate, is less the design of delivery mechanisms, which have matured considerably, than the availability of precise, current, disaggregated outcome data by which the state and independent observers can assess whether beneficiary-linked welfare spending is translating into measurable improvement in the lived circumstances of Jharkhand's Scheduled Caste, Scheduled Tribe, women, child, elderly, and disability populations, a theme this framework returns to in its concluding accountability architecture discussion in Chapter 21.

Chapter 8: Transport and Connectivity Infrastructure

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

Jharkhand's road network functions as the connective backbone linking the state's dispersed rural and forested settlements, described in Chapter 1, to its industrial and administrative centers. Estimates of the network's total length vary somewhat across sources depending on the year and classification methodology used, with one recent compilation placing the total road length at approximately 28,000 kilometers of National Highways, State Highways, and rural roads combined, while an earlier state government infrastructure profile recorded a considerably larger total road length inclusive of all categories, alongside 2,374 kilometers of National Highway and roughly 6,880 kilometers of State Highway (Maps of India, Jharkhand Road Map, 2026; Infrastructure in Jharkhand, thisismyindia.com, historical compilation). Given this variance across secondary sources, this framework treats these figures as broadly indicative rather than precisely reconciled, and recommends that the state's Road Construction Department publish a single, current, authoritative network length statistic disaggregated by category for use in future editions of this document (Government of Jharkhand, Road Construction Department, 2026).

Jharkhand is connected to its five neighboring states through a network historically described as comprising between 12 and 15 National Highways, including NH-33, which links Ranchi to the major industrial center of Jamshedpur and onward to Kharagpur in West Bengal, serving as a critical corridor for mineral and steel trade given the industrial concentration described in Chapter 3, along with NH-31, NH-43, NH-75, and NH-98 (Maps of India, Jharkhand Road Map, 2026). Rural road connectivity has been substantially extended through the Pradhan Mantri Gram Sadak Yojana, the national flagship rural roads programme, with more than 13,000 kilometers of rural roads constructed under the scheme in Jharkhand, a programme of particular significance for the state given the terrain and settlement dispersal challenges documented in Chapter 1, which historically left many rural, forested, and hilly pockets largely cut off from market and service access (Maps of India, Jharkhand Road Map, 2026).

The state is currently in the midst of a substantial highway upgrade cycle. Seven major National Highway projects were reported as nearing completion or under active construction as of late 2025, including the Ranchi-Varanasi Economic Corridor, spanning 253 kilometers within Jharkhand at a cost of Rs 8,000 crore and expected to cut travel time between Ranchi and Varanasi from 12 hours to 4.5 hours upon completion; the Raipur-Dhanbad Expressway, with 238 kilometers under construction in Jharkhand at a cost of Rs 8,000 crore; the Delhi-Kolkata Six-Lane Expressway, with 146 kilometers passing through the state at an estimated cost of Rs 6,000 crore, expected to reduce Delhi-Kolkata travel time from 30 to 14 hours upon its targeted completion in June 2026; and the Ranchi-Patna Four-Lane project, 323 kilometers in length and 88 percent complete as of the report date, expected to be finished by December 2027 (Indian Masterminds, 2025; Tractor Junction Infra Junction, 2025). These projects are explicitly targeted at improving connectivity to historically

underdeveloped districts including Garhwa, Palamu, Latehar, Lohardaga, Koderma, Hazaribagh, and the Santhal Pargana region, directly addressing the intra-state disparity pattern identified among Aspirational Districts in Chapter 1 (Indian Masterminds, 2025).

Notwithstanding this investment pipeline, independent assessments of Jharkhand's road infrastructure continue to note persistent challenges including inconsistent maintenance quality, seasonal monsoon flooding damage, and urban traffic congestion in the state's growing cities, issues the state's ongoing highway expansion programme addresses only partially, since maintenance and urban congestion require sustained recurring expenditure commitments distinct from the capital investment captured in headline highway project announcements (Maps of India, Jharkhand Road Map, 2026; Jharkhand PCS Notes, Infrastructure Development, 2024).

8.2 Railways: Existing Network, Pending Projects and Expansion Proposals

Jharkhand's railway network, historically recorded at approximately 2,182 kilometers, is anchored by major junctions at Dhanbad, Chakradharpur, Hatia, and Tatanagar in Jamshedpur, reflecting the historical alignment of the state's rail infrastructure with its coal mining and steel producing districts (thisismyindia.com, Infrastructure in Jharkhand, historical compilation; Jharkhand Online, Transport in Jharkhand). Beyond ore loading facilities at Lohardaga and Kiriburu and extensive goods handling infrastructure at Ranchi, Dhanbad, Bokaro, and Jamshedpur stations, reflecting the state's role as a major bulk freight origin point for coal and iron ore documented in Chapters 1 and 4, Dhanbad holds the distinction of being the first railway station in India to operate an air-conditioned double-decker express service, running between Dhanbad and Howrah (Jharkhand Online, Transport in Jharkhand).

A significant current railway infrastructure project is the redevelopment of Ranchi Railway Station, being constructed adjacent to the airport's rail lines with a total project budget of Rs 447 crore, of which Rs 330 crore is allocated to core development work, targeted for completion by June 2025, with a design capacity of approximately 12,000 people and a stated fifty-year planning horizon, incorporating airport-style passenger amenities and drawing 30 percent of the station's electricity requirements from solar power (Infra Info Hub, Jharkhand Mega Projects 2025, 2025). The state's rail network is also directly integrated into national freight corridor planning through the Eastern Dedicated Freight Corridor, whose extension toward Kolkata passes through Jharkhand and is intended to substantially improve the efficiency of bulk commodity movement, particularly coal and iron ore, in support of the industrial activity concentrated in the state's Kolhan and North Chotanagpur belts (Jharkhand PCS Notes, Infrastructure Development, 2024).

8.3 Aviation: Airport Infrastructure and Air Connectivity

Birsa Munda Airport in Ranchi remains Jharkhand's principal and only fully operational commercial airport, handling more than half of all air traffic in the state and providing direct connectivity to major national hubs including Delhi, Kolkata, Patna, and Mumbai (Jharkhand

Online, Transport in Jharkhand; thisismyindia.com, Infrastructure in Jharkhand). Beyond Ranchi, the state maintains airstrips at Bokaro, Daltonganj, Deoghar, Dhanbad, Dumka, Giridih, Hazaribagh, Jamshedpur, and Noamundi, though most of these have historically operated below full commercial capacity, with chartered flights providing the primary air service to Jamshedpur and Kolkata rather than scheduled commercial routes (thisismyindia.com, Infrastructure in Jharkhand).

A new domestic airport is under development at Dhalbhumgarh, intended specifically to serve Jamshedpur and its surrounding industrial belt, reflecting the state's recognition that Jamshedpur's economic importance, discussed in Chapters 3 and 4, has outgrown its reliance on chartered rather than scheduled air connectivity (Infra Info Hub, Jharkhand Mega Projects 2025, 2025). This framework was unable to source current passenger and cargo traffic figures for Birsa Munda Airport more recent than historical baseline figures from the mid-2010s, and recommends that the Airports Authority of India and the state Civil Aviation Department jointly publish current annual traffic statistics disaggregated by passenger and cargo movement to support more precise aviation sector assessment in future editions of this framework.

8.4 Ports, Inland Waterways and Logistics Hubs

Jharkhand is a landlocked state and therefore does not possess direct maritime port infrastructure, a structural feature that shapes its logistics strategy toward reliance on rail and road linkages to the maritime ports of neighboring West Bengal and Odisha, principally Kolkata, Haldia, and Paradip, for the export of mineral and industrial output discussed in Chapters 3 and 4. Given this landlocked status, the efficiency of Jharkhand's rail freight corridors and National Highway connectivity to these coastal gateway ports, discussed in sections 8.1 and 8.2, functions as a direct proxy for the state's overall export logistics competitiveness, and this framework recommends that future planning give particular attention to strengthening these specific inter-state freight linkages rather than treating road, rail, and port access as separable infrastructure domains.

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

Jharkhand does not currently operate a metro rail or dedicated bus rapid transit system in any of its cities. Urban public transport in the state capital is provided through a conventional bus network, with the Jharkhand Tourism Development Corporation operating more than 150 buses within Ranchi to support intra-city commuting (Jharkhand Online, Transport in Jharkhand). The state's urban road infrastructure investment, discussed in section 8.1, includes specific projects targeted at Ranchi's traffic congestion, including two major flyovers currently under construction, one of which involves a Rs 337.50 crore cable bridge, alongside the 3.76 kilometer Ratu Road Flyover, reflecting an infrastructure response focused on road capacity expansion rather than a shift toward high capacity public transit modes (Construction World, Jharkhand Launches Large-Scale Highway Expansion, 2025). Jamshedpur is separately slated to benefit from an elevated road corridor on NH-33 designed to address environmental and congestion concerns specific to that industrial city

(Construction World, 2025). This framework notes that Jharkhand's continued reliance on road-based rather than mass transit solutions for urban mobility is broadly consistent with its comparatively low urbanization level documented in Chapter 1, though it recommends the state's Urban Development Department assess the case for dedicated bus rapid transit infrastructure in Ranchi and Jamshedpur as both cities approach the population thresholds at which such systems typically become cost effective, a theme this framework returns to in the urban development discussion of Chapter 11.

8.6 Multimodal Logistics: Last-Mile Connectivity and Freight Corridors

Jharkhand's multimodal freight logistics architecture centers on the integration of its rail network, discussed in section 8.2, with the Eastern Dedicated Freight Corridor and the road corridor investments discussed in section 8.1, both designed in significant part around the movement of bulk coal, iron ore, and finished steel product to national and export markets. The state's Bharatmala programme linked highway investments, including the Jaina Mode-Gola section improving interstate transportation networks, further extend this multimodal integration strategy (Construction World, Jharkhand Launches Large-Scale Highway Expansion, 2025). Persistent last-mile connectivity gaps remain most acute in the state's more remote forested and hill districts identified in the Aspirational Districts framework discussed in Chapter 1, where rural road connectivity under the Pradhan Mantri Gram Sadak Yojana, while extensive, does not always translate into reliable, all-weather freight and passenger access, particularly during the monsoon season described in Chapter 1's climate discussion, a gap this framework identifies as a continuing structural constraint on fully realizing the economic potential of the highway and rail investments documented throughout this chapter, and one directly relevant to the rural development and market linkage priorities discussed further in Chapter 12.

Chapter 9: Energy, Power and Renewable Transition

9.1 Power Generation: Installed Capacity, Mix and Dependence Profile

Jharkhand's power sector remains structurally anchored in coal-based thermal generation, consistent with the state's mineral endowment discussed in Chapters 1, 3, and 4. The state contributes approximately 19 percent of India's annual coal production, and its own power generation and distribution architecture, delivered principally through Jharkhand Bijli Vitran Nigam Limited, or JBVNL, formed following the unbundling of the erstwhile Jharkhand State Electricity Board on January 6, 2014, continues to draw the majority of its supply from coal-based thermal plants operated by entities including the National Thermal Power Corporation and the Damodar Valley Corporation, alongside the state's own thermal generation assets discussed in Chapter 4 (Government of Jharkhand, Jharkhand State Solar Power Policy 2022, 2022; JBVNL, Company Profile, 2026; Grokipedia, JBVNL entry citing JBVNL and JSERC filings, 2025).

JBVNL's operations extend across seven electric supply areas, namely Ranchi, Dhanbad, Jamshedpur, Hazaribagh, Giridih, Dumka, and Medininagar, serving a registered consumer base of approximately 7.4 million with a peak load of approximately 3,000 megawatts recorded for fiscal year 2025-26 (JBVNL, Company Profile, 2026). Electricity demand in the state has grown rapidly, rising by 90 percent between fiscal year 2015-16 and fiscal year 2024-25, driven by industrial expansion and population growth discussed in Chapters 1, 3, and 4, with a supply shortfall of just 0.5 percent recorded in fiscal year 2024-25, a gap the underlying policy research report characterized as one of the smallest in India despite the scale of demand growth, indicating that Jharkhand's generation and procurement capacity has kept broad pace with its rapidly rising power requirements (International Forum for Environment, Sustainability and Technology, Enabling Renewable Energy Growth in Jharkhand, 2025).

9.2 Transmission and Distribution: Infrastructure, Losses and Reliability

Jharkhand's transmission infrastructure is administered by the Jharkhand Urja Sancharan Nigam Limited, or JUSNL, the state transmission utility, which added approximately 5,306 circuit kilometers of transmission lines at 400 kV, 220 kV, and 132 kV levels between 2012 and November 2021, enhancing intra-regional transmission capacity, with a further 13,940 megavolt-amperes of transformation capacity targeted for addition to the JUSNL network by fiscal year 2025-26 (Government of Jharkhand, Jharkhand Power Policy 2023, draft, 2023). JBVNL's distribution backbone, as of September 2025, comprised 649 power substations equipped with 1,529 power transformers, 72,076 circuit kilometers of 11 kV distribution lines, including approximately 995 kilometers of underground cabling, and 137,693 distribution transformers with a cumulative transformation capacity of 8,869 megavolt-amperes, serving approximately 5.5 million consumers (Grokipedia, JBVNL entry citing JBVNL network data, 2025).

Despite this substantial infrastructure base, Jharkhand continues to record Aggregate Technical and Commercial, or AT&C, losses well above the national benchmark. AT&C losses stood at 31.17 percent in fiscal year 2023-24, more than double the pan-India target range of 12 to 15 percent that the Revamped Distribution Sector Scheme, effective from 2021, has aimed to achieve nationally (Grokopedia, JBVNL entry citing JSERC filings, 2025). JBVNL's multi-year tariff business plan covering the control period from fiscal year 2026-27 to 2030-31 sets out capital investment targets explicitly aimed at reducing AT&C losses below 15 percent and raising collection efficiency above 100 percent, indicating that loss reduction remains an active, multi-year regulatory and investment priority for the utility rather than a resolved legacy issue (Jharkhand State Electricity Regulatory Commission, JBVNL Tariff Order, 2026). Revenue recovery enforcement has intensified in parallel, including disconnection action against more than 14,000 defaulting accounts in the Kolhan region in early 2025 (Grokopedia, JBVNL entry, 2025).

9.3 Rural and Household Electrification: Coverage and Quality

Village electrification in Jharkhand has been formally completed, according to the state's own 2023 draft power policy document, which notes that the process of village electrification has been completed alongside significant improvement in overall power quality (Government of Jharkhand, Jharkhand Power Policy 2023, draft, 2023). JBVNL's distribution network extends explicitly into remote tribal and forested regions of the state, consistent with the settlement and terrain patterns discussed in Chapter 1, though the persistently high AT&C loss rate documented in section 9.2 indicates that formal electrification coverage does not fully translate into consistently reliable, commercially accounted power delivery, particularly in rural and industrial segments where losses remain most elevated (Grokopedia, JBVNL entry, 2025).

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

Jharkhand's renewable energy sector has expanded substantially over the past decade, with the share of renewable generation in the state's total electricity generation rising from just 2.06 percent in 2018 to 11.84 percent in 2023 (Government of Jharkhand, Jharkhand Power Policy 2023, draft, 2023). JBVNL currently draws renewable power from a diversified portfolio comprising 300 megawatts of wind energy, 476 megawatts of solar energy, 2 megawatts of canal-top solar, and 341 megawatts of hydel energy, a combination the utility states has helped avoid nearly 21 lakh tonnes of carbon dioxide emissions annually, with a further 100 megawatts targeted from the Getalsud floating solar project expected in fiscal year 2026-27 (JBVNL, Company Profile, 2026). JBVNL's renewable power purchase agreements include a 200 megawatt wind agreement with the Power Trading Corporation effective from December 2018 and a 300 megawatt wind agreement with the Solar Energy Corporation of India effective from March 2019, with ongoing efforts to secure a further 200 megawatts of wind and 750 megawatts of solar capacity (Grokopedia, JBVNL entry, 2025).

Notwithstanding this growth trajectory, Jharkhand's renewable energy procurement continues to fall well short of its regulatory obligations. In fiscal year 2024-25, JBVNL procured 11.33

percent of its power from renewable sources, well below the mandated Renewable Purchase Obligation of 25 percent for that year, a shortfall an independent policy analysis by the International Forum for Environment, Sustainability and Technology identified as a central challenge for the state's energy transition, even as the same analysis noted that Jharkhand's rapid electricity demand growth presents a significant structural opportunity for renewable energy integration going forward (International Forum for Environment, Sustainability and Technology, Enabling Renewable Energy Growth in Jharkhand, 2025).

The state's principal renewable policy instrument, the Jharkhand State Solar Power Policy 2022, which supersedes the earlier 2015 policy, sets a target of 3,000 megawatts of utility scale solar capacity and 700 megawatts of solar park capacity, with an overall requirement of 4,000 megawatts of solar capacity to be achieved by the end of 2027 under the associated solar policy framework (Government of Jharkhand, Jharkhand State Solar Power Policy 2022, 2022; Cretum Advisory, Jharkhand Solar Power Policy, 2025). Implementation is coordinated through the Jharkhand Renewable Energy Development Agency, established in 2001 as the state's nodal agency for renewable energy deployment and energy efficiency implementation under the Bureau of Energy Efficiency framework, which as of 2026 was actively soliciting private developer interest for small, mini, and micro hydro power projects at sixteen sites across the state under a public-private partnership build-own-operate-transfer model (Jharkhand Renewable Energy Development Agency, JREDA website, 2026).

9.5 Energy Efficiency, Conservation and Demand-Side Management

Jharkhand's 2023 draft Power Policy explicitly identifies distributed renewable generation, particularly rooftop solar, as a strategy to reduce transmission congestion and distribution losses, and calls for the state government to install solar photovoltaic systems on office buildings, schools, and panchayat facilities, alongside continued promotion of net metering to encourage household and small industry adoption of solar generation (Government of Jharkhand, Jharkhand Power Policy 2023, draft, 2023). The policy also identifies hybrid operation of variable renewable sources, particularly solar and wind, in combination with conventional generation and energy storage systems, as a priority mechanism for achieving reliable round-the-clock power supply as the state's renewable share grows, and JBVNL has separately indicated it is in the process of implementing Battery Energy Storage System capacity to support this objective (Government of Jharkhand, Jharkhand Power Policy 2023, draft, 2023; JBVNL, Company Profile, 2026). The state's draft policy further identifies green hydrogen as an emerging area of strategic interest, aligned with the National Green Hydrogen Mission's objective of developing at least 5 million metric tonnes per annum of green hydrogen production capacity nationally alongside approximately 125 gigawatts of associated renewable energy capacity, and recommends that the state's electricity regulator, in coordination with stakeholders, issue a dedicated State Level Hydrogen Policy (Government of Jharkhand, Jharkhand Power Policy 2023, draft, 2023).

9.6 State Electricity Regulatory Framework and Tariff Policy

Jharkhand's power sector regulatory framework is administered by the Jharkhand State Electricity Regulatory Commission, or JSERC, which determines tariffs, approves multi-year tariff business plans, and sets Renewable Purchase Obligation targets for the state's distribution utility under provisions of the Electricity Act of 2003, including Section 108, which mandates that the state government issue policy directions to the Commission on matters of public interest, a provision underlying the formulation of the state's Solar Power Policy discussed in section 9.4 (Government of Jharkhand, Jharkhand State Solar Power Policy 2022, 2022). JSERC's most recent tariff determination process covers the true-up for fiscal year 2024-25, the Annual Performance Review for fiscal year 2025-26, and approval of JBVNL's business plan and multi-year tariff Aggregate Revenue Requirement for the control period spanning fiscal year 2026-27 through 2030-31, reflecting a shift toward longer horizon, multi-year regulatory planning intended to provide greater investment certainty to the utility while embedding explicit AT&C loss reduction and collection efficiency targets, discussed in section 9.2, into the formal tariff setting process (Jharkhand State Electricity Regulatory Commission, JBVNL Tariff Order, 2026). This multi-year regulatory architecture, combined with the state's Solar Power Policy targets and the National Green Hydrogen Mission alignment discussed above, positions Jharkhand's energy sector governance framework as reasonably well developed on paper, even as the persistent gap between renewable procurement obligations and actual achievement, and between formal electrification and reliable, low-loss power delivery, indicates that implementation capacity, rather than policy design, remains the state's principal energy sector challenge going into the second half of the 2020s.

Chapter 10: Water, Sanitation and Solid Waste Management

10.1 Drinking Water Supply: Coverage, Quality and Infrastructure

Jharkhand has been consistently identified among the states lagging furthest behind on the national Jal Jeevan Mission, the flagship rural drinking water programme launched by Prime Minister Narendra Modi on August 15, 2019, with the objective of providing a Functional Household Tap Connection to every rural household. As of December 2024, Jharkhand was named alongside Rajasthan, Kerala, and West Bengal as one of the states trailing with less than 60 percent rural tap water coverage, even as the national programme had reached over 15.37 crore of India's 19.36 crore rural households, and even as eleven states and union territories had already achieved complete rural tap water coverage (PTI, as cited in Swarajya, 2024; The Print, 2024). By October 2025, the national programme had extended coverage to over 15.72 crore rural households, representing more than 81 percent of the country, against a starting base of just 3.23 crore households, or 16.71 percent, when the mission launched in 2019, with a total central outlay of Rs 2,08,652 crore (Ministry of Jal Shakti, Department of Drinking Water and Sanitation, 2025, as cited in Press Information Bureau, 2025). Given Jharkhand's documented position among the trailing states as of the most recent confirmed assessment, this framework treats the state's Jal Jeevan Mission coverage as continuing to lag the national average materially, even as the exact current percentage point gap was not identified with confidence beyond the "less than 60 percent" figure reported for late 2024.

Beyond the headline coverage statistic, a field based assessment conducted in March 2025 by the Millennium Water Story initiative, covering 39 Jal Jeevan Mission schemes across 28 villages in four districts, Saraikela Kharsawan, Khunti, Gumla, and Latehar, found that the more pertinent concern for Jharkhand is not coverage alone but the quality and functional reliability of the taps that have been installed (Millennium Water Story, Jal Jeevan Mission: Consequences of the Gaps in its Implementation in Jharkhand, 2025). The study distinguished between Single Village Schemes, which rely on groundwater and are noted to depend on an increasingly depleting resource in the state, and Multi-Village Schemes, which draw on surface water, and documented both infrastructure or "hardware" deficiencies and institutional or behavioral "software" gaps that leave many installed taps running dry, delivering irregular supply, or delivering water perceived by users as unsafe (Millennium Water Story, 2025).

The study specifically documented adverse consequences falling disproportionately on women and girls in communities where Jal Jeevan Mission infrastructure exists on paper but does not function reliably in practice, and highlighted the case of a Korwa Particularly Vulnerable Tribal Group community, introduced in Chapter 7, that lacked any Jal Jeevan Mission scheme due to the absence of road connectivity, discussed in Chapter 8, prompting the community to self-fund and self-build an access road through household contributions of Rs 1,000 each while awaiting a borewell based scheme (Millennium Water Story, 2025). This finding illustrates directly the interlocking nature of Jharkhand's infrastructure gaps described throughout this framework: last mile road connectivity constraints, documented in Chapter 8,

directly determine whether water infrastructure investment can even reach the state's most vulnerable and remote tribal communities.

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

Jharkhand's irrigation infrastructure remains structurally constrained by the plateau topography discussed in Chapter 1, which limits the extent of assured, gravity fed canal irrigation of the kind available in the alluvial plains of neighboring Bihar and West Bengal, leaving much of the state's agricultural sector, discussed in Chapter 3, dependent on monsoon rainfall and groundwater extraction. The groundwater dependence documented for the Single Village Schemes discussed in section 10.1 is directly relevant here, since agricultural groundwater extraction and rural drinking water supply increasingly compete for the same depleting aquifer resources in several districts, a tension this framework flags as a specific area requiring integrated water resource planning rather than the siloed sectoral management that Jal Jeevan Mission and irrigation department planning have historically followed separately. This framework was unable to source a current, precise net irrigated area or irrigation efficiency figure for Jharkhand with sufficient confidence for inclusion, and recommends that the state's Water Resources Department publish a consolidated current irrigation infrastructure assessment, given how directly this data bears on the agricultural productivity questions raised in Chapter 3 and the food security questions addressed further in Chapter 18.

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

Jharkhand's sanitation programme operates under the second phase of the Swachh Bharat Mission-Grameen, running from 2019 to 2025, which shifted national policy focus from achieving initial Open Defecation Free status, largely accomplished nationally in the mission's first phase, to sustaining that status and progressing villages toward "ODF Plus" classification, defined by the addition of solid and liquid waste management arrangements and visual cleanliness standards, with a total national outlay of Rs 1.40 lakh crore for this second phase (Ministry of Jal Shakti, Department of Drinking Water and Sanitation, ODF Plus framework documentation, 2025). As of the most recent nationally reported figures, 95 percent of India's 5,86,707 villages, or 5,60,897 villages, had declared ODF Plus status, with Uttar Pradesh, Madhya Pradesh, and Maharashtra leading the national tally of villages achieving this classification (Press Trust of India, as cited in The Print, 2024). Jharkhand's own ODF Plus progress specific figures were not identified with confidence in the sources available for this chapter, though the state is noted in Swachh Bharat Mission-Grameen's own reporting as one of the states, alongside Uttarakhand, prioritized for coverage of Gram Panchayats situated on the banks of the Ganga river under the Mission's convergence with the Namami Gange ecological restoration programme, relevant to the Santhal Pargana districts of Sahibganj and Pakur that border the river, discussed in Chapter 1 (Ministry of Jal Shakti, Department of Drinking Water and Sanitation, Annual Report 2024-25, 2025).

10.4 Solid Waste Management: Municipal, Biomedical and Hazardous Waste

Solid waste management in Jharkhand's rural areas is being addressed through the ODF Plus framework discussed in section 10.3, which provides financial support of up to Rs 1 lakh per village for combined solid and liquid waste management infrastructure, alongside up to Rs 3 lakh per Community Sanitary Complex, under the Swachh Bharat Mission-Grameen Phase II funding architecture (Ministry of Jal Shakti, Department of Drinking Water and Sanitation, Annual Report 2024-25, 2025). Urban solid waste management, relevant to Jharkhand's industrial cities discussed in Chapters 3, 4, and 11, including Ranchi, Jamshedpur, Dhanbad, and Bokaro, along with biomedical and hazardous waste management associated with the state's substantial mining, metallurgical, and industrial base documented throughout this framework, was not addressed with sufficient specificity in the sources available for this chapter, and this framework identifies a comprehensive, current, urban and industrial solid waste management assessment for Jharkhand's major cities as a significant data and policy gap warranting dedicated attention from the state's Urban Development and Housing Department and State Pollution Control Board in future planning cycles, particularly given the environmental pressures associated with mining and industrial activity discussed further in Chapter 13.

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

Liquid waste management in Jharkhand's rural areas is similarly integrated into the ODF Plus framework discussed in sections 10.3 and 10.4, funded through the same combined solid and liquid waste management grant structure. Urban and peri-urban sewerage and wastewater treatment infrastructure, a critical gap given the pollution pressures on the Damodar and Subarnarekha river systems documented in Chapter 1, where industrial and municipal discharge from the Ranchi, Jamshedpur, and Dhanbad-Bokaro industrial belt has historically degraded water quality, was not addressed with sufficient current, quantified detail in the sources reviewed for this chapter. This framework recommends that the state's Urban Development and Housing Department, in coordination with the Jharkhand State Pollution Control Board, publish a current assessment of sewerage network coverage and wastewater treatment capacity for the state's major urban centers, since this infrastructure gap directly affects both the river ecosystem health discussed in Chapter 13 and the urban quality of life themes addressed further in Chapter 11.

Chapter 11: Urban Development, Housing and Smart Cities

11.1 Urbanisation Trends and Urban Governance Architecture

Jharkhand's urbanization level, discussed in demographic terms in Chapter 1, remains comparatively modest, with an urban population share of 24.05 percent recorded in the 2011 Census against a national urban share of 31.16 percent for the same year (Census of India, 2011). Urban governance in the state is structured through a three tier Urban Local Body system comprising Municipal Corporations, or Nagar Nigam, for larger cities including Ranchi, Jamshedpur, Dhanbad, and Bokaro, Municipal Councils, or Nagar Parishad, for medium sized towns, and Nagar Panchayats for transitional or smaller urban centers, all operating under the overall policy guidance of the state's Urban Development and Housing Department, headquartered in Dhurwa, Ranchi (Government of Jharkhand, Urban Development and Housing Department, 2026, as cited in eSarkari, 2026). The Department oversees implementation of the full suite of national urban missions in the state, including the Smart Cities Mission, the Atal Mission for Rejuvenation and Urban Transformation, or AMRUT, the Pradhan Mantri Awas Yojana-Urban, the National Urban Livelihoods Mission, and Swachh Bharat Mission-Urban, and has digitized several citizen facing services including property tax payment, building plan approval, and municipal licensing through the Jharkhand Municipal Services Portal (Government of Jharkhand, Urban Development and Housing Department, 2026, as cited in eSarkari, 2026).

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

This framework was unable to source a current, consolidated assessment of Jharkhand's Urban Local Body financial health, own-source revenue generation, or staffing capacity with sufficient reliability for detailed treatment here. Given the digitization of property tax and municipal licensing services documented in section 11.1, which in principle should improve own-source revenue collection and transparency over time, this framework recommends that the state Urban Development and Housing Department publish a consolidated annual Urban Local Body finance report, covering revenue collection efficiency, capital versus revenue expenditure composition, and staffing vacancy rates across the state's Municipal Corporations, Municipal Councils, and Nagar Panchayats, to allow future editions of this framework to assess municipal governance capacity with the same rigor applied to state level fiscal analysis in Chapter 2.

11.3 Housing: Demand Assessment, Affordability and Flagship Schemes

Jharkhand participates in the Pradhan Mantri Awas Yojana-Urban, the national "Housing for All" mission launched by Prime Minister Narendra Modi on June 25, 2015, which provides all-weather pucca houses with basic amenities to eligible urban beneficiaries. Nationally, as of the mission's ninth anniversary assessment, 114 lakh houses had been grounded for construction and more than 84 lakh houses had been completed and delivered to beneficiaries, with the mission's cumulative investment estimated to have generated more

than 323 lakh jobs, comprising 100 lakh direct and 223 lakh indirect jobs, and consumed approximately 55.7 million metric tonnes of cement and 12.6 million metric tonnes of steel nationally, the latter figure of particular relevance to Jharkhand given the state's steel production capacity documented in Chapters 3 and 4 (Ministry of Housing and Urban Affairs, 2024, as cited in Press Information Bureau, 2024). On June 10, 2024, the Union government resolved to extend assistance to an additional 3 crore rural and urban households nationally, with the urban component of Pradhan Mantri Awas Yojana being revamped to provide assistance to 1 crore eligible urban families, a significant expansion relevant to Jharkhand's own urban housing demand given the state's per capita income and multidimensional poverty profile documented in Chapters 1 and 3 (Ministry of Housing and Urban Affairs, 2024, as cited in Press Information Bureau, 2024).

Ranchi holds a specific distinction within this national housing mission as one of the sites selected for a Light House Project, a demonstration of affordable housing construction using innovative, rapid-build technologies, alongside Chennai, Rajkot, Indore, and Lucknow, with the Ranchi project inaugurated by the Prime Minister as part of the mission's broader effort to promote alternate construction technologies replicable across the Indian housing sector (Ministry of Housing and Urban Affairs, 2024, as cited in Press Information Bureau, 2024). Jharkhand's Ranchi Municipal Corporation additionally maintains a City Level Technical Cell dedicated to assisting Urban Local Bodies with Pradhan Mantri Awas Yojana implementation, staffed by technical specialists whose sanctioned strength is determined by the population of the relevant Urban Local Body under central government provisions (Ranchi Municipal Corporation, PMAY Department, 2026).

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

Ranchi is Jharkhand's sole representative among the 100 cities selected under the Government of India's Smart Cities Mission, launched alongside AMRUT and Pradhan Mantri Awas Yojana-Urban on June 25, 2015 (Government of Jharkhand, Ranchi Smart City, 2026; Ministry of Housing and Urban Affairs, 2024, as cited in Press Information Bureau, 2024). The state government's vision for Ranchi Smart City centers on positioning the city as a knowledge hub for educational excellence, building on its existing base of educational institutions discussed in Chapter 5, and as an efficiently managed, information technology enabled traffic and transportation city intended to reduce commuter travel time and improve pedestrian and commuter safety (Government of Jharkhand, Ranchi Smart City, 2026). Implementation is structured through two principal components: an Area Based Development component covering 656 acres of greenfield, encumbrance free land within five kilometers of Ranchi's central business district, in close proximity to the proposed capital complex, the airport, and Hatia Railway Station; and a Pan City component built around a Ranchi Integrated Traffic and Transport System, designed to integrate public transport management, parking management, traffic corridor management, and fare management under a single Information and Communication Technology platform housed in a Central Control and Command Centre, with capacity to scale to additional municipal utilities including solid waste management discussed in Chapter 10 (Government of Jharkhand, Ranchi Smart City,

2026). Implementation is carried out through a dedicated Special Purpose Vehicle, Ranchi Smart City Corporation Limited, established on September 30, 2016, which has received a national award for its implementation approach and has been ranked 11th among all Indian smart cities in national performance rankings, and has allotted land within the Area Based Development zone to GAIL for a compressed natural gas station, alongside completing e-auction phases for residential and mixed-use plots within the development area (Ranchi Smart City Corporation Limited, 2026).

AMRUT implementation in Jharkhand, covering core urban infrastructure including water supply, sewerage and drainage discussed in Chapter 10, and urban transport, operates under the same Urban Development and Housing Department architecture, though this framework was unable to source current, Jharkhand-specific AMRUT project completion statistics with sufficient confidence for inclusion, and flags this as a further specific area for future data publication by the state department, given how directly AMRUT implementation bears on the sewerage and urban water supply gaps identified in Chapter 10.

11.5 Heritage Cities, Cultural Landscapes and Urban Tourism

Jharkhand's urban heritage and cultural tourism assets, discussed further in the tourism specific treatment of Chapter 19, intersect with urban development policy principally through the state's religious pilgrimage centers, most notably Deoghar, home to the Baba Baidyanath Dham temple, one of the twelve Jyotirlingas of Hindu tradition, whose road connectivity is being substantially upgraded through the Deoghar-Basukinath four-lane highway project discussed in Chapter 8, explicitly designed with a dedicated lane for Kanwariya pilgrims. This framework treats detailed heritage city planning and urban conservation policy as a topic more fully addressed in Chapter 19's dedicated tourism infrastructure discussion, while noting here that the urban service delivery and municipal governance capacity gaps identified throughout this chapter apply with particular force to pilgrimage centers like Deoghar, which experience seasonal population surges that place acute strain on municipal water, sanitation, and traffic infrastructure of the kind discussed in Chapter 10 and section 11.4 of this chapter.

11.6 Urban Poverty, Slum Rehabilitation and In-Situ Upgradation

This framework was unable to source a current, Jharkhand-specific urban poverty headcount or slum population assessment disaggregated from the state's broader multidimensional poverty statistics discussed in Chapter 1. The National Urban Livelihoods Mission, which operates in Jharkhand under the Urban Development and Housing Department's programme portfolio described in section 11.1, is explicitly designed to reduce poverty and vulnerability among urban poor households by enabling access to gainful self-employment and skilled wage employment, with a programmatic focus on skill development, self-help group formation, and street vendor rehabilitation, the latter of particular relevance given the informal economy dynamics discussed in Chapter 3 (Government of Jharkhand, Urban Development and Housing Department, 2026, as cited in eSarkari, 2026). Given the absence of a current, disaggregated slum population and in-situ upgradation dataset for Jharkhand's cities in the sources available for this chapter, this framework recommends that the state

Urban Development and Housing Department publish a dedicated urban poverty and slum rehabilitation status report, both to support more precise future editions of this framework and, more importantly, because the absence of such data itself constrains the state's own capacity to target in-situ upgradation and rehabilitation resources effectively toward the urban poor households the National Urban Livelihoods Mission is intended to serve.

Chapter 12: Rural Development and Decentralised Governance

12.1 Panchayati Raj Institutions: Structure, Devolution and Capacity

Jharkhand's Panchayati Raj system was reactivated through elections held in 2010, after more than three decades during which the state, and undivided Bihar before it, had not conducted local body elections, as established in Chapter 1 of this framework (Ministry of Panchayati Raj, Government of India, 2023). The state's three tier rural governance structure, administered under the Department of Rural Development, Rural Works and Panchayati Raj, comprises 264 development blocks and approximately 4,562 gram panchayats, discussed in their administrative context in Chapter 1.

A significant institutional development in Jharkhand's decentralised governance architecture concerns the implementation of the Panchayats (Extension to Scheduled Areas) Act, or PESA, introduced in Chapter 1's discussion of Fifth Schedule areas. Jharkhand is one of only two states among the ten with tribal Scheduled Areas, alongside Odisha, that had, as of late 2025, created draft PESA Rules rather than finalized ones, placing the state behind the eight other Scheduled Area states that have already framed their formal rules (Ministry of Panchayati Raj, PESA Mahotsav briefing, 2025, as cited in Press Information Bureau, 2025). Within the state, however, momentum on PESA implementation accelerated through 2025 and into 2026. On May 21, 2026, Jharkhand's Rural Development, Rural Works and Panchayati Raj Minister, Dipika Pandey Singh, addressing a state level workshop organized by the Panchayati Raj Department in Ranchi, stressed that the focus must now shift from rule notification to ensuring the PESA Rules 2025 reach the village level, describing the implementation of PESA in Jharkhand after 25 years as a significant step toward strengthening traditional gram sabhas and local self-governance in Scheduled Areas, and directing officials to complete the process of appointing traditional village heads within three months in accordance with prescribed provisions (Dipika Pandey Singh, Jharkhand Rural Development Minister, May 21, 2026, as cited in United News of India, 2026). This 25 year gap between the original 1996 enactment of the national PESA Act and its substantive rule level implementation in Jharkhand illustrates a broader pattern this framework has documented across multiple chapters, in which formal legal and policy frameworks affecting the state's tribal population have often taken considerably longer to translate into functioning ground level institutions than their national enactment dates would suggest.

The Ministry of Panchayati Raj's broader national PESA implementation effort, including a PESA-Gram Panchayat Development Plan Portal launched at the National Conference on the PESA Act in September 2024, which enables hamlet and village wise resource allocation of Central Finance Commission grants, State Finance Commission grants, and Centrally Sponsored Scheme funds within PESA Gram Panchayats, provides the digital infrastructure through which Jharkhand's own PESA implementation, once its Rules are finalized and operationalized at the village level, is expected to channel resources directly to the tribal majority gram panchayats discussed throughout this framework (Ministry of Panchayati Raj, PESA Mahotsav briefing, 2025, as cited in Press Information Bureau, 2025).

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

Rural employment guarantee policy in Jharkhand, as across India, underwent a fundamental legislative transformation in 2025. The Mahatma Gandhi National Rural Employment Guarantee Act, in effect since 2005 and providing a guarantee of at least 100 days of wage employment annually to rural households undertaking unskilled manual work, was superseded by the Viksit Bharat-Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, or VB-G RAM G Act, 2025, which received Presidential assent as part of a comprehensive statutory overhaul of the rural employment guarantee framework (Ministry of Rural Development, Government of India, Department of Rural Development Year End 2025, 2025, as cited in Press Information Bureau, 2025). The new Act increases the guaranteed employment entitlement from 100 to 125 days of wage employment per rural household per financial year, while introducing an aggregated 60 day no-work period intended to preserve agricultural labour availability during peak sowing and harvesting periods, a provision directly relevant to Jharkhand's agrarian economy discussed in Chapter 3 (Ministry of Rural Development, Government of India, Viksit Bharat-G RAM G Act 2025 briefing, 2025, as cited in Press Information Bureau, 2025).

The reform responds to documented implementation weaknesses that had accumulated under the legacy MGNREGA architecture nationally, including instances of work not being found on the ground, expenditure not matching physical progress, use of machinery in labour-intensive works contrary to the scheme's design, and frequent bypassing of digital attendance systems, weaknesses that monitoring authorities found meant only a small proportion of households nationally were completing the full one hundred days of guaranteed employment in the post-pandemic period (Ministry of Rural Development, Government of India, Viksit Bharat-G RAM G Act 2025 briefing, 2025, as cited in Press Information Bureau, 2025). The new Act raises the administrative expenditure ceiling from 6 to 9 percent of scheme funds, intended to strengthen staffing, remuneration, training, and technical capacity for implementation, and introduces a Work Monitoring Module to identify high risk or suspicious works requiring closer field verification, with material payments frozen pending verification for flagged works (Ministry of Rural Development, Government of India, Department of Rural Development Year End 2025, 2025, as cited in Press Information Bureau, 2025). Nationally, women's participation in the scheme rose from 48 to 58.15 percent between fiscal year 2013-14 and fiscal year 2025-26, a trend of direct relevance to the gender equity themes discussed in Chapter 7 (Ministry of Rural Development, Government of India, Viksit Bharat-G RAM G Act 2025 briefing, 2025, as cited in Press Information Bureau, 2025).

This framework was unable to source current, Jharkhand-specific employment days generated, wage payment timeliness, or unemployment allowance disbursement data disaggregated from the national MGNREGA and successor VB-G RAM G dashboards with sufficient confidence for inclusion here. Given Jharkhand's documented reliance on rural wage employment discussed in Chapter 3, where the state recorded the lowest male Worker

Population Ratio of any Indian state in mid-2024, this framework regards Jharkhand-specific VB-G RAM G performance data as a high priority gap, and recommends the state Department of Rural Development publish disaggregated district level implementation data as the new Act's rollout proceeds.

12.3 Rural Housing: PMAY-Gramin and State Schemes

Pradhan Mantri Awaas Yojana-Gramin, the rural counterpart to the urban housing mission discussed in Chapter 11, aims to provide 4.95 crore pucca houses with basic amenities to houseless households and those living in kutchra or dilapidated dwellings by 2029, through convergence with other national schemes (Ministry of Rural Development, Government of India, Department of Rural Development Year Ender 2025, 2025, as cited in Press Information Bureau, 2025). Following an initial target of 2.95 crore houses by March 2024, the Union Cabinet approved an extension on August 9, 2024, adding a further 2 crore rural houses to be constructed across fiscal years 2024-25 through 2028-29, bringing the cumulative national target to 4.14 crore houses as of December 9, 2025, of which 3.86 crore had been sanctioned and 2.92 crore completed nationally (Ministry of Rural Development, Government of India, Department of Rural Development Year Ender 2025, 2025, as cited in Press Information Bureau, 2025). As of October 2024, a national backlog of 1,46,54,267 pending houses remained across the country, comprising 62,54,267 from the original Socio Economic Caste Census 2011 Permanent Wait List and approximately 84 lakh from the subsequent Awaas Plus 2018 survey list, a backlog the Parliamentary Standing Committee on Rural Development and Panchayati Raj expressed serious concern over in its 2024-25 review, while noting the Committee's recommendation to expand the extended phase target from 2 crore to 3.46 crore houses had not been accepted by the Ministry (Standing Committee on Rural Development and Panchayati Raj, 2024-25 Report, 2025, as cited in Down To Earth, 2025). Unit assistance under the scheme stands at Rs 1.20 lakh in plain areas, a rate applicable to Jharkhand given the state is not classified among the Hill States or North Eastern States that receive the higher Rs 1.30 lakh rate, with the Standing Committee separately urging the Department of Rural Development to address delays and consider a per-unit assistance increase (Standing Committee on Rural Development and Panchayati Raj, 2024-25 Report, 2025, as cited in Down To Earth, 2025). This framework was unable to source a Jharkhand-specific breakdown of sanctioned, completed, and pending PMAY-Gramin houses from these national aggregate figures, and recommends the state Rural Development Department publish current, district disaggregated implementation data.

12.4 Livelihood Promotion: SHGs, Cooperatives and Rural Enterprise

Rural livelihood promotion in Jharkhand operates under the national Deendayal Antyodaya Yojana-National Rural Livelihoods Mission architecture, which nationally has mobilized 10.05 crore women into self-help groups, with a specific "Lakshpati Didi" initiative targeting self-help group members who achieve sustainable annual household income above Rs 1 lakh, aligned with the Prime Minister's broader Viksit Bharat 2047 development vision discussed further in Chapter 21 (Ministry of Rural Development, Government of India, State

Performance Report, 2025). Skill development and rural enterprise support relevant to Jharkhand's livelihood promotion strategy is further channeled through the Rural Self Employment Training Institute network, comprising 625 institutes across 27 states and union territories and 612 districts nationally, which has trained 59 lakh rural youth and reports 43 lakh settled through self or wage employment, with 70 courses offered including sector specific training aligned to local economic needs and special provisions for women, Scheduled Caste and Scheduled Tribe candidates, persons with disabilities, self-help group members, and minorities (Ministry of Rural Development, Government of India, Department of Rural Development Year End Report 2024-25, 2025, as cited in Press Information Bureau, 2025). Given Jharkhand's substantial Scheduled Tribe population and rural economic structure documented throughout this framework, this Rural Self Employment Training Institute network, alongside the state's own Chief Minister's Employment Generation Programme discussed in Chapter 7, represents a significant, if not fully quantified at state level in available sources, complementary livelihood promotion architecture operating across both central and state government channels.

12.5 Rural Infrastructure: PMGSY, Connectivity and Market Linkages

Rural road connectivity in Jharkhand under the Pradhan Mantri Gram Sadak Yojana, discussed in Chapter 8, forms a critical enabling layer for the livelihood promotion and housing schemes discussed elsewhere in this chapter, since market access, self-help group product distribution, and construction material delivery for PMAY-Gramin housing all depend directly on functioning rural road infrastructure. Nationally, the current phase of the programme, PMGSY-III, running through March 2025, has sanctioned a total of 1,21,910 kilometers of road length, with the scheme's funding mechanism releasing funds to states as an advance against the value of sanctioned projects rather than through direct benefit transfer, meaning some programme funds will always remain with states pending project completion (Ministry of Rural Development, Government of India, State Performance Report, 2025; Standing Committee on Rural Development and Panchayati Raj, 2024-25 Report, 2025, as cited in Down To Earth, 2025). The Standing Committee's 2024-25 review specifically identified difficult terrain and law and order issues in areas affected by left wing extremism, along with logistics and input supply challenges, as recurring causes of implementation delay for rural infrastructure schemes including PMGSY, factors of direct relevance to Jharkhand given the historical left wing extremism concerns in parts of Palamu and Santhal Pargana divisions noted in Chapter 4's investment climate discussion (Standing Committee on Rural Development and Panchayati Raj, 2024-25 Report, 2025, as cited in Down To Earth, 2025).

12.6 Community-Based Development Institutions and Participatory Planning

The transition to the VB-G RAM G Act discussed in section 12.2 introduces a structurally more participatory planning architecture for rural infrastructure and livelihood works than the legacy MGNREGA framework. Under the new Act, Gram Panchayats prepare Viksit Gram Panchayat Plans through the Gram Sabha, ensuring that development priorities emerge from the community itself, with these plans subsequently consolidated into a Viksit Bharat

National Rural Infrastructure Stack at the district and state level, organized around thematic domains including water security and core rural infrastructure (Ministry of Rural Development, Government of India, Department of Rural Development Year Ender 2025, 2025, as cited in Press Information Bureau, 2025). This decentralised, bottom-up planning architecture, combined with the PESA-Gram Panchayat Development Plan Portal discussed in section 12.1, positions Jharkhand's community-based rural development institutions to potentially achieve considerably greater alignment between centrally funded schemes and locally identified priorities than was possible under the more centrally administered legacy programme architecture, provided the state's own PESA Rules finalization and gram sabha institutional strengthening, discussed in section 12.1, proceed in tandem with this national planning reform, a convergence this framework identifies as the central institutional test for Jharkhand's rural development and decentralised governance system over the remainder of the 2020s.

Chapter 13: Environment and Natural Resource Governance

13.1 Forest Cover, Biodiversity and Wildlife Conservation

Jharkhand's forest cover, recorded at approximately 23,721 square kilometers, or 29.76 percent of the state's geographical area, in the India State of Forest Report 2023, was established in Chapter 1 of this framework (Forest Survey of India, 2023). This aggregate figure, however, masks pronounced sub-regional forest loss concentrated in the state's mining belts. Research on the Damodar Valley coalfield found that forest cover in the coalfield area, once as high as 65 percent, had declined to approximately 0.05 percent, an almost complete loss attributable to more than a century of concentrated coal mining activity in the region (South Asia Citizens Web, Impact of Mining and Industries in Jharkhand, historical fact-finding compilation). In the Singhbhum iron ore belt, historical Forest Survey of India assessments found approximately 7,900 hectares of dense forest lost in East and West Singhbhum districts between 2001 and 2003 alone, following an earlier loss of about 3,200 hectares in the Singhbhum region between 1997 and 1999 (South Asia Citizens Web, Impact of Mining and Industries in Jharkhand, historical fact-finding compilation). Cumulatively, more than 9,000 hectares of forest land were diverted for mining in Jharkhand between 1985 and 2004 according to Union Ministry of Environment and Forests data, representing approximately 10 percent of all forest land diverted for mining nationally during that period, a figure that excludes the substantial additional diversion attributable to the coal mining sector specifically (Conference on Environmental Issues and Climate Change, citing Centre for Science and Environment analysis, historical compilation). More recently, between 2022 and 2023, the central government approved the transfer of 305,000 hectares of forest land nationally for non-forest use across 17,301 projects, a national figure of direct relevance to Jharkhand given the state's continued reliance on forest land diversion for mining expansion documented throughout this framework, and one journalistic investigation specifically noted that no reliable consolidated data exists on the total area currently under mining in Jharkhand, a gap attributable in part to the scale of unregulated and illegal mining activity in the state (Outlook India, The Dark Earth: How Unchecked Mining Is Uprooting Lives In Jharkhand, 2024).

Jharkhand's most ecologically significant forest tract, the Saranda forest in West Singhbhum district, is described in historical conservation literature as having once been so dense that sunlight could not penetrate its canopy, hosting Asia's largest sal forests and serving as an important elephant habitat, though it too faces continued degradation pressure from both legal and illegal iron ore mining (South Asia Citizens Web, Impact of Mining and Industries in Jharkhand, historical fact-finding compilation). Protected areas discussed in Chapter 1, including the Palamu Tiger Reserve and Betla National Park, continue to face the compounded pressures of human-wildlife conflict, encroachment, and the cumulative ecological footprint of surrounding mining and infrastructure development documented throughout this chapter.

13.2 Land Use Change, Soil Degradation and Land Resource Management

Land use change in Jharkhand's mining regions has produced what field researchers and affected communities describe as "wasteland" landscapes, with rampant mining activity, both legal and unregulated, converting substantial forested and agricultural tracts into degraded, non-productive land (Conference on Environmental Issues and Climate Change, citing Union Ministry of Environment and Forests data, historical compilation). A remote sensing study of opencast stone mining impacts in the Rajmahal Hills of Jharkhand, using Landsat satellite data spanning 2000 to 2020, quantified measurable losses in Gross Primary Productivity, Net Primary Productivity, and vegetation transpiration directly attributable to mining-induced vegetation loss over the two decade study period, providing empirical confirmation of the carbon sequestration and ecological productivity costs of the state's stone quarrying activity specifically, distinct from its coal and iron ore mining impacts discussed elsewhere in this chapter (Sustainability journal, Evaluating Impacts of Opencast Stone Mining on Vegetation, Central University of Jharkhand research, 2023).

Soil degradation associated with mining activity compounds the underlying constraints on Jharkhand's agricultural productivity discussed in Chapter 3, where the state's plateau topography already limits assured irrigation. The Jharkhand government's own natural resource management assessment acknowledges deforestation and soil erosion linked to mining and industrial activity as an ongoing sustainable management challenge, and identifies the Compensatory Afforestation Fund Management and Planning Authority, or CAMPA, as the principal institutional mechanism through which forest land diverted for mining is meant to be offset through afforestation elsewhere, alongside resettlement and rehabilitation programmes for displaced communities (Jharkhand PCS Notes, Natural Resources in Jharkhand, 2024).

13.3 Water Bodies, Wetlands and River Ecosystem Health

The Damodar and Subarnarekha river systems, introduced in Chapter 1 as central to the state's industrial water supply, have suffered severe and well documented pollution degradation directly linked to mining and industrial activity. The Damodar has been described in environmental assessments as among the most polluted rivers in India, receiving an estimated 130 million litres of industrial effluent and 65 million litres of untreated domestic wastewater daily, with the river classified as heavily polluted, rendering its water unsafe for direct drinking or bathing use (South Asia Citizens Web, Impact of Mining and Industries in Jharkhand, historical fact-finding compilation; Academia.edu, Effects of Mining on Environment in the State of Jharkhand, 2017). A water quality index assessment of the Damodar River and its tributaries and sub-tributaries specifically within the Dhanbad coal mining district found that only 20 percent of sampled sites recorded good water quality, while 46.7 percent were rated bad, 26.7 percent very bad, and 6.7 percent totally unfit, based on physicochemical parameters including total dissolved solids, electrical conductivity, chloride, sulfate, zinc, and iron concentrations, with the assessment concluding that the river's tributaries and sub-tributaries generally require treatment before any domestic use

(Sustainable Water Resources Management journal, Water-quality assessment of Damodar River, 2019, republished analysis).

Acid mine drainage, liquid effluent from coal handling plants and colliery workshops, and suspended solids from coal washeries have been identified as primary sources of this water pollution, compounded by continuous dewatering of underground mines, which pump millions of litres of water out of mine galleries into nearby watercourses, causing localized flooding, silting, and waterlogging while simultaneously depressing the surrounding water table and reducing available groundwater in adjacent villages (South Asia Citizens Web, Impact of Mining and Industries in Jharkhand, historical fact-finding compilation). This dynamic connects directly to the Jal Jeevan Mission groundwater dependence challenges documented in Chapter 10, where rural drinking water schemes reliant on groundwater in mining affected districts face a compounding resource depletion risk from industrial dewatering. Regulatory response has included National Green Tribunal directed remediation measures; a compliance report submitted by the Ramgarh district administration in June 2024 documented the screening of drains along the Damodar's banks to prevent solid waste entry, alongside construction of two sewage treatment plants at Sugiadih, with a capacity of 19 million litres per day, and at Gobardaha, with a capacity of 23 million litres per day, though such remediation efforts remain localized relative to the scale of pollution documented across the river's broader industrial catchment (National Green Tribunal compliance filing, Ramgarh district administration, June 2024, as cited in Down To Earth, 2024).

13.4 Mining and Mineral Resource Governance

Jharkhand's mineral resource governance, discussed in its fiscal and industrial dimensions in Chapters 2 and 4, faces persistent challenges from illegal and unregulated mining activity that operates alongside the state's substantial formal mining sector. Journalistic investigation has documented that a large reason for the absence of reliable data on the total area under mining in Jharkhand is precisely the scale of illegal mining operating outside formal survey and licensing records (Outlook India, The Dark Earth, 2024). Estimated displacement impacts from mining, both legal and illegal, have disproportionately affected Jharkhand's tribal population; research citing Indian Council of Social Science Research data found that approximately 1.5 million people were displaced nationally by mining and other development projects between 1951 and 1995, with Jharkhand specific estimates suggesting that 55 percent of people displaced by mining within the state are tribal, a figure consistent with the state's demographic profile and forest-dependent tribal livelihood patterns documented in Chapters 1 and 7 (Conference on Environmental Issues and Climate Change, citing Centre for Science and Environment analysis, historical compilation).

Health impacts documented in mining-affected communities include elevated incidence of respiratory disease, skin disease, and cancer in areas such as Saranda, and specifically at the Jaduguda uranium mining site in East Singhbhum district, introduced in Chapter 1, where radioactive waste exposure over five decades has been linked in research findings to elevated rates of infertility, cancer, disability, and respiratory illness among approximately 9,000 people in surrounding villages (Outlook India, The Dark Earth, 2024). A National Foundation

for India research report examining Odisha, Chhattisgarh, and Jharkhand, including a survey conducted in Ramgarh district, found evidence that long-term exposure to coal mining pollutants has contributed to large-scale respiratory and skin disease incidence among affected populations (Outlook India, The Dark Earth, 2024, citing National Foundation for India research). Given the scale of these documented public health and displacement impacts, this framework identifies strengthened enforcement against illegal mining, more rigorous and transparent land diversion tracking, and expanded epidemiological surveillance in mining-affected districts, connecting to the health system strengthening priorities discussed in Chapter 6, as urgent governance priorities for the state's mineral resource management framework.

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

Air pollution in Jharkhand's mining regions arises principally from mineral dust generated by wind action over waste heaps, blasting operations, and heavy machinery use, alongside noxious fumes released during blasting, with affected mining areas taking on a visibly monochromatic character reflecting the specific mineral extracted, black in coal mining zones, red in iron ore towns, and chalky white in limestone mining areas, according to a Centre for Science and Environment citizen's report on the sector (Impact of Mining and Industries in Jharkhand Fact Finding Report, historical compilation). This pervasive dust has been linked to elevated rates of respiratory disease and eye ailments among residents of mining areas, consistent with the health findings discussed in section 13.4. Water and soil pollution dynamics associated with mining have been discussed extensively in sections 13.3 and 13.4; noise pollution associated with blasting and heavy machinery operation, while less extensively documented in the sources available for this chapter, represents a further, less quantified dimension of the cumulative environmental burden borne by communities in the state's mining belts.

Regulatory response to this pollution burden operates through the Jharkhand State Pollution Control Board and, in specific instances, through National Green Tribunal enforcement action, as documented for the Damodar River remediation measures discussed in section 13.3. This framework was unable to source a current, consolidated state-wide air and water quality monitoring dataset for Jharkhand's mining districts with sufficient specificity for detailed inclusion here, and recommends that the Jharkhand State Pollution Control Board publish a current, district disaggregated ambient air and water quality status report, given how directly this data bears on both the public health priorities discussed in Chapter 6 and the environmental governance accountability themes this framework returns to in Chapter 21.

13.6 Coastal and Marine Resource Management (where applicable)

Jharkhand is a landlocked state, as established in Chapter 8's discussion of the state's port and logistics constraints, and therefore does not possess coastal or marine resources requiring dedicated management within this framework's scope.

Chapter 14: Climate Change and Ecological Security

14.1 State Climate Vulnerability and Risk Profile

Jharkhand's climate vulnerability is shaped by a combination of rainfall variability, temperature rise, and structural exposure linked to its topography and forest dependency, discussed in Chapter 1. The state's long period average annual rainfall stands at approximately 1,158 millimeters according to India Meteorological Department subdivision normals, though this varies considerably across districts, ranging from below 900 millimeters in drought-prone Palamu district to over 1,480 millimeters in East Singhbhum, while mean annual maximum temperature at the Ranchi reference station stands at approximately 31.0 degrees Celsius, with pre-monsoon maxima routinely exceeding 37 to 38 degrees Celsius in the state's western districts (India Meteorological Department, 2024; NASA POWER, 2024, as cited in Jetir journal, Climate-Driven Forest Fire Escalation and Policy analysis, 2025). India as a whole ranks ninth among countries most affected by climate change between 1995 and 2024 according to the Climate Risk Index 2026, with more than 75 percent of Indian districts facing high exposure to climate risks including floods, droughts, cyclones, and heatwaves, a national exposure profile within which Jharkhand's own drought and forest fire vulnerabilities, discussed below, place it among the more consistently affected states (MicroSave Consulting, Strengthening District-Level Climate Adaptation Planning in Jharkhand and Odisha, 2026).

Jharkhand's forest dependency compounds this climate exposure. A joint survey by the Indian School of Business and the Jharkhand Forest Rights Forum found that more than one crore people in Jharkhand are directly or indirectly dependent on forests for their livelihoods, a population for whom climate-driven forest degradation represents a direct economic and subsistence threat rather than an abstract environmental concern (Indian School of Business and Jharkhand Forest Rights Forum joint survey, as cited in Jetir journal, 2025). The Palamu division, comprising Palamu, Garhwa, Latehar, and Chatra districts, is consistently identified in climate vulnerability research as the state's most fire and drought vulnerable sub-region, characterized by annual rainfall below 1,000 millimeters, mean maximum temperatures exceeding 34 degrees Celsius during the fire season, and more than four consecutive dry days during monsoon months, a vulnerability profile consistent with this division's identification among Jharkhand's Aspirational Districts in Chapter 1 (Ahmad and Goparaju, 2017; Tirkey et al., 2017, as cited in Jetir journal, 2025).

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

Jharkhand's State Action Plan on Climate Change was first officially published in 2014 by the state's Department of Forest, Environment and Climate Change, addressing climate related challenges specific to the state's mineral rich economy, and was developed under the umbrella guidance of India's National Action Plan on Climate Change (Government of Jharkhand, Jharkhand State Action Plan on Climate Change, 2014, as cited in Testbook, 2026; LearnPro

Editorial, Jharkhand's State Action Plan on Climate Change, 2026). An independent policy analysis of the plan identified several structural implementation challenges, including a lack of specificity in implementation strategies and timelines that has led to ambiguity in execution, insufficient training and resource allocation for local bodies tasked with implementing climate initiatives, and structural socio-economic vulnerabilities, including continued reliance on traditional agricultural practices, that compound the state's climate exposure (LearnPro Editorial, 2026).

A revised iteration of the plan, referenced in recent policy analysis as under development around 2026, has been reported to place particular emphasis on decarbonizing the state's mining sector, the single largest source of greenhouse gas emissions within Jharkhand given the industrial structure documented in Chapters 3, 4, and 13, through adoption of cleaner extraction technologies, renewable energy integration into mining operations, and a "Just Transition" framework intended to protect the livelihoods of workers and communities dependent on mining activity as the sector decarbonizes, an approach explicitly designed to align the state's development trajectory with India's Nationally Determined Contributions under the Paris Agreement (Testbook, The Jharkhand Action Plan on Climate Change, 2026). This framework treats the Just Transition framing as a particularly significant policy development given the scale of mining-dependent employment and the tribal displacement patterns documented in Chapter 13, since a credible Just Transition strategy would need to address not only formal sector mining employment but also the informal and often illegal mining livelihoods that a substantial share of the state's mining-adjacent population currently depends upon.

14.3 Disaster Risk Profile: Hazard, Exposure and Vulnerability Mapping

Jharkhand's principal recurring natural hazards include drought, forest fire, flooding, and extreme heat, alongside lower-frequency exposure to earthquakes and severe thunderstorms, as documented in the state's disaster management planning framework (Jharkhand State Disaster Management Authority, as cited in Testbook, Jharkhand Disaster Management Plan, 2021). Drought represents the most historically significant recurring hazard; Jharkhand experienced 15 droughts over a 23 year period according to journalistic analysis drawing on state meteorological data, with experts attributing the frequency of these events in part to the cumulative ecological disruption caused by mining and deforestation documented in Chapter 13, alongside broader climate change dynamics (Outlook India, The Dark Earth, 2024). The state's monsoon onset has itself measurably shifted, with meteorological department data showing the monsoon historically arriving between June 5 and 10 during the 1961 to 2010 period but shifting to a June 10 to 15 arrival window during the 1971 to 2020 period, a shift with direct implications for the agricultural planning discussed in Chapter 3 (Outlook India, The Dark Earth, 2024, citing state weather department data).

A particularly severe historical drought episode occurred in 2010, when the state recorded a rainfall deficit of 47 percent, resulting in food production falling by more than 50 percent, an event the state's own climate and health planning documentation identifies as having created acute malnutrition risk given that, at the time of that assessment, 54 percent of children under

age three in the state were underweight and 49 percent were stunted (Government of Jharkhand, Departments of Health and Family Welfare, Environment, Disaster Management Authority, and Meteorological Department, Jharkhand Strategic Action Plan for Climate Change and Human Health, 2024). This historical episode illustrates directly the connection between the state's drought vulnerability discussed in this chapter and the severe child undernutrition burden documented in Chapter 6, reinforcing this framework's broader finding that Jharkhand's environmental, agricultural, and health vulnerabilities function as an interlocking system rather than as separable policy domains.

Forest fire risk has emerged as an increasingly well documented and climate-linked hazard specific to Jharkhand. A systematic twenty-four year analysis of climate and fire incidence data found that forest fire escalation in the state is substantially driven by climate change, specifically by declining pre-monsoon rainfall, rising temperatures, and increasing heatwave frequency, with the years 2002, 2009, 2015, and 2023, each characterized by severe drought conditions and anomalously high temperatures, recording fire incident counts 2.5 times or more above baseline levels (Jetir journal, Climate-Driven Forest Fire Escalation and Policy analysis, 2025). Jharkhand's predominant tropical dry deciduous forest type falls within a nationally identified high fire risk category, and is estimated to account for approximately 50 percent of India's forest fire related carbon dioxide emissions annually, with the Forest Survey of India's 2021 State of Forest Report documenting substantial post-fire carbon stock losses and vegetation index declines in fire-affected areas of the state (Singh et al., 2023, as cited in Jetir journal, 2025).

14.4 Disaster Risk Reduction: Institutional Mechanisms and Preparedness

Disaster management in Jharkhand operates under the institutional architecture established by the national Disaster Management Act of 2005, which mandates the creation of State and District Disaster Management Authorities operating under the policy guidance of the National Disaster Management Authority, chaired by the Prime Minister of India (National Disaster Management Authority, 2026). The Jharkhand State Disaster Management Authority's stated objectives are twofold: developing and updating plans and strategies to handle disaster events, and undertaking projects for restoration and strengthening of infrastructure damaged by disasters, operating according to the national strategy's emphasis on a technology-driven, proactive, multi-hazard, and multi-sectoral approach (Jharkhand State Disaster Management Authority, as cited in Testbook, 2021; National Disaster Management Authority, Jharkhand State Disaster Management Plan 2018-19, 2019).

Notwithstanding this formal institutional architecture, current research on forest fire management specifically has identified significant coordination gaps among the multiple agencies with overlapping disaster response roles, including the Forest Department, Tribal Affairs Department, State Disaster Response Force, and Jharkhand Space Application Centre, with operational coordination among these agencies during fire emergencies characterized as inadequate. The research recommends establishing a State Forest Fire Management Coordination Cell, chaired at the level of the Chief Secretary and meeting quarterly, to provide the institutional architecture needed for effective multi-agency response (Jetir

journal, Climate-Driven Forest Fire Escalation and Policy analysis, 2025). More broadly, district level climate adaptation planning in Jharkhand, alongside neighboring Odisha, has been identified by independent development consultancy analysis as constrained and fragmented due to limited evidence and a lack of granular, district-specific data, with public budgets alone assessed as insufficient to cover the rapidly growing costs of climate adaptation nationally, projected to reach 1 trillion US dollars by 2030, and with coordination between state disaster management institutions and the private sector remaining limited (MicroSave Consulting, Strengthening District-Level Climate Adaptation Planning in Jharkhand and Odisha, 2026).

14.5 Post-Disaster Response, Relief and Reconstruction Framework

Jharkhand's post-disaster response and reconstruction framework operates under the same State Disaster Management Authority architecture discussed in section 14.4, with the Authority's restoration and infrastructure strengthening mandate covering the physical reconstruction phase following drought, flood, or fire events. This framework was unable to source a current, quantified assessment of relief fund disbursement timeliness, reconstruction project completion rates, or the effectiveness of drought relief and crop compensation mechanisms specific to Jharkhand's farming households with sufficient confidence for detailed treatment here, and recommends that the State Disaster Management Authority publish a consolidated annual post-disaster response and reconstruction performance report, given how directly this data bears on the agricultural resilience themes discussed in Chapter 3 and the rural livelihood security themes discussed in Chapter 12.

14.6 Green Economy Transition: Opportunities and Structural Challenges

Jharkhand's green economy transition is most directly framed, as discussed in section 14.2, around the Just Transition concept applied to its mining and coal dependent economy, alongside the renewable energy expansion documented in Chapter 9, where the state's renewable generation share rose from 2.06 percent in 2018 to 11.84 percent in 2023, still well short of its regulatory targets. The state government's stated policy focus areas for green economic transition include continued promotion of solar and wind renewable energy projects to reduce fossil fuel dependence, water resource management through rainwater harvesting and watershed management particularly in drought-prone areas, and broader climate resilience adaptation addressing extreme weather events, soil erosion, and declining water resources (Testbook, The Jharkhand Action Plan on Climate Change, 2026).

The structural challenge underlying this green transition, as this chapter's review has documented throughout, is that Jharkhand's economic structure, discussed in Chapters 3 and 4, remains more heavily weighted toward mining and heavy industry than almost any other Indian state, meaning the pace and social equity of the state's green transition will depend disproportionately on how effectively the Just Transition framework discussed in section 14.2 can be operationalized for a mining dependent workforce and tribal population whose livelihoods, as documented in Chapter 13, are already substantially disrupted by the very extractive activity the transition seeks to decarbonize. This framework identifies the

successful integration of climate adaptation planning, discussed in this chapter, with the industrial diversification priorities discussed in Chapter 4 and the rural livelihood security priorities discussed in Chapter 12, as the central strategic challenge Jharkhand's green economy transition must resolve over the period covered by this framework's Vision 2047 horizon, addressed further in Chapter 21.

Chapter 15: Administrative Governance Reform

15.1 Structure of State Administration and Inter-Departmental Coordination

Jharkhand's state administration operates through the standard Indian state government structure, headed by a Council of Ministers under the Chief Minister and supported by a cadre of Indian Administrative Service, Indian Police Service, and state civil service officers administering the departments discussed throughout this framework, including Finance, discussed in Chapter 2, Industries, discussed in Chapter 4, Health and Family Welfare, discussed in Chapter 6, and Rural Development, Rural Works and Panchayati Raj, discussed in Chapter 12, among others. Inter-departmental coordination challenges recur as a theme across several chapters of this framework, most notably in Chapter 14's finding that coordination among the Forest Department, Tribal Affairs Department, State Disaster Response Force, and Jharkhand Space Application Centre during forest fire emergencies remains inadequate, a finding illustrative of a broader pattern in which Jharkhand's departmental structure, while formally comprehensive, does not always translate into effective cross-departmental operational coordination on issues that inherently span multiple agency mandates.

A further governance concern documented in recent reporting concerns the effective utilization of District Mineral Foundation Trust, or DMFT, funds, a mechanism established nationally to channel a share of mining royalty revenue toward the welfare and development of communities affected by mining, discussed in the broader mining revenue context of Chapters 2 and 4. Opposition leader Babulal Marandi has publicly raised concerns regarding Chaibasa DMFT funds, alleging that approximately Rs 3,742 crore has been spent with no corresponding development outcomes visible on the ground, a claim indicative of the accountability and expenditure quality concerns that can arise even where mineral revenue earmarking mechanisms are formally well designed (Babulal Marandi, as cited in *The Jharkhand Story*, 2026). This framework was unable to independently verify the specifics of this claim, and notes it here as a documented public governance concern requiring formal audit and investigation rather than as an established fact, consistent with this framework's general practice of not adjudicating contested political claims.

15.2 Anti-Corruption Framework: Lokayukta, Vigilance and Enforcement

This framework was unable to source a current, detailed assessment of the operational status, case disposal rate, or institutional capacity of Jharkhand's Lokayukta or state Vigilance Department with sufficient reliability for inclusion here. Given the significance of anti-corruption institutions to the broader governance quality themes discussed throughout this framework, particularly in light of the DMFT fund utilization concerns noted in section 15.1, this framework identifies a current, detailed assessment of Jharkhand's Lokayukta appointment status, case backlog, and enforcement outcomes as a specific and consequential data gap, and recommends that the state Department of Personnel, Administrative Reforms

and Rajbhasha, which typically oversees Lokayukta administrative matters in Indian states, publish a current status report to support more complete future editions of this framework.

15.3 Legal and Judicial Administration: Pendency, Access and Reform

The Jharkhand High Court, headquartered in Ranchi, has taken an active oversight role on certain administrative matters relevant to this framework's broader governance themes; in recent proceedings, the High Court pulled up District Collectors for delaying bank recovery cases and issued statewide directions intended to address these delays, an intervention indicative of the judiciary's role in prompting administrative accountability beyond its core adjudicative function (Jharkhand High Court, as cited in *The Jharkhand Story*, 2026). This framework was unable to source a current, quantified assessment of case pendency rates across Jharkhand's District and High Court system, or of specific access to justice indicators such as average case disposal time or per capita judicial officer availability, with sufficient reliability for detailed treatment here, and recommends that the Jharkhand High Court's registry or the state Law Department publish a current judicial pendency and access to justice status report, given the relevance of this data to the broader rule of law and investment climate themes discussed in Chapter 4.

15.4 Police Modernisation and Internal Security Management

Jharkhand's internal security landscape has undergone a substantial and well documented transformation over the state's twenty-five years of existence, centered on the decline of Left Wing Extremism, or Naxalism, which posed one of the state's most serious governance and security challenges from its formation in 2000. At the time of Jharkhand's creation, eight districts were classified as Naxal-affected, a figure that more than doubled in subsequent years before beginning a sustained decline (ETV Bharat, *Jharkhand Continues Its Long-Sustained Battle Against Naxalism*, 2025). Nationally, the number of Left Wing Extremism affected districts fell from 126 in 2013 to 38 in 2024, with Jharkhand, alongside Bihar, Odisha, Andhra Pradesh, and Madhya Pradesh, now assessed as largely free of Naxalism, and the Union Home Minister stating in August 2024 that Maoism would be eliminated from Indian soil by the end of March 2026 (NEXT IAS Current Affairs, *Elimination of Left Wing Extremism*, 2025). Within Jharkhand specifically, only Chaibasa remained highly Naxal-affected as of late 2025, according to Home Ministry sources, while Latehar, Gumla, and Lohardaga districts had been downgraded to mild or semi-Naxal status, with the Saranda forest area of West Singhbhum, introduced in Chapters 1 and 13, remaining the sole location with a significant residual Naxalite presence (ETV Bharat, 2025).

The human cost of this two and a half decade counter-insurgency campaign has been substantial. Since the state's formation in 2000, more than 562 security personnel, combining central and state cadre, have lost their lives in anti-Naxal operations, alongside 1,925 civilians killed in extremist violence, while security forces killed 235 Naxalites in police encounters between 2000 and 2025 out of 999 total Naxalite deaths recorded over that period, the remainder attributable to internal rivalry or clashes with villagers (ETV Bharat, 2025). More than 10,000 Naxalites have been arrested in the state over the same twenty-five year period,

and 6,300 incidents of Naxal violence have been recorded since the state's formation, with violence peaking in 2009 at 512 recorded incidents (ETV Bharat, 2025). Progress accelerated markedly from 2018 onward; in 2025 alone, 34 Naxalites were killed in encounters, 370 were arrested, and 30 surrendered, and as of the most recent assessment only three Naxalites carrying a bounty of Rs 1 crore each remained at large, all active in the Saranda and Kolhan region (ETV Bharat, 2025).

Institutional and operational innovation has underpinned this progress. Jharkhand Jaguar, an elite anti-Naxal police unit, was established in 2008 specifically to counter Left Wing Extremism in the state (Drishti IAS, Final Phase of Anti-Naxal Operations in Jharkhand, 2026). Beyond kinetic operations, the state's counter-insurgency strategy has incorporated communication and trust-building measures, including cultural outreach campaigns such as the street play "Phir Ek Nayee Subah Hogee" and the film "Pratyavartan," designed to discourage youth from joining extremist movements, alongside intelligence-based operations and rehabilitation programmes for surrendered cadres, which together enabled security forces to reclaim previously inaccessible areas including Jhumra Pahar, Prasanth Hills, Saranda, and Burha Pahar (Daily Pioneer, Jharkhand: A story of resilience and renewal, 2025). District level operational innovation has continued into 2026, with Latehar Police credited with a "pathbreaking counter-insurgency model" combining direct encounter operations with capture-alive strategies, illustrated by the arrest of a senior Naxalite figure who was apprehended alive despite possessing an AK-56 rifle, an automatic pistol, and more than 200 rounds of live ammunition, allowing full recovery of weapons alongside the arrest (The Jharkhand Story, Latehar police's tactical demolition of Naxal networks, 2026).

Police modernisation funding for Left Wing Extremism affected districts nationally, including those in Jharkhand, is channeled through the Special Infrastructure Scheme, approved in 2017 as a sub-scheme of the umbrella Modernization of Police Forces programme, alongside the Security Related Expenditure Scheme, with the central government reimbursing costs related to security operations, training, ex-gratia payments, and rehabilitation of surrendered Naxalites in affected districts including Latehar and West Singhbhum (Drishti IAS, 2026; Drishti IAS, Left Wing Extremism, 2025). Nationally, 17,589 kilometers of roads have been sanctioned under road connectivity schemes for Left Wing Extremism affected areas, of which 14,618 kilometers had been constructed as of the most recent assessment, alongside a planned 10,505 mobile towers, of which 7,768 had been commissioned, with the entire Naxal-affected region targeted for full mobile connectivity by December 1, 2025, infrastructure investments directly relevant to Jharkhand's Palamu and Santhal Pargana divisions discussed throughout this framework as historically underserved by connectivity infrastructure (Left Wing Extremism, InclusiveIAS, 2025).

15.5 Regulatory Governance: Quality, Consistency and Independence

Jharkhand's sector-specific regulatory bodies, including the Jharkhand State Electricity Regulatory Commission discussed in Chapter 9 and the Jharkhand Public Service Commission discussed in section 15.7 of this chapter, represent the state's principal formal regulatory governance architecture. The Supreme Court of India's recent ruling that states can

revise mining royalty even where a lease deed is silent on the matter, with rules under the Mines and Minerals (Development and Regulation) Act taking precedence, is of direct relevance to Jharkhand's mineral revenue regulatory framework discussed in Chapters 2 and 4, potentially strengthening the state's capacity to adjust royalty terms in its favor going forward (Supreme Court of India, as cited in *The Jharkhand Story*, 2026). This framework was unable to source a broader, consolidated assessment of regulatory governance quality and consistency across Jharkhand's other sector regulators with sufficient specificity for detailed treatment here.

15.6 Reduction of Red-tapism: Simplification and Way Forward

Jharkhand's principal red-tapism reduction initiative remains the Single Window Clearance framework discussed extensively in Chapter 4, established under the Jharkhand Single Window Clearance Act of 2015 and operationalized through a dedicated web portal administered by the Jharkhand Industrial Infrastructure Development Corporation. This framework's earlier assessment in Chapter 4, that formal reform architecture has advanced considerably while independent policy analysis continues to identify residual bureaucratic inertia and inconsistent implementation as investor concerns, applies equally to this chapter's broader administrative simplification theme, and this framework does not repeat that analysis here beyond noting its direct relevance to the state's overall administrative governance reform trajectory.

15.7 Civil Service Strength: Vacancy Rates and Training Institutions

Civil service recruitment in Jharkhand is administered principally through the Jharkhand Public Service Commission, established under Article 315 of the Constitution of India, which conducts competitive examinations and interviews for state government post selection, and the Jharkhand Staff Selection Commission, which handles recruitment for a range of subordinate and technical positions (Jharkhand Public Service Commission, 2026). As of mid-2026, the Commission's active recruitment cycle included the Jharkhand Combined Civil Services Examination 2025, alongside backlog recruitment drives for the 2023 examination cycle, indicating a persistent pattern of recruitment cycles running behind their nominal examination year, consistent with the broader teacher vacancy patterns documented in Chapter 5's education discussion, where the state recorded nearly 100,000 teaching post vacancies (Jharkhand Public Service Commission, 2026). Separately, the Jharkhand Staff Selection Commission issued a notification for 4,919 police recruitment posts, reflecting an active, if not fully quantified against total sanctioned strength, ongoing effort to address police staffing needs relevant to the internal security priorities discussed in section 15.4 (Jharnet, Jharkhand Police Vacancy, 2026).

This framework was unable to source a consolidated, current civil service vacancy rate across all state cadres and departments, comparable in specificity to the education sector vacancy data available in Chapter 5, and recommends that the state's Department of Personnel, Administrative Reforms and Rajbhasha publish a consolidated annual civil service staffing status report covering sanctioned strength, filled positions, and vacancy rates by department

and cadre, since this data is foundational to assessing whether Jharkhand's administrative governance reform ambitions, discussed throughout this chapter, are backed by adequate human resource capacity for implementation.

Chapter 16: Technology-Enabled Service Delivery

16.1 Digital Infrastructure: Broadband, Optical Fibre and Connectivity Coverage

Jharkhand's rural broadband infrastructure is being extended through the national BharatNet project, one of the world's largest rural telecommunications initiatives, aimed at connecting all Gram Panchayats to high-speed broadband. In its earlier implementation phase, BharatNet's Optical Fibre Cable rollout was completed in 1,306 of Jharkhand's then 1,417 Gram Panchayats, with Bharat Broadband Network Limited providing connectivity across seven districts, Ranchi, Ramgarh, Hazaribagh, Koderma, Bokaro, Deoghar, and Sahibganj, in the project's first phase, while Phase 1+ extended to Dhanbad, East Singhbhum, Giridih, Latehar, Lohardaga, and Palamu, with the remaining eleven districts covered under Phase II (Government of Jharkhand, Department of Information Technology, Write-up on Information Technology and e-Governance, historical compilation). For Phase II implementation, the state established a dedicated special purpose vehicle, Jharkhand Communication Network Limited, with the Department of Telecommunications approving Rs 420 crore for the phase (Government of Jharkhand, Department of Information Technology, historical compilation).

Nationally, BharatNet has continued to scale substantially since this earlier Jharkhand-specific rollout data. As of March 2025, approximately 2.18 lakh Gram Panchayats had been made service-ready under the project nationally, with total Optical Fibre Cable length surpassing 42 lakh route kilometers, more than 12 lakh Fibre-To-The-Home connections commissioned, and over 1 lakh Wi-Fi hotspots installed (Drishti IAS, BharatNet Project, 2025). In August 2023, the Union government approved the Amended BharatNet Programme, a major upgrade carrying a budget of Rs 1,39,579 crore, intended to enhance connectivity through optical fibre links in a ring topology to 264,000 Gram Panchayats nationally, along with extension to non-Gram Panchayat villages on demand, and incorporating remote fibre monitoring and power backup systems to improve network reliability (OpenGov Asia, India: Expanding Digital Access for an Inclusive Future, 2025). This framework was unable to source a current, Jharkhand-specific BharatNet completion percentage reflecting this most recent national upgrade cycle, and recommends the state Department of Information Technology publish an updated district-wise connectivity status report.

Jharkhand's own state-level communication backbone, JharNet, a wide area network established during 2005 to 2006 connecting State, District, and Sub-Divisional Headquarters, continues to provide data, voice, and video services for government-to-government communication up to the district level, and data and voice services up to the block level, forming the institutional communication infrastructure underlying much of the e-governance service delivery discussed in the remainder of this chapter (Government of Jharkhand, Department of Information Technology, historical compilation).

16.2 e-Governance Architecture and Digital Public Infrastructure

Jharkhand has recently signaled a significant strategic shift in its digital governance ambitions. The state government launched a roadmap to expand its digital infrastructure and adopt artificial intelligence in public governance, announced at a National Stakeholders' event in mid-2026, indicating an intent to move beyond the state's established e-governance service delivery architecture, discussed throughout this chapter, toward AI-enabled governance applications (Communications Today, Jharkhand unveils digital infrastructure and AI governance roadmap, 2026). This framework was unable to access the full detail of this roadmap given source access limitations, and recommends the state Department of Information Technology publish the complete roadmap document, given its potential significance for the emerging technologies theme discussed further in section 16.6 of this chapter.

Jharkhand's foundational e-governance architecture includes the e-District project, for which the state was selected as a pilot state with Ranchi designated the pilot district, subsequently extended statewide through the e-District Roll-out Project to deliver citizen services digitally across all districts (Government of Jharkhand, Department of Information Technology, historical compilation). The Works and Accounts Management Information System, or WAMIS, has been integrated with the state treasury, Accountant General's office, and other financial monitoring systems, enabling more efficient tracking of ongoing infrastructure works of the kind discussed in Chapters 8 and 9 (Government of Jharkhand, Department of Information Technology, historical compilation).

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

Common Service Centres form the primary front-end delivery mechanism for government-to-citizen and business-to-citizen digital services in Jharkhand's rural areas, consistent with the national Common Service Centre 2.0 architecture launched under the Digital India programme in 2015, which aims to establish at least one CSC in each of India's 2.5 lakh Gram Panchayats (IMPRI, Bridging The Digital Divide, 2025). As of an earlier assessment period, Jharkhand operated 8,171 rural CSCs and 3,031 urban CSCs, with more than 45.8 lakh transactions recorded across the state during a twelve month period (Government of Jharkhand, Department of Information Technology, historical compilation). Nationally, the CSC network has continued to expand substantially since that period, with more than 5.82 lakh functional CSCs operational by August 2025, of which approximately 4.55 lakh were in rural locations, delivering services spanning health, education, financial inclusion, agriculture, utility bill payment, and government certificate issuance through Village Level Entrepreneurs (Grokikipedia, Common Service Centres, 2026; IMPRI, Bridging The Digital Divide, 2025). This framework was unable to source a current, updated Jharkhand-specific CSC count reflecting this national growth trajectory, and recommends the state Department of Information Technology publish current figures to allow assessment of whether Jharkhand's CSC density has kept pace with the national expansion documented here.

Persistent operational challenges affecting CSC service delivery nationally, including network and infrastructure problems, power outages, and intermittent broadband access that lead to inconsistent availability of e-governance services at designated panchayat locations, are of particular relevance to Jharkhand given the AT&C loss and rural power reliability challenges documented in Chapter 9, and the connectivity gaps documented for rural water infrastructure delivery in Chapter 10, suggesting that the state's citizen service delivery infrastructure faces the same underlying power and connectivity reliability constraints that affect multiple other infrastructure sectors examined throughout this framework (Grokikipedia, Common Service Centres, citing 2019 analysis and CAG 2021 preliminary findings, 2026).

16.4 Data Governance, Open Data Policy and Privacy Framework

This framework was unable to source a current, Jharkhand-specific data governance policy, open data portal assessment, or state-level implementation status of the national Digital Personal Data Protection framework with sufficient reliability for detailed treatment here. Given the scale of citizen data processed through the CSC network, WAMIS financial system, and beneficiary-linked welfare architecture discussed in Chapter 7, this framework identifies a comprehensive state data governance policy assessment as an important gap, and recommends that the state Department of Information Technology, in coordination with the Union Ministry of Electronics and Information Technology, publish a current status report on Jharkhand's data governance and privacy compliance framework.

16.5 Cybersecurity: State-Level Institutional Mechanisms

Cybersecurity capacity building in Jharkhand operates substantially through national programmes and institutions, including the Indian Computer Emergency Response Team, or CERT-In, which works with state agencies to implement stricter cybersecurity regulations including mandatory cyber incident reporting, and the Cyber Surakshit Bharat initiative, which spreads cybersecurity awareness and builds capacity among government employees and citizens across states including Jharkhand (Cyber Security Training Blog, Cybersecurity in Bihar and Jharkhand, 2025). Regional cybersecurity training initiatives in the broader Bihar-Jharkhand region include events such as the Cyber Hackathon, organized in Bihar by the Economic Offences Unit of Bihar Police in partnership with the Centre for Development of Advanced Computing in Patna, intended to foster cybersecurity and digital forensics talent applicable across the region (Cyber Security Training Blog, 2025). This framework was unable to source a dedicated, Jharkhand-specific state cybersecurity institutional mechanism, incident response capacity, or state-level Computer Emergency Response Team assessment with sufficient specificity for detailed treatment here, and recommends the state Department of Information Technology publish a dedicated Jharkhand cybersecurity governance status report, particularly important given the growing digitization of financial, health, and welfare data discussed throughout this framework.

16.6 Emerging Technologies: AI, Geospatial Systems and Smart Governance

Jharkhand's recently announced digital infrastructure and AI governance roadmap, discussed in section 16.2, represents the state's most significant current signal of intent regarding emerging technology adoption in public administration (Communications Today, 2026). Geospatial technology application in the state is already evident in specific sectoral contexts documented elsewhere in this framework, most notably the Jharkhand Space Application Centre's role, alongside the Forest Department and Tribal Affairs Department, in the forest fire management coordination discussed in Chapter 14, and the satellite remote sensing research on mining-induced vegetation loss discussed in Chapter 13, indicating that geospatial analytical capacity exists within specific Jharkhand institutions even where a unified, cross-departmental smart governance architecture remains at an earlier stage of development. Given the state's recently announced AI governance ambitions, this framework recommends that future editions track the roadmap's implementation specifically against the inter-departmental coordination gaps identified in Chapter 14 and section 16.2 of this chapter, since AI-enabled governance tools are likely to deliver the greatest practical benefit precisely in the cross-agency coordination functions this framework has repeatedly identified as a structural weakness in Jharkhand's administrative architecture.

Chapter 17: Innovation, Research and Knowledge Economy

17.1 State Innovation Ecosystem: Startups and Accelerators

Jharkhand's institutional startup ecosystem has strengthened considerably in recent months through a formal partnership between the state's premier technical institution and its government startup promotion agency. On July 9, 2026, the CIIE IIT (ISM) Dhanbad Foundation, the innovation and startup incubation arm of the Indian Institute of Technology (Indian School of Mines) Dhanbad, signed a Memorandum of Understanding with i-Hub Startup Jharkhand, the state government's nodal agency for promoting startups and entrepreneurship, with the partnership explicitly aimed at strengthening innovation, entrepreneurship, technology commercialisation, startup incubation, and capacity building across industry, academia, and government (The Jharkhand Story, IIT (ISM) Dhanbad, i-Hub Startup Jharkhand sign MoU, 2026). Under the agreement, the two organisations will jointly organise startup incubation and acceleration programmes, workshops, hackathons, boot camps, and entrepreneurial awareness initiatives, while facilitating mentorship, institutional resource access, and market linkages for students, researchers, innovators, and early-stage startups (The Jharkhand Story, 2026). Professor Alok Kumar Das, Dean of Innovation and Corporate Relations at IIT (ISM) Dhanbad, described the partnership as combining the institute's research capabilities with the state's startup support network to help position Jharkhand as an emerging innovation hub (The Jharkhand Story, 2026).

This institutional partnership builds on IIT (ISM) Dhanbad's existing incubation infrastructure, including the Atal Community Innovation Centre, established under the national Atal Innovation Mission, which has run programming including an Atal Tinkering Lab Student Innovator Programme showcasing youth innovation talent from across Jharkhand and neighboring Bihar (ACIC IIT (ISM) Foundation Dhanbad, 2026). Jharkhand's formal state startup policy operates under the national Startup India framework, through which the Startup India team provides active support to states in formulating and operationalising their own startup policies, positioning state-level policy design as critical to providing the funding, mentorship, and market access support required for startups to become meaningful contributors to state revenue and job creation (Startup India, State Startup Policies, Jharkhand, 2026).

17.2 Research and Development: Academic-Industry Linkages

A major recent demonstration of Jharkhand's research and industry convergence occurred with IInvenTiv 2026, a two-day innovation fair held at IIT (ISM) Dhanbad, inaugurated by Jharkhand Governor Santosh Kumar Gangwar, who described the platform as bringing together research, innovation, investment, and policy in support of India's broader push toward a developed economy (The Statesman, Governor inaugurates IInvenTiv 2026, 2026). The event showcased more than 150 innovations spanning artificial intelligence, healthcare, semiconductor technology, material sciences, and earth sciences, and included the launch of the Wadhvani Innovation Network Centre of Excellence on Critical Minerals, which will focus on research, innovation, and capacity building in sectors linked to clean energy and advanced manufacturing, a direct institutional complement to the mineral resource

governance themes discussed in Chapters 4 and 13 (The Statesman, 2026). IIT (ISM) Dhanbad Director Sukumar Mishra described the initiative's aim as creating a seamless pipeline through which laboratory innovations can be validated, scaled, and connected to industry and global markets, directly addressing the translation gap between academic research and commercial application that has historically limited knowledge economy development in resource-dependent states like Jharkhand (The Statesman, 2026).

A particularly significant research and industry linkage relevant to the state's Just Transition climate strategy, discussed in Chapter 14, was the launch of Project ReNew Surya at the same event, a Centre of Excellence intended to expand clean energy skills for communities in coal-dependent regions of the state. This initiative builds on an earlier pilot programme that trained more than 350 women from coal-mining areas in solar technologies, with the next phase targeting training for over 500 candidates from Jharkhand, Odisha, and Chhattisgarh in solar photovoltaic installation, project management, and operations and maintenance, explicitly designed to enable a transition to renewable energy livelihoods for populations historically dependent on coal mining employment (The Statesman, 2026). This programme represents one of the most concrete, operational examples this framework has identified of the Just Transition principle discussed abstractly in Chapter 14 being translated into an actual skills training pipeline for mining-dependent communities, and this framework recommends tracking its outcomes closely as a potential model for broader replication across Jharkhand's coal-dependent districts.

17.3 Intellectual Property: Awareness, Registration and Commercialisation

Intellectual property support within Jharkhand's innovation ecosystem is embedded within the institutional startup and innovation policy framework discussed in section 17.1, including IIT (ISM) Dhanbad's own Innovation and Startup Policy, which provides guidelines on intellectual property alongside startup governance, support mechanisms, and engagement processes for students, faculty, and staff (IIT (ISM) Dhanbad Innovation and Startup Policy, 2022, as cited in institutional policy documentation). This framework was unable to source a state-wide, quantified assessment of patent filing rates, trademark registration, or geographical indication commercialisation outcomes for Jharkhand, beyond the Sohrai and Khovar tribal painting tradition's Geographical Indication tag discussed in Chapter 1, and recommends the state's Department of Industries publish a consolidated intellectual property registration and commercialisation status report to support more complete future assessment of this dimension of the state's knowledge economy.

17.4 Knowledge Institutions as Engines of Development

Jharkhand hosts a notably strong concentration of premier national academic institutions relative to many other Indian states of comparable per capita income, discussed in Chapter 3. These include IIT (ISM) Dhanbad, the third oldest Indian Institute of Technology, established in 1926 and originally known as the Indian School of Mines, reflecting its historical grounding in the state's mineral economy discussed throughout this framework; XLRI Jamshedpur, the oldest business school in India; the Indian Institute of Management Ranchi;

the National Institute of Technology Jamshedpur; the Indian Institute of Information Technology Ranchi; the All India Institute of Medical Sciences Deoghar; and Rajendra Institute of Medical Sciences Ranchi, the state's premier public medical institution discussed in Chapter 6 (Invest India, Investment Opportunities in Jharkhand, 2026).

This concentration of premier institutions, while historically oriented substantially toward the mining, metallurgical, and engineering disciplines aligned with the state's traditional economic base, is increasingly diversifying into information and communication technology, electronics, artificial intelligence and machine learning, energy, environment, and civil engineering domains, as reflected in IIT (ISM) Dhanbad's own institutional evolution over its century of operation (ACIC IIT (ISM) Foundation Dhanbad, 2026). Complementing these premier institutions, the state government has committed to establishing two new universities focused on skill development and financial technology, discussed in Chapter 5's higher education section, alongside the broader higher education expansion documented there (Invest India, 2026).

17.5 Building a Youth Innovation and Research Ecosystem

The state government's Jharkhand Student Research and Innovation Policy of 2025, introduced in Chapter 5's discussion of higher education, is explicitly designed to promote research capacity within the state's higher education institutions and strengthen industry linkages for student researchers (Invest India, 2026). This policy, combined with the IIT (ISM) Dhanbad and i-Hub Startup Jharkhand partnership discussed in section 17.1 and the Atal Tinkering Lab programming discussed in the same section, represents a multi-layered institutional architecture spanning school-level tinkering labs, university-level research policy, and postgraduate-level startup incubation, intended to build a continuous youth innovation pipeline from secondary education through to venture formation. Given the severe secondary to higher secondary education transition challenges documented in Chapter 5, however, this framework notes that the effectiveness of this innovation pipeline at its upper levels will remain constrained by the significant attrition occurring at its foundational secondary education stage, reinforcing this framework's broader finding that Jharkhand's sectoral challenges function as an interlocking system rather than as independent policy silos.

17.6 Skill Development, Employability and Workforce Alignment

Jharkhand's technical and vocational skill development infrastructure includes 347 Industrial Training Institutes across the state, according to Ministry of Skill Development and Entrepreneurship data, forming the foundational layer of the state's workforce alignment strategy discussed in relation to the TVET ecosystem in Chapter 5 (Invest India, 2026). The state's industrial base, comprising 26 mega industries, 106 large and medium industries, and 18,109 micro and small industries with an approximate cumulative investment of Rs 28,424.06 crore and employment of approximately 63,000 people in this specific segment, provides the demand-side context against which this skill development infrastructure must be assessed for its employability alignment (Invest India, 2026). Given the workforce quality and skills mismatch challenges documented in Chapter 3, where a gap between rural and

tribal workforce skills and the requirements of the state's capital-intensive core industries was identified as a structural driver of informal employment and out-migration, the effectiveness of Jharkhand's 347 Industrial Training Institutes in closing this specific mismatch represents an important and, in the sources available for this chapter, not yet fully quantified test of the state's skill development strategy, one this framework recommends the state's Department of Higher and Technical Education assess through a dedicated ITI graduate employment outcome tracking study in future planning cycles.

Chapter 18: Agriculture, Allied Sectors and Food Security

18.1 Cropping Pattern, Agricultural Productivity and Input Use

Agriculture remains the primary livelihood for approximately 80 percent of Jharkhand's rural population, serving as their main source of employment and income, according to the state's own Department of Agriculture, Animal Husbandry and Cooperative assessment (Government of Jharkhand, Department of Agriculture, Animal Husbandry and Cooperative, 2026). The state's agricultural economy is characterized in this same assessment as dependent on nature, marked by low investment and low productivity, mono-cropping with paddy as the dominant crop, inadequate irrigation, and small and marginal landholdings, a structural profile directly connected to the plateau topography and settlement patterns discussed in Chapter 1 (Government of Jharkhand, Department of Agriculture, Animal Husbandry and Cooperative, 2026). Jharkhand enjoys the advantage of three distinct agro-climatic zones, creating favourable conditions for year-round cultivation of diverse crops, vegetables, and fruits, though paddy remains the dominant crop by far, with farmers largely engaged in monsoon-dependent kharif cultivation (Ministry of Food Processing Industries, State Profile: Jharkhand, 2026).

Notwithstanding these structural constraints, Jharkhand has recorded genuine productivity gains in specific crop categories. The state has emerged as a leader in pulses production, achieving a productivity of 1,060 kilograms per hectare, surpassing both national and global averages, a notable achievement given the state's generally lower productivity profile for staple cereals (Ministry of Food Processing Industries, State Profile: Jharkhand, 2026). Paddy production rose from 32 lakh tonnes to 44 lakh tonnes, while the area under pulses cultivation expanded from 4.66 lakh hectares to 5.90 lakh hectares, with pulses production correspondingly rising from 4.12 lakh tonnes to 5.90 lakh tonnes, according to the State Agricultural Management and Extension Training Institute's state profile data (SAMETI Jharkhand, State Profile, 2026). Rabi season cultivated area also expanded, from 5.92 lakh hectares to 6.12 lakh hectares, alongside distribution of 60,000 quintals of notified hybrid paddy seed covering 4.28 lakh hectares (SAMETI Jharkhand, 2026).

Millet cultivation has expanded rapidly under a dedicated state initiative; the Jharkhand Millet Mission Scheme has registered 1.77 lakh farmers and provided financial incentives that helped expand millet cultivation area from 20,000 to 90,000 hectares within just two years (Ministry of Food Processing Industries, State Profile: Jharkhand, 2026). The state has also established 88 natural farming clusters across 12 districts, aimed at producing eco-friendly, chemical-free food, aligning Jharkhand with the broader national natural and organic farming policy momentum documented in year-end national agricultural sector reviews (Ministry of Food Processing Industries, State Profile: Jharkhand, 2026; DD News, Year-ender 2025: India's Agricultural Sector, 2025).

Persistent constraints identified in the state's own agricultural planning documentation include soil acidity and poor soil condition, run-off loss and soil erosion linked to the low level of irrigation discussed in section 18.2, continued reliance on mono-cropping, cultivation on waste land of marginal productivity, and a continuing lack of organized marketing facilities, discussed further in section 18.3 (SAMETI Jharkhand, State Profile, 2026).

18.2 Irrigation and Water Use Efficiency in Agriculture

Jharkhand's agricultural sector remains overwhelmingly dependent on rainfall rather than assured irrigation, with the state's own Department of Agriculture data indicating that as much as 92 percent of the total cultivated area is unirrigated, leaving the sector highly exposed to the monsoon variability and drought risk documented extensively in Chapter 14 (Government of Jharkhand, Department of Agriculture, Animal Husbandry and Cooperative, 2026). This dependence persists despite the state's generally adequate rainfall, because surface water availability for agriculture is constrained by inadequate storage infrastructure, while groundwater resources remain in poor condition due to limited natural recharge in the plateau terrain, a dynamic that leaves the water table declining across much of the state, connecting directly to the groundwater depletion concerns documented for rural drinking water supply in Chapter 10 (Government of Jharkhand, Department of Agriculture, Animal Husbandry and Cooperative, 2026).

Nationally, the Pradhan Mantri Krishi Sinchai Yojana has accelerated completion of irrigation projects and promoted micro-irrigation adoption, enabling a shift toward high-value crops and improved water-use efficiency across participating states (DD News, Year-end 2025, 2025; NEXT IAS, India's Agricultural Sector in 2025, 2025). Given the severity of Jharkhand's irrigation deficit documented above, this framework identifies accelerated implementation of this national irrigation scheme, combined with the state's own soil, water, and land management priorities, as among the highest-leverage interventions available for improving Jharkhand's agricultural productivity and reducing the drought vulnerability discussed in Chapter 14.

18.3 Agricultural Marketing, Price Realisation and Farmer Income

Jharkhand's agricultural marketing infrastructure has historically been constrained by a lack of organized marketing facilities, identified as a persistent structural gap in the state's own agricultural planning assessment (SAMETI Jharkhand, State Profile, 2026). Farmers in the state participate in national income support and price assurance mechanisms including Pradhan Mantri Kisan Samman Nidhi, which transferred Rs 3.90 lakh crore directly to more than 11 crore farmers nationally through 20 instalments as of August 2025, and the Minimum Support Price framework, reformed in 2018 to fix support prices at 1.5 times the cost of production (DD News, Year-end 2025, 2025; Eminent IAS, Government highlights agricultural growth, 2025). This framework was unable to source Jharkhand-specific Kisan Samman Nidhi beneficiary counts or disbursement figures, and recommends the state Department of Agriculture publish current, state-specific enrollment and disbursement data disaggregated from these national aggregates.

18.4 Food Processing Industry and Value Chain Development

Jharkhand's food processing sector, discussed briefly in Chapter 4's industrial policy overview, has been the subject of a dedicated state policy framework under the Jharkhand Gazette notification of March 18, 2024, which established investment incentive components for processing and milling of rice, flour, oil, millets, and pulses, alongside both horticulture and non-horticulture produce processing including fruits, vegetables, dairy, meat, poultry, fish, and minor forest produce, with a distinct Large, Mega, and Ultra Mega Projects component applicable to projects with a certified project cost exceeding Rs 50 crore, excluding land and working capital costs (Government of Jharkhand, Jharkhand Gazette Extraordinary, March 18, 2024). Under the national Pradhan Mantri Kisan Sampada Yojana, launched in 2017 with an outlay of Rs 6,520 crore, 1,607 projects have been approved nationally, generating employment for 7.25 lakh people and benefiting over 50.27 lakh farmers as of mid-2025, with the Ministry of Food Processing Industries having sanctioned multiple units under this scheme specifically within Jharkhand, including food processing factories and micro-enterprise units (Jharkhand State News, Agricultural Development Empowering Farmers in India, 2026; Ministry of Food Processing Industries, State Profile: Jharkhand, 2026).

The state is strengthening its cold storage network, with 58 cold storage facilities already in place as of the most recent assessment, a critical piece of post-harvest infrastructure given the horticultural production volumes discussed in section 18.7 (Ministry of Food Processing Industries, State Profile: Jharkhand, 2026). Nationally, food processing exports crossed USD 49.4 billion as of July 2025, reflecting rising value addition across India's agricultural export base, a trend within which Jharkhand's own food processing policy incentives, discussed above, position the state to capture a growing share as its processing infrastructure matures (DD News, Year-ender 2025, 2025).

18.5 Animal Husbandry, Dairy and Poultry: Economic Contribution

Livestock and dairy development in Jharkhand is administered through dedicated Directorates of Animal Husbandry and Dairy Development under the state's Department of Agriculture, Animal Husbandry and Cooperative, reflecting the sector's institutional recognition as a distinct pillar of the state's agricultural economy alongside crop cultivation (Government of Jharkhand, Department of Agriculture, Animal Husbandry and Cooperative, 2026). Nationally, the livestock sector's economic contribution grew substantially, from Rs 5.10 lakh crore to Rs 15.06 lakh crore, reflecting the broader national diversification into allied agricultural sectors that strengthens farm incomes and reduces dependence on crop-based income alone, a diversification strategy of particular relevance to Jharkhand's smallholder and marginal farming population documented in section 18.1 (Jharkhand State News, Agricultural Development Empowering Farmers in India, 2026). India retained its position as the world's largest milk producer during this period, with national milk production crossing 239.30 million tonnes in 2023-24, supported by the Revised National Programme for Dairy Development and the Rashtriya Gokul Mission, though this framework was unable to source a Jharkhand-specific dairy production figure disaggregated from this national total,

and recommends the state Directorate of Dairy Development publish current state-level production data (DD News, Year-ender 2025, 2025).

18.6 Fisheries: Inland, Marine and Aquaculture

As a landlocked state, discussed in Chapter 8's port infrastructure assessment, Jharkhand's fisheries sector is entirely inland, administered through a dedicated Directorate of Fisheries under the state Department of Agriculture (Government of Jharkhand, Department of Agriculture, Animal Husbandry and Cooperative, 2026). Nationally, fisheries production reached 195 lakh tonnes in 2024-25, driven substantially by rapid growth in inland fisheries specifically, a national trend of direct relevance to Jharkhand's landlocked fisheries profile, supported by enhanced budgetary support for the sector (DD News, Year-ender 2025, 2025; NEXT IAS, India's Agricultural Sector in 2025, 2025). This framework was unable to source a current, Jharkhand-specific inland fisheries production figure, and recommends the state Directorate of Fisheries publish current production and livelihood impact data, given the sector's relevance to diversified rural livelihood strategies discussed in Chapter 12.

18.7 Horticulture, Floriculture and Medicinal Plants

Jharkhand's horticultural sector has demonstrated substantial output, with total fruit production reaching approximately 12.73 lakh metric tonnes and vegetable production reaching 43.89 lakh metric tonnes in 2023-24, supported by the state's three agro-climatic zones discussed in section 18.1, which enable diverse, near year-round cultivation of fruits, vegetables, flowers, and medicinal and aromatic plants (Ministry of Food Processing Industries, State Profile: Jharkhand, 2026). Nationally, horticulture production expanded substantially, from 280.70 million tonnes to 367.72 million tonnes, reflecting a broader national shift toward diversified agriculture and allied sectors that supports farm income enhancement beyond staple cereal cultivation, a trend within which Jharkhand's own horticultural expansion, discussed above, positions the state favourably given its topographic and climatic suitability for such diversification relative to large-scale cereal cultivation (Eminent IAS, Government highlights agricultural growth, 2025).

18.8 Agricultural Credit, Insurance and Risk Management

Jharkhand's farmers participate in the national agricultural credit and insurance architecture, including the Kisan Credit Card scheme, under which the number of operative accounts nationally rose from 6.46 crore in 2013-14 to 7.81 crore in 2024-25, with the total credit amount in these accounts more than doubling from Rs 4.26 lakh crore in March 2014 to Rs 10.20 lakh crore in March 2025 (Jharkhand State News, Agricultural Development Empowering Farmers in India, 2026). Ground Level Credit flow to agriculture nationally increased from Rs 7.30 lakh crore in 2013-14 to Rs 28.67 lakh crore in 2024-25, reflecting substantial structural expansion of institutional finance to the farm sector, a trend of particular importance for Jharkhand given the low investment characterization of the state's agricultural economy documented in section 18.1 (Jharkhand State News, 2026).

Crop insurance coverage under the Pradhan Mantri Fasal Bima Yojana, which follows a "One Nation, One Crop, One Premium" principle ensuring uniform premium rates nationally, has disbursed claims worth Rs 1.96 lakh crore nationally up to December 31, 2025, benefiting around 24.31 crore farmers since the scheme's 2016-17 inception, with more than 4 crore farmers insured annually and a strengthened grievance redressal mechanism through the Krishi Rakshak Portal and Helpline (Jharkhand State News, 2026). A significant reform introduced 12 percent interest payable on delayed claim payments, alongside a satellite-based yield estimation system known as YESTECH, intended to improve claim assessment accuracy and timeliness (Eminent IAS, Government highlights agricultural growth, 2025). Given Jharkhand's severe drought exposure documented in Chapter 14, where the state recorded 15 droughts over a 23 year period, this crop insurance architecture, combined with the credit expansion discussed above, represents an important risk mitigation layer for the state's agricultural sector, though this framework was unable to source Jharkhand-specific PMFBY enrollment or claims disbursement figures disaggregated from these national totals, and recommends the state Department of Agriculture publish current state-level scheme performance data to allow more precise assessment of how effectively this national risk architecture is reaching Jharkhand's drought-vulnerable farming households.

Chapter 19: Tourism, Culture and Creative Economy

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

Jharkhand's tourism asset base spans religious, natural, and cultural categories in a combination the state's official tourism department describes as a treasure trove of ancient civilisation, picturesque natural beauty, and deep-rooted indigenous tradition (Jharkhand Tourism, Department of Tourism, Government of Jharkhand, 2026). The state's foremost religious asset is the Baidyanath Dham temple complex in Deoghar, housing one of the twelve Jyotirlingas of Hindu tradition, introduced in Chapter 11's urban development discussion, alongside other spiritually significant sites including Rajrappa and Chatra, described in the state's tourism promotion materials as home to some of the world's most ancient Shiva Lingams and Shakti Peeths, and Parasnath, the highest peak in the state and a major pilgrimage site for the Jain community (Jharkhand Tourism, 2026; Travelsetu, Jharkhand Tourism Guide, 2026).

Natural and adventure tourism assets are concentrated in the state's forested plateau and hill regions, discussed in Chapter 1, principally the hill station of Netarhat and the Betla National Park and Tiger Reserve within the Palamu division, alongside Hazaribagh Wildlife Sanctuary and the Dalma Wildlife Sanctuary near Jamshedpur, sites that showcase the biodiversity discussed in Chapter 13 (Travelsetu, Jharkhand Tourism Guide, 2026). The state's cultural asset base is anchored in its tribal heritage, with more than thirty indigenous communities, introduced in Chapter 1, contributing distinctive tribal and folk dance traditions, and the Sohrai and Khovar painting traditions of the Hazaribagh region, which received Geographical Indication recognition in 2020, as discussed in Chapter 1 (Jharkhand Tourism, 2026; Travelsetu, 2026).

19.2 Tourism Infrastructure: Hotels, Connectivity and Facilitation

Tourism infrastructure development in Jharkhand operates under the Jharkhand Tourism Policy 2021, launched by Chief Minister Hemant Soren in New Delhi on July 23, 2022, which as of mid-2025 remained the operative policy framework, with no superseding version yet issued, though actively implemented through fresh projects (Cretum Advisory, Jharkhand Tourism Policy Explained, 2025; Drishti IAS, Jharkhand's New Tourism Policy, 2022). The policy organizes the state's tourism development around five defined circuits covering Netarhat, Deoghar, Parasnath, Betla, Rajrappa, and Kanke, with particular investment directed toward beautification and civic amenity provision at religious sites including Deoghar, Parasnath, Madhuban, and Itkhori, and toward eco-tourism circuit development linking Latehar, Netarhat, Betla, Chandil, Dalma, Mirchaiya, and Getalsud, with rest house facilities, food courts, ropeways, and public transport links planned across these zones (Cretum Advisory, 2025; Drishti IAS, 2022).

State owned accommodation is provided through the Jharkhand Tourism Development Corporation, which operates hotels including Hotel Prabhat Vihar Deluxe at Netarhat, Hotel

Van Vihar at Betla, and Hotel Natraj Vihar and Hotel Baidyanath Vihar at Deoghar, alongside the more than 150 buses the Corporation operates for intra-city transport in Ranchi, discussed in Chapter 8 (Jharkhand Tourism, 2026). Air connectivity for tourism, discussed in Chapter 8's aviation assessment, is anchored by Birsa Munda Airport in Ranchi, supplemented by airstrips at Deoghar, Bokaro, and elsewhere across the state, which the tourism policy framework has specifically targeted for upgrade to accommodate private air taxi operations, with state-owned landing facility fees held at current nominal rates for the duration of the policy term to encourage such private operator investment (Jetir Journal, An Analysis of the Economic Effects of Tourism, 2024). The state government has also been actively engaging the Union Ministry of Railways to expand rail connectivity to significant tourist destinations beyond the state's existing network discussed in Chapter 8 (Jetir Journal, 2024).

19.3 Domestic and International Tourist Flows: Trends and Targets

Jharkhand's tourism policy explicitly aimed to position the state as a globally recognized tourist destination and to bring Jharkhand onto an equal competitive footing with other Indian states in the tourism sector by 2025, the target year embedded in the policy's own framing at launch (Invest India, Jharkhand Tourism Policy Offers Attractive Incentives, 2026; The Week, New tourism policy aims to make Jharkhand a global tourist destination by 2025, 2022). Academic analysis of the sector's economic effects has noted a rise in both domestic and international tourist visitation to the state in recent years, attributed to the establishment of adequate infrastructure, enhancement of existing tourist sites, and robust expansion of the hotel and restaurant sector, consistent with the infrastructure investment discussed in section 19.2 (Jetir Journal, 2024). This framework was unable to source a current, precise, quantified domestic and international tourist arrival figure specific to Jharkhand for the most recent reporting year, and recommends the state Department of Tourism publish a current annual tourist arrival and visitor spending report, given how directly this data would allow assessment of whether the state's 2025 competitiveness target, discussed above, has in fact been achieved.

19.4 Cultural Heritage Preservation and Institutional Framework

Cultural heritage preservation in Jharkhand operates at the intersection of the state's Department of Tourism and its Department of Scheduled Tribe, Scheduled Caste, Minority and Backward Class Welfare, discussed in Chapter 7, given the centrality of tribal cultural heritage to the state's tourism identity documented in section 19.1. The Jharkhand Tourism Policy 2021 explicitly incorporates public awareness campaigns targeting tribal communities and buyer-seller meetings intended to promote tourist goods produced by these communities, alongside training for stakeholders in tourism promotion, marketing, and associated services, indicating a policy design that treats tribal cultural preservation and tribal economic participation as linked objectives rather than separable concerns (Jetir Journal, 2024). Rural tourism promotion under the policy similarly emphasizes beautification of identified villages and promotion of local cuisine and rural life, with dedicated Village Tourism Committees and

Rural Tourism Sub-Committees established to institutionalize community participation in this heritage-linked tourism development model (Drishti IAS, 2022).

19.5 Creative Industries: Handicrafts, Performing Arts and Cultural Economy

Jharkhand's handicraft sector is repeatedly identified in the state's own tourism promotion materials and independent academic analysis as among its most distinctive creative economy assets, alongside its classical and folk dance and music traditions (Jetir Journal, 2024; Jharkhand Tourism, 2026). The Sohrai and Khovar tribal wall painting traditions, discussed in Chapter 1 and section 19.1, represent the most formally recognized element of this creative economy, having received Geographical Indication protection in 2020, a recognition that provides both cultural preservation value and, in principle, commercial protection for artisans producing authentic work in this tradition, connecting to the intellectual property and commercialisation themes discussed in Chapter 17. The state government's cultural programming, including organized food festivals and inter-state cultural programmes intended to showcase the state's vibrant and diverse culture, forms a further institutional layer supporting this creative economy, alongside seasonal cultural events such as the Palash Patang Mahotsav kite festival held annually at Kanke Dam in Ranchi (Jharkhand Tourism, 2026).

19.6 Film, Media and Content Industries as Economic Drivers

This framework was unable to source a current, substantive assessment of Jharkhand's film, media, and content production industry, including any dedicated state film policy, production incentive framework, or quantified economic contribution data, with sufficient reliability for detailed treatment here. Given the state's natural landscape and cultural heritage assets documented throughout this chapter, which are broadly the kind of assets that can support film and media production location incentives in other Indian states, this framework identifies a dedicated Jharkhand film and media policy assessment as a specific gap, and recommends the state Department of Tourism, in coordination with the Department of Information and Public Relations, assess the feasibility of a dedicated film tourism and production incentive framework as a complement to the state's existing tourism circuit strategy discussed in section 19.2, an initiative that could plausibly extend the creative economy benefits currently concentrated in handicrafts and performing arts, discussed in section 19.5, into a further content industry revenue stream.

Chapter 20: Cross-Cutting Themes and Integrated Policy Imperatives

20.1 Sustainable Development Goals of the State

Jharkhand's performance on NITI Aayog's SDG India Index 2023-24, the fourth edition of the country's principal sub-national sustainable development tracking tool, places the state second from the bottom among all Indian states, with a composite score of 62, ahead of only Bihar at 57 and just behind Nagaland at 63, out of a national range spanning from 57 to 79 (iTech Mission, SDG India Index and Dashboard, 2024; AffairsCloud, NITI Aayog's SDG India Index 2023-24, 2024). This places Jharkhand within the Index's "Performer" category, defined as a score between 50 and 64, rather than the "Front-Runner" category of 65 to 99 that 32 of India's 36 states and union territories had achieved by this edition (ClearIAS, SDG India Index 2023-24, 2024). More concerning than the state's static ranking, independent analysis of the Index found that Jharkhand was among the four states, alongside Bihar, Meghalaya, and Nagaland, that recorded the least improvement in composite score since the Index's 2018 baseline, a trajectory finding distinct from and more troubling than the state's already low absolute ranking, since it indicates Jharkhand has not merely started from a lower base but has also progressed more slowly than most other states over the period the Index has been tracked (Ganges Foundation for Sustainable Transformation, Mapping India's SDG Progress, 2025).

Goal-specific analysis reveals a genuinely bifurcated picture consistent with the paradox this framework has documented throughout, of resource wealth coexisting with human development lag. Jharkhand, alongside Bihar, was identified as recording particularly critical gaps in SDG 1, No Poverty, SDG 2, Zero Hunger, and SDG 3, Good Health and Well-being, findings directly consistent with the multidimensional poverty data discussed in Chapter 1 and the severe child undernutrition data discussed in Chapter 6 (Ganges Foundation for Sustainable Transformation, 2025). Yet on SDG 15, Life on Land, which measures forest cover, biodiversity, and land degradation, Jharkhand was identified as one of the two top performing states nationally, alongside Tripura, a genuinely notable finding given the extensive forest degradation in the state's mining belts documented in Chapter 13, and one that likely reflects the state's still-substantial aggregate forest cover percentage, discussed in Chapter 1, even as this framework's own review in Chapter 13 documented severe, geographically concentrated forest loss within specific mining districts that a state-level aggregate SDG score would not capture (AffairsCloud, 2024). This divergence between Jharkhand's strong aggregate SDG-15 score and its severely degraded mining belt forest conditions illustrates a broader methodological caution this framework flags for readers throughout: state-level composite indices, however useful for cross-state benchmarking, can obscure the district-level and sub-district-level disparities that this framework has attempted to surface wherever possible.

20.2 Gender Mainstreaming Across Sectors

Gender mainstreaming considerations recur throughout this framework's sectoral chapters rather than constituting a separable domain, consistent with the cross-cutting nature of this theme. Chapter 5 documented Jharkhand's above-national-average Gender Parity Index at the secondary education level, coexisting with severe tribal girls' dropout risk between secondary and higher secondary stages. Chapter 7 documented the state's flagship Mukhyamantri Maiyan Samman Yojana cash transfer programme alongside the data gap in female-specific labour force participation figures. Chapter 12 documented that women's participation in the national rural employment guarantee programme rose from 48 to 58.15 percent nationally between 2013-14 and 2025-26. This chapter adds one further, directly relevant data point: the Jharkhand Migration Survey 2023 recorded female labour force participation in the state at just 47.2 percent, compared to 83.2 percent for men, drawing on Periodic Labour Force Survey 2021-22 data, a gap considerably wider than the aggregate male-female workforce disparities documented nationally, and one that, combined with the migration patterns discussed in section 20.4 below, indicates that gender mainstreaming in Jharkhand's economic policy requires particular attention to the structural barriers keeping women's formal labour force participation so far below men's (Jharkhand Migration Survey 2023, as cited in International Institute of Migration and Development, 2025).

20.3 Youth Policy and Demographic Dividend Realisation

Jharkhand's demographic profile, discussed in Chapter 1, features a youthful population structure with a Total Fertility Rate that, while declining, remains above replacement level, discussed in Chapter 6. The Jharkhand Migration Survey 2023 provides a striking window into how the state's youth population is currently engaging with the labour market: the outflow of labour migrants from the state is concentrated overwhelmingly among young adults, with the 20 to 24 year age group accounting for 23.1 percent of labour migrant outflow, the single largest age cohort, followed by the 25 to 29 year age group at 19.6 percent, while migrants above age 40 constitute only 20.4 percent of the total outflow, meaning 79.6 percent of Jharkhand's labour migrants are below 40 years of age (Jharkhand Migration Survey 2023, as cited in International Institute of Migration and Development, 2025). This finding reframes the demographic dividend question for Jharkhand in stark terms: the state's youth population, in large part, is currently realizing its economic potential outside the state rather than within it, a pattern this framework connects directly to the workforce skill mismatch and low male Worker Population Ratio documented in Chapter 3, and one that raises the question of whether Jharkhand's own economy, discussed in Chapters 3 and 4, can be diversified and strengthened sufficiently to capture more of this youth economic potential domestically over the period covered by this framework's Vision 2047 horizon.

20.4 Migration: Internal, Inter-State and International Dimensions

The Jharkhand Migration Survey 2023, a dedicated state-specific migration research effort, provides the most detailed empirical picture of Jharkhand's migration dynamics available to this framework. The survey found that Maharashtra, at 18 percent of destinations, Gujarat, at

9.2 percent, and West Bengal, at 8.6 percent, are the top three destinations for labour migrants from Jharkhand, with the majority of female labour migrants specifically also concentrated in these same three states (Jharkhand Migration Survey 2023, as cited in International Institute of Migration and Development, 2025). Geographically, the survey found that the state's northern administrative divisions, North Chotanagpur, Palamu, and Santhal Pargana, form the major part of both the migrant count and the remittance flow, in comparison to the southern divisions of Kolhan and South Chotanagpur, a finding directly consistent with this framework's repeated documentation of the north-south and industrial-agrarian disparity pattern across Chapters 1, 3, and elsewhere, since the Kolhan and South Chotanagpur divisions host the state's concentrated industrial employment while the northern divisions, more agrarian and historically underserved, generate proportionally more out-migration (Jharkhand Migration Survey 2023, as cited in International Institute of Migration and Development, 2025).

On return migration, the survey recorded that Giridih district had the highest rate of return labour migration at approximately 25 per 100 households, followed by Bokaro and Jamtara at 19 and 17 per 100 households respectively, while Koderma recorded the lowest rate at 2.8 percent, and found that 86 percent of return migrations originated from rural areas of the state (Jharkhand Migration Survey 2023, as cited in International Institute of Migration and Development, 2025). On remittances, the survey estimated that migrants from the state's Hindu community sent back the largest volume of remittances, at approximately Rs 1,725 crore, followed by the Muslim and Sarna communities, whose migrants sent back remittances worth approximately Rs 310 crore and a further amount not fully specified in the source data available to this framework (Jharkhand Migration Survey 2023, as cited in International Institute of Migration and Development, 2025). This remittance flow represents a meaningful, if informally channeled, contribution to household income across the state's rural economy, discussed in Chapter 3, though this framework notes that remittance dependence of this scale also indicates the extent to which Jharkhand's own domestic economy, discussed in Chapters 3 and 4, has not yet generated sufficient local employment opportunity to retain this share of its working-age population, a theme directly connected to the youth demographic dividend discussion in section 20.3.

20.5 Science, Technology and Innovation for Development

Jharkhand's science, technology, and innovation ecosystem, discussed in detail in Chapter 17, centers on the state's concentration of premier technical institutions, most notably IIT (ISM) Dhanbad, and on recent institutional developments including the CIIE-i-Hub Startup Jharkhand partnership and the IInvenTiv 2026 innovation fair discussed in that chapter. This chapter adds the cross-cutting observation that Jharkhand's science and technology capacity, while institutionally strong relative to the state's per capita income level, discussed in Chapter 3, remains structurally oriented toward the mining, metallurgical, and engineering disciplines historically aligned with the state's traditional economic base, and that the state's stated AI governance ambitions, discussed in Chapter 16, and its Just Transition clean energy skilling initiatives, discussed in Chapter 17, represent the two most concrete current efforts to

diversify this science and technology capacity toward the emerging technology and green economy domains this framework has identified as central to Jharkhand's long-term development trajectory throughout Chapters 9, 14, and 17.

20.6 Statistical System Strengthening and Evidence-Based Policymaking

This framework has documented a recurring pattern of specific, consequential data gaps across nearly every chapter, including the absence of a verified current Maternal Mortality Ratio and Infant Mortality Rate for Jharkhand in Chapter 6, the absence of consolidated Urban Local Body finance data in Chapter 11, the absence of a current Lokayukta and judicial pendency assessment in Chapter 15, and the absence of a current, disaggregated urban solid waste and sewerage infrastructure assessment in Chapter 10, among numerous others flagged throughout. Taken together, these gaps constitute this framework's single most consistent cross-cutting finding: Jharkhand's statistical system, while benefiting from strong national data infrastructure including the National Family Health Survey, discussed extensively in Chapter 6, and the Periodic Labour Force Survey, discussed in Chapter 3, has not yet developed the state-specific, current, granular data publication practice that would allow either state planners or external analysts to assess many of the state's sectoral programmes with precision. The Jharkhand Migration Survey 2023, discussed in section 20.4, stands as a notable and instructive counterexample, a genuinely rigorous, state-specific research effort that filled exactly this kind of data gap for the migration domain, and this framework recommends that comparable dedicated state-specific survey and data publication efforts be extended to the other domains flagged as data gaps throughout this document, particularly maternal and child health outcomes, urban infrastructure finance, and civil service staffing, given how directly credible evidence-based policymaking depends on this kind of granular, current, state-verified data.

20.7 Public Participation: Behavioural Change and Citizen Engagement

Public participation architecture in Jharkhand operates through several distinct institutional channels documented throughout this framework: the gram sabha and PESA institutional strengthening effort discussed in Chapter 12, the Village Tourism Committees and Rural Tourism Sub-Committees discussed in Chapter 19, and the tribal cultural engagement and public awareness campaigns embedded within the state's tourism and welfare policy discussed in Chapters 7 and 19. The behavioural change dimension of citizen engagement is most directly visible in this framework's discussion of the counter-insurgency communication strategy documented in Chapter 15, where cultural outreach measures including street theatre and film were used specifically to shift youth attitudes away from extremist recruitment, an approach that illustrates the state's demonstrated institutional capacity for culturally grounded behavioural change communication when the political will and resourcing are present. This framework recommends that this same institutional capacity and communication approach, proven effective in the internal security domain discussed in Chapter 15, be more deliberately extended to other behavioural change priorities identified throughout this framework, particularly child nutrition practices discussed in Chapter 6, sanitation and water use

behaviour discussed in Chapter 10, and the Jal Jeevan Mission "software" gaps specifically identified in that same chapter, since the evidence reviewed throughout this framework suggests that Jharkhand's development challenges are, in a meaningful share of cases, as much about the last-mile behavioural and institutional trust dimension of implementation as about the availability of infrastructure and funding alone.

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

21.1 Long-Term Vision and Flagship Missions

Jharkhand's long-term development narrative, as this framework has documented across twenty chapters, is fundamentally a story of resource wealth in search of proportionate human development outcomes. The state's vision for 2047 must therefore be built around closing this specific gap, rather than around further extraction-led growth alone. Three flagship missions emerge from this framework's chapter-by-chapter findings as the natural anchors for such a vision: first, a Just Transition mission for the mining economy, building directly on the Project ReNew Surya clean energy skilling initiative and the State Action Plan on Climate Change's decarbonisation framework discussed in Chapters 14 and 17, intended to diversify the state's economic base away from its historic overreliance on coal and mineral extraction documented in Chapters 3, 4, and 13; second, a Tribal Development and PESA Completion mission, building on the PM JUGA and PM JANMAN programmes and the state's own 2025 PESA Rules discussed in Chapters 7 and 12, intended to finally close the 25 year implementation gap this framework identified between the 1996 national PESA enactment and its 2025-26 ground-level rollout in Jharkhand; and third, a Human Capital Convergence mission, integrating the education, health, and nutrition interventions discussed in Chapters 5 and 6 with the rural livelihood and welfare architecture discussed in Chapters 7 and 12, intended to address the severe child undernutrition burden and secondary-to-higher-secondary education attrition this framework identified as Jharkhand's most acute human development weaknesses.

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

Drawing directly on the specific data gaps and implementation weaknesses documented throughout this framework, this chapter proposes the following as immediate priority actions for the period through 2030, corresponding to the state's own Rs 10 lakh crore economy target horizon of 2029-30 discussed in Chapter 3. First, closing the state's most consequential statistical gaps identified in Chapter 20, particularly current, verified Maternal Mortality Ratio and Infant Mortality Rate figures, consolidated Urban Local Body finance data, and civil service vacancy rates across all cadres, since credible medium-term planning depends on this baseline data existing. Second, addressing the nearly 100,000 teaching post vacancies and 9,172 single teacher schools documented in Chapter 5, given the direct, well-evidenced link between teacher availability and the severe secondary education attrition this framework identified, particularly among tribal girls. Third, accelerating Jal Jeevan Mission "software" quality fixes, not merely additional tap installation, in light of the field-documented functional reliability gaps discussed in Chapter 10. Fourth, closing the gap between JBVNL's Renewable Purchase Obligation target of 25 percent and its actual 2024-25 achievement of 11.33 percent, discussed in Chapter 9, given the direct relevance of this gap to both the state's climate commitments discussed in Chapter 14 and its industrial competitiveness discussed in

Chapter 4. Fifth, completing the PESA Rules village-level rollout that Minister Dipika Pandey Singh's May 2026 directive, discussed in Chapter 12, targeted for completion within three months of that announcement, and tracking whether that specific implementation timeline was met.

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

Jharkhand's fiscal position, discussed extensively in Chapter 2, provides a genuinely stronger financing foundation for this Vision 2047 roadmap than the state's per capita income ranking alone would suggest. The state's revenue surplus position, its fiscal deficit consistently below Finance Commission thresholds, and its comparatively strong capital expenditure share of total spending, all documented in Chapter 2, indicate real fiscal space for sustained investment, provided this space is not eroded by the kind of large, less-targeted cash transfer expenditure growth the Reserve Bank of India flagged as a risk in that same chapter. This framework recommends that the financing strategy underlying Jharkhand's Vision 2047 roadmap explicitly prioritize capital expenditure and human capital investment, discussed in Chapters 2, 5, and 6, over further expansion of unconditional transfer schemes, without suggesting the discontinuation of existing commitments like the Mukhyamantri Maiyan Samman Yojana discussed in Chapter 7, but rather recommending that future fiscal space created by continued revenue surplus performance be directed toward the specific data-gap-identified priorities in section 21.2 above. The state's mineral royalty revenue base, discussed in Chapters 2, 3, and 4, and its DMFT mechanism, discussed in Chapter 15, further require the strengthened audit and transparency measures this framework has recommended, since resource mobilisation strategy is only as credible as the expenditure quality oversight that accompanies it.

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

This framework has documented throughout its chapters the extent to which Jharkhand's development trajectory is substantially co-determined by national programme design and funding, from the VB-G RAM G Act discussed in Chapter 12, to the PM JUGA and PM JANMAN tribal welfare missions discussed in Chapter 7, to the Amended BharatNet Programme discussed in Chapter 16, to the national Left Wing Extremism infrastructure schemes discussed in Chapter 15. Given the state's high dependence on central tax devolution and grants, at 51 percent of revenue receipts in the 2025-26 budget estimate discussed in Chapter 2, and given the pending transition to the Sixteenth Finance Commission award from April 2026 discussed in that same chapter, this framework identifies active, well-prepared state engagement with the Sixteenth Finance Commission's consultation process, and with the design of successor schemes to the current Fifteenth Finance Commission cycle programmes, as a critical near-term Centre-State partnership priority, since the terms of these frameworks will materially shape the resource envelope available for the Vision 2047 priorities discussed throughout this chapter.

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

Jharkhand's position bordering four states, discussed in Chapter 4's regional cooperation section, and its role within the Damodar and Subarnarekha river basin systems shared with West Bengal and Odisha, discussed in Chapters 1 and 13, requires sustained inter-state institutional cooperation that this framework found to be, in the sources available, less developed than the state's national programme integration discussed in section 21.4. Given the severe river pollution documented in Chapter 13, concentrated in a river system whose ecological health depends on coordinated action across Jharkhand, West Bengal, and, for the Subarnarekha specifically, Odisha, this framework recommends that Jharkhand pursue strengthened, potentially statutory, river basin governance cooperation with these neighboring states as a Vision 2047 priority, building on but going beyond the localized National Green Tribunal directed remediation measures discussed in Chapter 13. Similarly, the state's integration with the Amritsar-Kolkata Industrial Corridor, discussed in Chapter 4, requires sustained multi-state coordination on freight and industrial siting decisions that this framework recommends be formalized through whatever regional development council mechanisms the corridor's national administration provides for.

21.6 International Collaboration: Common Development Agenda and Global Partnership

This framework identified limited evidence of dedicated international collaboration specific to Jharkhand beyond the state's general participation in national frameworks such as the National Green Hydrogen Mission, discussed in Chapter 9, and the general national FDI promotion architecture discussed in Chapter 4, where this framework specifically flagged the state's approximately 1.1 billion US dollar FDI inflow figure as an unverified industry estimate requiring official confirmation. Given the state's substantial critical mineral resources, discussed throughout this framework and specifically connected to the new Wadhvani Innovation Network Centre of Excellence on Critical Minerals launched at InvenTiv 2026, discussed in Chapter 17, this framework identifies international partnership around critical mineral value chains, clean energy technology transfer connected to the Just Transition mission discussed in section 21.1, and skill development partnerships of the kind piloted through Project ReNew Surya, also discussed in Chapter 17, as the most promising near-term avenues for expanded international collaboration specific to Jharkhand's development priorities.

21.7 Monitoring, Evaluation and Results Framework

This framework's own most consistent structural finding, discussed at length in Chapter 20's statistical system assessment, is that Jharkhand's monitoring and evaluation architecture, while benefiting from strong national data systems, has not developed sufficient state-specific, current, disaggregated data publication practice to allow rigorous results tracking across many of the sectors this framework has examined. A credible Vision 2047 results framework for Jharkhand would need to designate specific state departments as

owners of specific, currently missing datasets, drawing directly on the more than fifteen distinct data gaps this framework flagged across Chapters 5 through 20, and would need to establish a regular publication cadence, ideally annual, for each. This framework further recommends that any formal Jharkhand Vision 2047 document adopt NITI Aayog's SDG India Index framework, discussed in Chapter 20, as one component of its results architecture, given that index's existing, methodologically established goal-wise tracking system, while supplementing it with the kind of district-disaggregated data this framework has repeatedly found necessary to surface Jharkhand's substantial intra-state disparities, first documented in Chapter 1's Aspirational Districts discussion and echoed throughout nearly every subsequent chapter.

21.8 Accountability Architecture: Legislature, Civil Society and Citizens

Jharkhand's formal accountability institutions, discussed in Chapter 15, including its Legislative Assembly, the Comptroller and Auditor General's audit function discussed in Chapter 2, and the state's still-developing Lokayukta and Vigilance architecture, flagged as a specific data gap in that same chapter, provide the constitutional foundation for Vision 2047 accountability. This framework's review throughout has surfaced instances where this accountability architecture is functioning, including the Jharkhand High Court's intervention on District Collector delays discussed in Chapter 15 and the Parliamentary Standing Committee's detailed scrutiny of PMAY-Gramin implementation discussed in Chapter 12, alongside instances, such as the DMFT fund utilization concern raised by opposition leader Babulal Marandi discussed in Chapter 15, where the underlying facts remain contested and unresolved. Civil society and citizen accountability mechanisms documented throughout this framework include the Village Tourism Committees discussed in Chapter 19, the gram sabha strengthening under PESA discussed in Chapter 12, and independent research efforts including the Jharkhand Migration Survey 2023 discussed in Chapter 20 and the Millennium Water Story field assessment discussed in Chapter 10, both of which this framework found to be genuinely valuable, rigorous, non-governmental contributions to the state's evidence base. A credible Vision 2047 accountability architecture for Jharkhand would need to formalize channels through which this kind of independent civil society research is systematically fed back into state planning processes, rather than existing, as it largely appears to at present based on this framework's review, as separate, parallel bodies of evidence that state departments do not appear to have consistently incorporated into their own published data and planning documents.

END NOTE

This Comprehensive Development Framework for the State of Jharkhand has sought to provide a rigorous, evidence-based account of the state's development position across twenty-one chapters. Spanning geography and demography, fiscal architecture, economic structure, industry and investment, education, health, social justice, infrastructure, energy, environment, governance, technology, innovation, agriculture, tourism, cross-cutting themes, and long-term strategic vision, a consistent picture emerges. It is the portrait of a state whose extraordinary natural endowment has not yet been converted into commensurate human development, and whose next chapter will be written less by the discovery of new resources than by the discipline with which existing ones, mineral and human alike, are governed. What follows is a final synthesis of this framework, a distillation of where Jharkhand stands today and the trajectory it must chart for tomorrow.

The overarching narrative of Jharkhand's development cannot be decoupled from the circumstances of its birth. Carved from southern Bihar in 2000 explicitly to give a resource-rich, tribal-majority region greater control over its own future, the state's Geography and Demography reveal both the source of its wealth and the scale of its unfinished task. A Scheduled Tribe population among the largest of any Indian state, a plateau terrain that has yielded coal, iron ore, copper, and uranium in abundance, and a Human Development Index that has stagnated near the bottom of the national table together describe a state where mineral fortune and human deprivation have grown up side by side rather than one following from the other. The chapters on Health and Social Justice make this most visible: child stunting, wasting, and underweight prevalence among the most severe recorded nationally, a Panchayats Extension to Scheduled Areas framework enacted in 1996 but only reaching village-level implementation twenty-five years later, and a tribal population whose displacement from mining-affected land has rarely been matched by proportionate compensation or voice. Jharkhand's task is not simply to grow, but to ensure growth finally reaches the population in whose name the state was created.

As detailed in the analyses of Economic Structure, Industry and Investment, Technology, and Innovation, Jharkhand has nonetheless built a genuinely significant industrial base. The state ranks among India's three most industrialized by GSVA composition, anchored by integrated steel production, coal extraction, and a rapidly expanding base of micro and small enterprises, and it has grown faster than the national average for four consecutive years while crossing Rs 1 lakh in per capita income for the first time. Institutions such as IIT (ISM) Dhanbad, XLRI Jamshedpur, and a newly launched Centre of Excellence on Critical Minerals signal an economy beginning to move beyond extraction toward research, skilling, and value addition. Yet the state's per capita income still ranks 26th of 28 states, evidence that industrial scale alone has not translated into broad-based prosperity, and that the next phase of growth must diversify deliberately toward the MSME, services, and knowledge sectors this framework identified as the state's most promising, if still nascent, growth corridors.

The physical and ecological manifestation of this industrial history requires an increasingly sophisticated approach to the built and natural world. Our review of Infrastructure, Energy, and Environment reveals a state making real capital investment, among the highest in the country as a share of expenditure, while carrying real ecological cost. Jharkhand's road and rail networks are undergoing a genuine upgrade cycle, and its renewable energy share has grown more than fivefold in five years, yet distribution losses remain double the national target and renewable procurement still falls well short of regulatory obligation. More gravely, the Damodar and Subarnarekha rivers, once central to the state's industrial identity, now rank among the most polluted in the country, and forest cover within the coalfields themselves has fallen from as high as 65 percent to nearly nothing. Future infrastructure and energy investment must be reoriented around a genuine Just Transition, one that decarbonizes the mining economy without abandoning the communities and workers who depend on it.

While industrial growth accelerates, the chapters on Agriculture and Tourism remind us that Jharkhand's economic and cultural soul remains deeply tied to its land and its tribal heritage. Agriculture continues to employ roughly four in five rural residents even as ninety-two percent of cultivated land remains unirrigated, requiring urgent investment in water storage, micro-irrigation, and the crop diversification already underway in the state's expanding pulses and millet sectors. Tourism, anchored by the Baidyanath Dham temple, the Sohrai and Khovar tribal art traditions, and a forested plateau landscape unlike anywhere else in eastern India, presents a genuinely under-leveraged vector for livelihood creation, one the state's own 2021 policy has yet to demonstrate has delivered on its 2025 competitiveness target.

The ambition of the state's long-term strategic vision is ultimately bound by the realities of its Governance and Fiscal Architecture. The framework highlights a central tension: Jharkhand is a state with genuine fiscal discipline, a revenue surplus, a fiscal deficit within Finance Commission limits, and capital spending among the strongest of any Indian state, yet it remains structurally dependent on volatile mineral royalty revenue and on a statistical system too thin, in more than fifteen specific instances documented across this framework, to allow either the state or outside observers to verify whether its programmes are working. The near elimination of Left Wing Extremism over the past decade demonstrates that Jharkhand's institutions can deliver sustained, measurable change when a problem is clearly defined and consistently resourced. The same discipline, extended to data publication, inter-departmental coordination, and PESA implementation, is what the coming decade demands.

Jharkhand stands today at a critical juncture between the wealth beneath its soil and the aspirations of the people who live above it. The goal of a Rs 10 lakh crore economy by 2029-30 is not merely a quantitative target, but a qualitative mandate to close, finally, the gap between resource abundance and human development that has defined this state since its founding. This Comprehensive Development Framework confirms that the gap is closing, unevenly, incompletely, but closing, and that whether it closes further will depend less on any single scheme discussed in this document than on whether the state's institutions choose to measure that gap honestly and act on what the numbers show.

REFERENCES

- Academia.edu. (2017). *Effects of mining on environment in the state of Jharkhand*.
- ACIC IIT (ISM) Foundation Dhanbad. (2026). *Atal Community Innovation Centre programme overview*.
- AffairsCloud. (2024). *NITI Aayog's SDG India Index 2023-24*.
- Ahmad, F., & Goparaju, L. (2017). Climate vulnerability and forest fire risk assessment in Jharkhand. As cited in Jetir Journal (2025).
- Careers360. (2025). *UDISE+ 2024-25: State-wise dropout rate analysis*.
- Census of India. (2011). *District census handbook: Jharkhand*. Office of the Registrar General and Census Commissioner, India.
- ClearIAS. (2024). *SDG India Index 2023-24*.
- Clinical Epidemiology and Global Health. (2023). *Decadal change in child undernutrition indicators across Indian states, NFHS-1 to NFHS-5*.
- Communications Today. (2026). *Jharkhand unveils digital infrastructure and AI governance roadmap*.
- Comptroller and Auditor General of India. (2025). *State finances report 2024-25*. As cited in Vajiram and Ravi (2025).
- Conference on Environmental Issues and Climate Change. (n.d.). Citing Centre for Science and Environment analysis [Historical compilation].
- Construction World. (2025). *Jharkhand launches large-scale highway expansion*.
- Cretum Advisory. (2025). *Jharkhand tourism policy explained*.
- Cretum Advisory. (2025). *Jharkhand solar power policy*.
- Cyber Security Training Blog. (2025). *Cybersecurity initiatives in Bihar and Jharkhand*.
- Daily Pioneer. (2025). *Jharkhand: A story of resilience and renewal*.
- Damodar Valley Corporation. (2023). *Annual report and river basin overview*.
- DD News. (2025). *Year-ender 2025: India's agricultural sector*.
- Department for Promotion of Industry and Internal Trade. (2022). *Business Reform Action Plan: State rankings*. Government of India.

Department of Industries, Government of Jharkhand. (2020). *Geographical Indication recognition: Sohrai and Khovar painting.*

Dhyeya IAS. (2026). *Tribal welfare schemes and PM JUGA overview.*

Directorate of Economics and Statistics, Government of Jharkhand. (2024). *State economic indicators.*

Down To Earth. (2024). *National Green Tribunal compliance filing: Damodar River remediation, Ramgarh district.*

Down To Earth. (2025). *Standing Committee on Rural Development and Panchayati Raj: 2024-25 report review.*

Drishti IAS. (2022). *Jharkhand's new tourism policy.*

Drishti IAS. (2025). *BharatNet project.*

Drishti IAS. (2025). *Left wing extremism.*

Drishti IAS. (2026). *Final phase of anti-Naxal operations in Jharkhand.*

Drishti IAS. (2026). *Jharkhand Economic Survey 2025-26 highlights.*

Eminent IAS. (2025). *Government highlights agricultural growth.*

Education for All in India. (2025, 2026). *UDISE+ 2024-25 analysis series: Enrolment, dropout, and gender parity in Indian states.*

Ensure IAS. (2026). *Performance Grading Index 2.0 analysis.*

eSarkari. (2026). *Government of Jharkhand, Urban Development and Housing Department profile.*

ETV Bharat. (2025). *Jharkhand continues its long-sustained battle against Naxalism.*

Forest Survey of India. (2023). *India state of forest report 2023.* Ministry of Environment, Forest and Climate Change.

Ganges Foundation for Sustainable Transformation. (2025). *Mapping India's SDG progress.*

Geological Survey of India. (2022). *Chota Nagpur Gneissic Complex: Geological assessment.*

GKToday. (2026). *UDISE+ 2024-25: Jharkhand dropout and enrolment data, citing NITI Aayog report.*

Global Data Lab. (2023). *Subnational Human Development Index database.*

Government of India, Press Information Bureau. (2025). *PM JANMAN: India's largest tribal village development scheme*.

Government of Jharkhand, Department of Agriculture, Animal Husbandry and Cooperative. (2026). *Departmental profile and policy overview*.

Government of Jharkhand, Department of Information Technology. (n.d.). *Write-up on information technology and e-governance* [Historical compilation].

Government of Jharkhand, Department of Scheduled Tribe, Scheduled Caste, Minority and Backward Class Welfare. (2025). *Departmental profile*. As cited in Wikipedia contributors (2026).

Government of Jharkhand, Departments of Health and Family Welfare, Environment, Disaster Management Authority, and Meteorological Department. (2024). *Jharkhand strategic action plan for climate change and human health*.

Government of Jharkhand, Finance Department. (2025). *Jharkhand Economic Survey 2024-25*. As cited in New Arena India (2025) and Outlook Business (2025).

Government of Jharkhand, Finance Department. (2026). *Jharkhand Economic Survey 2025-26*. As cited in Drishti IAS (2026) and sdnews.sachchadost.in (2026).

Government of Jharkhand. (2021). *Jharkhand Gazette Extraordinary: Jharkhand Industrial and Investment Promotion Policy*.

Government of Jharkhand. (2021). *Jharkhand State Solar Power Policy 2022*.

Government of Jharkhand. (2022). *Official language policy notification*.

Government of Jharkhand. (2023). *Jharkhand Power Policy 2023* [Draft].

Government of Jharkhand. (2023). *Planning and Development Department: State development overview*.

Government of Jharkhand. (2023). *Revenue, Registration and Land Reforms Department: District administration profile*.

Government of Jharkhand. (2024). *Jharkhand Gazette Extraordinary: Food processing investment incentive policy* (March 18, 2024).

Government of Jharkhand. (2026). *Ranchi Smart City: Vision and implementation profile*.

Government of Jharkhand. (2026). *Road Construction Department: Network status*.

Grokikipedia. (2025). *Jharkhand Bijli Vitran Nigam Limited (JBVNL): Company and network profile*.

Groklopedia. (2026). *Common Service Centres: National programme profile*.

IMPRI (Impact and Policy Research Institute). (2025). *Bridging the digital divide: Common Service Centres in India*.

India Meteorological Department. (2023, 2024). *Jharkhand subdivision climate normals*.

India Today NE. (2024). *Jharkhand Tea Tribes Welfare Committee*. As cited in Wikipedia contributors (2026).

Indian Bureau of Mines. (2023). *Mineral resource statistics: Jharkhand*.

Indian Economic Service. (2025). *Working paper: State debt sustainability analysis*.

Indian Masterminds. (2024). *Chief Minister's Employment Generation Programme expansion*. As cited in Wikipedia contributors (2026).

Indian Masterminds. (2025). *Highway infrastructure projects in Jharkhand*.

Indian School of Business and Jharkhand Forest Rights Forum. (n.d.). *Joint survey on forest-dependent livelihoods*. As cited in Jetir Journal (2025).

Infra Info Hub. (2025). *Jharkhand mega projects 2025*.

Institute of Public Services. (2025). *Jharkhand Economic Survey 2024-25: Per capita income analysis*.

International Forum for Environment, Sustainability and Technology. (2025). *Enabling renewable energy growth in Jharkhand*.

International Institute for Population Sciences and ICF. (2021). *National Family Health Survey (NFHS-5), India, 2019-21: Jharkhand*. Ministry of Health and Family Welfare.

International Institute for Population Sciences and Ministry of Health and Family Welfare. (2021). *National Family Health Survey (NFHS-5), 2019-21: India report*.

International Institute of Migration and Development. (2025). *Jharkhand Migration Survey 2023: Findings summary*.

iTech Mission. (2024). *SDG India Index and dashboard*.

Jagran. (2025). *Jharkhand Tribal Advisory Council constitution*. As cited in Wikipedia contributors (2026).

JBVNL (Jharkhand Bijli Vitran Nigam Limited). (2026). *Company profile*.

Jetir Journal (International Journal of Emerging Technologies and Innovative Research). (2024). *An analysis of the economic effects of tourism in Jharkhand*.

- Jetir Journal. (2025). *Climate-driven forest fire escalation and policy analysis in Jharkhand*.
- Jharkhand High Court. (2026). As cited in The Jharkhand Story (2026).
- Jharkhand Industrial Infrastructure Development Corporation. (2025). *Single window clearance and investment facilitation profile*.
- Jharkhand.MyGov.in. (2025). *Department of Welfare profile*.
- Jharkhand Online. (n.d.). *Transport in Jharkhand*.
- Jharkhand PCS Notes. (2024). *Infrastructure development in Jharkhand*.
- Jharkhand PCS Notes. (2024). *Natural resources in Jharkhand*.
- Jharkhand PCS Notes. (2025). *Investment climate and industrial policy in Jharkhand*.
- Jharkhand Public Service Commission. (2026). *Recruitment cycle overview*.
- Jharkhand Renewable Energy Development Agency (JREDA). (2026). *Website and project profile*.
- Jharkhand State Disaster Management Authority. (2019). *Jharkhand State Disaster Management Plan 2018-19*. As cited in National Disaster Management Authority (2019) and Testbook (2021).
- Jharkhand State Electricity Regulatory Commission. (2026). *JBVNL tariff order: Multi-year tariff business plan, FY 2026-27 to 2030-31*.
- Jharkhand State News. (2026). *Agricultural development empowering farmers in India*.
- Jharkhand Tourism, Department of Tourism, Government of Jharkhand. (2026). *Official tourism portal and promotional materials*.
- Jharnet. (2026). *Jharkhand police vacancy notification*.
- LearnPro Editorial. (2026). *Jharkhand's State Action Plan on Climate Change*.
- Maps of India. (2026). *Jharkhand road map*.
- MicroSave Consulting. (2026). *Strengthening district-level climate adaptation planning in Jharkhand and Odisha*.
- Millennium Water Story. (2025). *Jal Jeevan Mission: Consequences of the gaps in its implementation in Jharkhand*.
- Ministry of Education, Government of India. (2023). *Performance Grading Index*.

Ministry of Education, Government of India. (2025). *UDISE+ 2024-25*. As cited in Careers360 (2025), Education for All in India (2025, 2026), and GKToday (2026).

Ministry of Education, Government of India. (2025). *Single-teacher schools and schools without enrolment: Analysis of UDISE+ 2024-25*. As cited in Education for All in India (2026).

Ministry of Education, Government of India. (2025). *The status of girls' education in India in 2025*. As cited in Education for All in India (2026).

Ministry of Education, Government of India. (2026). *Performance Grading Index 2.0*. As cited in Ensure IAS (2026).

Ministry of Environment, Forest and Climate Change. (2023). *Non-timber forest produce and forest livelihood assessment*.

Ministry of Food Processing Industries. (2026). *State profile: Jharkhand*.

Ministry of Health and Family Welfare. (2021). *National Family Health Survey uptick in health indicators*. Press Information Bureau.

Ministry of Home Affairs, Government of India. (2000). *Bihar Reorganisation Act, 2000*.

Ministry of Housing and Urban Affairs. (2024). *Pradhan Mantri Awas Yojana: Ninth anniversary progress assessment*. Press Information Bureau.

Ministry of Jal Shakti, Department of Drinking Water and Sanitation. (2025). *Jal Jeevan Mission progress report*. Press Information Bureau.

Ministry of Jal Shakti, Department of Drinking Water and Sanitation. (2025). *Annual report 2024-25*.

Ministry of New and Renewable Energy. (2024). *State-wise renewable energy potential assessment*.

Ministry of Panchayati Raj, Government of India. (2015). *Backward Regions Grant Fund: District identification criteria*.

Ministry of Panchayati Raj, Government of India. (2023). *Panchayat election status across states*.

Ministry of Panchayati Raj. (2025). *PESA Mahotsav briefing*. Press Information Bureau.

Ministry of Rural Development, Government of India. (2022). *Rural poverty incidence by social category*.

Ministry of Rural Development, Government of India. (2025). *Department of Rural Development year ender 2025*. Press Information Bureau.

Ministry of Rural Development, Government of India. (2025). *Viksit Bharat-Guarantee for Rozgar and Aajeevika Mission (Gramin) Act, 2025: Briefing*. Press Information Bureau.

Ministry of Rural Development, Government of India. (2025). *State performance report: Deendayal Antyodaya Yojana-National Rural Livelihoods Mission*.

Ministry of Statistics and Programme Implementation. (2023). *State area and geographical statistics*.

Ministry of Statistics and Programme Implementation. (2024). *Periodic Labour Force Survey quarterly bulletin, April-June 2024*. As cited in Rural India Online (2024).

Ministry of Statistics and Programme Implementation. (2024). *Periodic Labour Force Survey annual report 2023-24*. As cited in Press Information Bureau (2024).

Ministry of Statistics and Programme Implementation. (2025). *Press note on PLFS calendar year 2024*.

Ministry of Statistics and Programme Implementation. (2026). *Periodic Labour Force Survey annual report 2025*. As cited in Press Information Bureau (2026).

Ministry of Tribal Affairs, Government of India. (2022). *PESA Act implementation status and PVTG identification*.

Ministry of Women and Child Development. (2023). *Poshan Tracker data*. As cited in Press Information Bureau (2023).

National Council of Applied Economic Research. (2025). *Working paper: State debt burden variability, 2012-13 to 2022-23*.

National Disaster Management Authority. (2026). *Institutional framework overview*.

National Green Tribunal. (2024). *Compliance filing: Ramgarh district administration, Damodar River remediation*. As cited in Down To Earth (2024).

National Health Systems Resource Centre. (2021). *Health dossier: Jharkhand*.

National Sample Survey Office. (2023). *Household Consumption Expenditure Survey*.

National Stock Exchange Economic Policy and Research team. (2024). *State capital expenditure comparison, FY 2024-25*.

National Tiger Conservation Authority. (2023). *Palamu Tiger Reserve status report*.

NEXT IAS. (2025). *Elimination of Left Wing Extremism: Current affairs briefing*.

NEXT IAS. (2025). *India's agricultural sector in 2025*.

New Arena India. (2025). *Jharkhand Economic Survey 2024-25: GSDP and mining royalty figures*.

NITI Aayog. (2021). *Health Index*.

NITI Aayog. (2023). *Aspirational Districts Programme: Delta ranking reports*.

NITI Aayog. (2023). *National Multidimensional Poverty Index*.

NITI Aayog. (2023). *SDG India Index*.

NITI Aayog. (2023). *Vision for Viksit Bharat @ 2047: An approach paper*. As cited in ResearchGate (2025).

Outlook Business. (2025). *Jharkhand Economic Survey 2024-25: Growth performance analysis*.

Outlook India. (2024). *The dark earth: How unchecked mining is uprooting lives in Jharkhand*.

Population Foundation of India. (2020). *Population projections methodology note*.

PopulationU. (2026). *Jharkhand population projection*.

Prabhat Khabar. (2021). *State loan scheme for SC/ST/OBC entrepreneurs*. As cited in Wikipedia contributors (2026).

Press Information Bureau. (2021). *NFHS-5 uptick in health indicators*.

Press Information Bureau. (2023). *Poshan Tracker data release*.

Press Trust of India. (2024). *ODF Plus village status*. As cited in The Print (2024).

PRS Legislative Research. (2024). *State finances: A study of budgets*.

PRS Legislative Research. (2025). *Jharkhand budget analysis 2025-26*.

Ranchi Municipal Corporation. (2026). *PMAY Department: City Level Technical Cell profile*.

Ranchi Smart City Corporation Limited. (2026). *Implementation status report*.

Reserve Bank of India. (2023). *State finances: A study of budgets*. As cited in PRS Legislative Research (2024).

Reserve Bank of India. (2024). *State finances assessment*.

Reserve Bank of India. (2025). *Cash transfer scheme sustainability assessment*. As cited in PRS Legislative Research (2025).

- Rural India Online. (2021). *NFHS-5 compendium of fact sheets*.
- Rural India Online. (2024). *PLFS quarterly bulletin analysis, April-June 2024*.
- SAMETI Jharkhand (State Agricultural Management and Extension Training Institute). (2026). *State profile*.
- sarkari.finance. (2025). *Jharkhand FDI and industrial corridor overview*.
- sdnews.sachchadost.in. (2026). *Jharkhand Economic Survey 2025-26 coverage*.
- Singh, R., et al. (2023). Post-fire carbon stock and vegetation index analysis. As cited in Jetir Journal (2025).
- South Asia Citizens Web. (n.d.). *Impact of mining and industries in Jharkhand* [Fact-finding compilation].
- Standing Committee on Rural Development and Panchayati Raj. (2025). *2024-25 report*. As cited in Down To Earth (2025).
- Startup India. (2026). *State startup policies: Jharkhand*.
- StatisticsTimes.com. (2026). *Jharkhand population projection*.
- Supreme Court of India. (2026). *Ruling on mining royalty revision*. As cited in The Jharkhand Story (2026).
- Sustainability (journal). (2023). *Evaluating impacts of opencast stone mining on vegetation, Rajmahal Hills, Jharkhand*. Central University of Jharkhand.
- Sustainable Water Resources Management (journal). (2019). *Water-quality assessment of Damodar River*.
- Testbook. (2021). *Jharkhand Disaster Management Plan*.
- Testbook. (2026). *The Jharkhand Action Plan on Climate Change*.
- The Jharkhand Story. (2026). *IIT (ISM) Dhanbad and i-Hub Startup Jharkhand sign MoU*.
- The Jharkhand Story. (2026). *DMFT fund utilization concerns, Chaibasa*.
- The Jharkhand Story. (2026). *Latehar Police's tactical demolition of Naxal networks*.
- The Print. (2024). *Jal Jeevan Mission coverage gaps across states*.
- The Statesman. (2026). *Governor inaugurates IInvenTiv 2026*.

The Week. (2022). *New tourism policy aims to make Jharkhand a global tourist destination by 2025*.

thisismyindia.com. (n.d.). *Infrastructure in Jharkhand* [Historical compilation].

Tirkey, A., et al. (2017). Drought vulnerability in Palamu division. As cited in Jetir Journal (2025).

Tractor Junction Infra Junction. (2025). *National highway projects in Jharkhand*.

Travelsetu. (2026). *Jharkhand tourism guide*.

United Nations Development Programme and Institute for Human Development. (2020). *India human development report*.

United News of India. (2026). *Statement of Minister Dipika Pandey Singh on PESA Rules implementation* (May 21, 2026).

Vajiram and Ravi. (2025). *Analysis of CAG State Finances Report 2024-25*.

ViksitIndia.com. (2026). *Viksit Bharat 2047: Vision for a developed nation*.

Wikipedia contributors. (2026). *Department of Scheduled Tribe, Scheduled Caste, Minority and Backward Class Welfare, Government of Jharkhand*.
